

Marine Stewardship Council Full Assessment

Public Certification Report (PCR)

For The

ISF Iceland Mackerel Fishery

Facilitated By

Iceland Sustainable Fisheries (ISF)

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Report Code: MSC-027
Report Date: 10th October 2017

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Glossary

ACOM	ICES Advisory Committee
AWI	Animal Welfare International
Bpa	Precautionary reference point for spawning stock biomass
Blim	Limit biomass reference point, below which recruitment is expected to be impaired.
BIOICE	Benthic Invertebrates of Icelandic Waters
CAB	Conformity Assessment Body
CDR	Client Draft Report
CoC	Chain of Custody
CFP	Common Fisheries Policy
CMS	Convention of Migratory Species
CR	Council Regulation
DoF	Directorate of Fisheries
EC	European Commission
EEZ	Exclusive Economic Zone
ETP	Endangered, threatened and protected species
EU	European Union
F	Fishing Mortality
FCR	Fisheries Certification requirements V2.0 MSC
Flim	Limit reference point for fishing mortality that is expected to drive the stock to the biomass limit
Fpa	Precautionary reference point of fishing mortality expected to maintain the SSB at the precautionary reference point
HCR	Harvest Control Rule
HS	Harvest Strategy
IBTS	International Bottom Trawl Survey
ICES	International Council for the Exploration of the Sea
ICCAT	International Commission for the Conservation of Atlantic Tunas
IESSNS	International acoustic survey in the North Sea
IRF	Iceland Responsible Fisheries
ISF	Iceland Sustainable Fisheries
IWWA	Icelandic Whale Whatching Associattion
ITQ	Individual Transferable Quota
IUU	Illegal, Unregulated and Unreported fish catches
LS	Landssamband smábátaeigenda (Federation of Owners of Small Fishing Vessels, NASBO)
MII	Ministry of Industries and Innovation
MFRI	Marine and Freshwater Research Institute
MCS	Monitoring, Control and Surveillance
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
MoU	Memorandum of understanding

NEAFC	North East Atlantic Fisheries Commission
NEA	North East Atlantic
Ns	Number of individual
PCR	Public Client Report
PCDR	Public Certification Draft Report
PRI	Point of recruitment impaired
PRR	Peer Reviewer Report
PA	Precautionary Approach
PI	MSC Performance Indicator
RFMO	Regional Fisheries Management Organisation
SAM	Successive Approximation Model
SGBYC	ICES Study Group on Bycatch of Protected Species
SONAR	Sound navigation and ranging
SSB	Spawning Stock Biomass
TAC	Total Allowable Catch
TASACS	Toolbox for Age-structured Stock Assessment using Catch and Survey data
TISVPA	Triple Instantaneous separable virtual population analysis
UoA	Unit of Assessment
UoCq	Unit of Certification
UNCLOS	United Nations Convention on the Law of the Sea
VME	Vulnerable Marine Ecosystem
VMS	Vessel Monitoring System
VPA	Virtual Population Analysis
WGMME ICES	Working Group on Marine Mammal Ecology
WGRED ICES	Working Group for Regional Ecosystem Description

1 MSC Fishery Assessment Report

Fishery Unit	This assessment report under the 'Unit of Certification' (UoC) covers one target species and four methods of capture and the resulting scores are for landings by registered licence holders. The fishery under assessment covers all Icelandic commercial vessels member of the Iceland Sustainable Fisheries that are entitled to fish Mackerel in ICES Division Va, FAO Fishing Area 27.	
Report Issue	4th May 2017	• Client Report
	18th July 2017	• Peer Review
	1st August 2017	• Public Comment Draft Report
	12th September 2017	• Final Report and Determination
	6th October 2017	• Public Certification Report
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The aim of this assessment is to determine the degree of compliance of the fishery with the Marine Stewardship Council's (MSC) Principles and Criteria for Sustainable Fishing.

This Public Certification Report (PCR) is written after the objection period of 15 days and therefore, after the consultation on the Public Comment Draft Report (PCDR), client review, scoring of the fishery and site visit. The PCR contains:

- The MSC Standard and Fisheries Certification Requirements (FCR) used, MSC Fishery Standard v2.0 and the MSC FCR v2.0.
- The scores, weighting and certification outcome (Section 10)
- All intended conditions set in Appendix 3 – Section 14
'Conditions provide for agreed further improvement in the fishery and provide one of the bases for subsequent audit. They are intended to improve performance against the MSC Principles'.
- The Assessment Team certification recommendation – Section 10.6
- The stakeholders 'submissions and assessment team's responses in Appendix 4 (if applicable)
- The assessment followed the current versions of MSC scheme requirements and these were implemented by SAI Global accredited MSC Procedures.
- Information sources used are provided throughout the report and full references for published, unpublished data and main websites accessed are documented at the end of this report in the reference section.

2 Authorship and Peer Reviewers

2.1 Assessment Team

Virginia Polonio Ph.D, SAIG Staff - Lead Assessor and responsible for P2

She has a degree in Environmental Sciences (B.S.c. University of Cádiz). She has a Master degree (M.Sc. University of Cádiz) in Fisheries Management and Aquaculture. She obtained her PhD in Biodiversity and Natural resources at the University of Oviedo and during her PhD she gained experience in the field of research of fisheries and how protect the Vulnerable Marine Ecosystems (VMEs) as coral reefs versus fishing activities. She wrote several articles describing new species of corals under her thesis and she developed skills in the fields of benthic ecology and management of ecosystems.

Before her PhD, she was contracted as technician in the Spanish Oceanographic Institute where she realized work at sea and gained field experience to assessment fisheries stocks. She participated in the Spanish National Basic Plan of Data to collect and evaluate the fishing in the ICES and CECAF areas where Spanish fleets realize their activities. During this period, she carried out feeding habit and age/size studies of *Pagellus Bogaraveo* and others commercial species (hake, anchovy, sharks, mackerel, squid, etc.) to know how the trophic level and predation could affect the ecosystems and the distribution of the species in the Gulf of Cadiz and the Strait of Gibraltar.

She has worked on several full assessments such as Cantabrian Sardine, North Atlantic Albacore, Squat lobster, Blue sharks and Swordfish, ISF Iceland Capelin, CSHMAC Celtic Sea Herring among others as team member and lead assessor. She has participated in Surveillances acquiring experience in the MSC certification. She has participated in several pre-assessments. She is a full-time employee at SAI Global and she will be the lead assessor.

Hans Lassen, external assessor - team member responsible for P1

He is an independent consultant holds a cand. scient. (M.Sc.) from Copenhagen University (1969) and a HD (B.Sc.) from the Copenhagen Business School (1978). His background is in fish stock assessments, particularly in the application of computers and models.

He joined the Danish Institute of Fisheries and Marine Research (DIFRES) in 1971. 1988-1992 he worked in the Greenland Fisheries Research Institute as Deputy Director and Director and returned to DIFRES in 1992. Between 1998 and 2003 he was in charge of the Fisheries Group in the ICES Secretariat as Fisheries Adviser who serves as secretary to the ICES Advisory Committee on Fishery Management. After 2004 he was head of the ICES Advisory Programme within the ICES Secretariat. He retired from the ICES secretariat in 2010 and has since worked as a private consultant on various projects within his expertise.

He has been a member and Chairman of numerous ICES committees and groups, has within the Northwest Atlantic Fisheries Organization chaired STACFIS and the Scientific Council, been a member of STECF (EC, DG Fish), scientific adviser to Danish delegations to fisheries negotiations and chaired an internal EC expert group to provide input to the EC Multi-annual Guidance Program, within the Nordic Council of Ministers he chaired its Working Group on Fisheries and worked with the FAO/DANIDA project (1982-1998) on teaching fish stock assessment. In 2006 he was awarded the prestigious Swedish prize "Kungsfenan" for contributions to communication between science and the fishing industry. At his retirement from ICES he was awarded a Special Service Award. He is author and co-author of more than 30 peer reviewed papers in prime scientific journal and numerous papers for scientific symposia.

He has been a member of MSC certification assessment teams for West Greenland shrimp and lumpfish, and for Barents Sea Demersal trawl fisheries (Greenland). He has acted as reviewer for several MSC assessment reports including cod, haddock, anchovy, sardine and vendace.

Ásgeir Daníelsson Ph.D, external assessor - team member responsible for P3

Dr. Ásgeir Daníelsson graduated in 1985 with Ph.D. in Economics from the University of Manchester. Currently holds the position of head of research and forecasting in the Economics department of the Central Bank of Iceland. He has lectured on microeconomics, statistics, macroeconomics and fisheries economics at the University of Iceland and University of Akureyri.

He has over 20 years' experience of macroeconomic analysis of the Icelandic fisheries for the Central Bank of Iceland and previously the National Economic Institute. He has been involved in and advised numerous national and international task forces on the utilization of living marine resources and fisheries management.

From 1993-1994 and 2001-2004 he was a member of a committee, set up by the Icelandic Minister of Fisheries, formulating a long term policy on exploitation of fish stocks. He has worked with the "Nairobi group" set up by the UN's UNEP and UNSD, and was later commissioned by the FAO to provide a guide on the incorporation of environmental factors into national accounting with special regard to fisheries and the living marine environment.

Dr. Daníelsson has written and co-authored several peer-reviewed publications, as well as research reports on the utilization of fish stocks in Icelandic waters, ITQ efficiency and environmental- and economic accounting of fisheries. During the last five years, Dr. Daníelsson has served as Principle 3 expert on several MSC fishery assessments, the first one was completed in 2011.

The fishery under assessment has enough data to evaluate it using default tree, therefore RBF has not been used even though the lead assessor Virginia Polonio has the training to use this technique.

2.2 Peer Reviewer

The list of potential reviewers was analysed and the Technical Manager of SAI Global has chosen two of them according to the skills to review the Mackerel fishery. The proposed list was published on MSC website on April 28th 2017. Due to a change in the availability of one of the peer reviewer another Stakeholder notification was announced on May 11st 2017 to notify the final proposed peer-reviewer.

The final peer-reviewers were:

– **Jose Peiró**

José Peiró Crespo is a fishery biologist with postgraduate studies in Development Cooperation and Sustainable Management. He has overall responsibility for the planning, design, execution and monitoring of all the projects at Naunet Fisheries Consultants, a marine consultancy firm based in the UK. His principal areas of expertise are artisanal and commercial fisheries and rural aquaculture. He is mainly working for NGOs conducting fisheries assessments and designing and developing marketing initiatives to improve livelihoods in coastal communities.

Jose has around 10 years of experience working in a wide range of projects associated with marine biodiversity and the sustainable use of living aquatic resources. Before becoming independent, he worked as a marine biologist and fisheries researcher in marine scientific centres in Spain and

Portugal. His work focused mainly on collecting and analysing fishing and environmental data. He also worked as a fisheries scientist in a British marine consultancy specialized in assessing the impact of offshore wind farms on fishing resources.

As well as having worked as a researcher, Jose completed many trips on commercial fishing vessels in the capacity of scientific observer in the NAFO area, West coast of Africa and the Iberian coast. He worked aboard a broad range of fishing vessels including trawlers, long-liners and other small-scale vessels. Jose has also experience on finfish and shellfish aquaculture that he gained working in the Amazonian basin and as a quality supervisor in fish farms in Spain.

Jose has worked in fisheries and aquaculture projects in Morocco, Mauritania, Senegal, Peru, Chile and several European countries. He speaks 4 languages: Spanish, English, Portuguese, and French.

– **Dr. Michael Gregg Pawson**

Dr Mike Pawson has 45 years' experience as a fisheries scientist carrying out biological research and providing expert advice in relation to fish stock assessment and fisheries management and regulation to the UK government and the EC. Between 1974 and 1980 Mike initiated and led acoustic surveys on blue whiting and mackerel west of UK and trawl surveys in the North Sea, worked as UNESCO expert with the Libyan fisheries laboratory 1979 to 1981, and from 1980 to 1990 initiated and managed Cefas's coastal fisheries programme. From 1990 to 2002 Mike led the Western demersal team providing analytical assessments and management advice for 12 finfish stocks in the English Channel, Irish Sea and Celtic Sea. He was chairman of ICES Southern Shelf Demersal Stock Assessment Working Group 1996-98, Sea bass Study Group 2000-04 and Elasmobranch Study Group 2001-02, and initiated and coordinated of EC-funded multi-national projects on methods for egg-production stock biomass estimation in Irish Sea (plaice, sole and cod:1995 & 2000), bio-geographical identity of English Channel fish stocks, bio-economic modelling of Channel fisheries, development of assessment methods for elasmobranchs, marine recreational fishing etc. Between 2002 and 2007 Mike directed and managed monitoring and assessment of England and Wales salmonid and eel stocks. In 2007 Mike retired from Cefas, having published 71 formal papers and 13 book chapters, and contributed to numerous technical and assessment reports. He continues to acts as scientific consultant, including specialist input to MSC assessments (14 to date) and peer review of research papers, project applications and MSC assessments (45 to date).

3 Executive Summary

Principles and Criteria for Sustainable Fisheries. The report details the background, results and justification of the fishery, carried out by SAI Global.

The assessment process began on August 23rd 2016 when ISF signed the contract with SAI Global.

The Conformity Assessment Body (CAB) who is in charge to evaluate the fishery is composed of:

Virginia Polonio from SAI Global who is lead assessor and responsible for P2. As external assessor; Hans Lassen is responsible for P1 and Asgeir Danielsson responsible for P3.

The MSC guidance for FCR specifies that the Unit of Certification (UoC) is "The target stock or stocks (biologically distinct unit) combined with the fishing method/gear and practice (vessel(s) pursuing the stock and any fleets, groups of vessels, or individuals of other fishing operators".

The Unit of Assessment (UoA) defines the full scope of what is being assessed and includes other eligible fishers who were defined in the sharing letter by the client and are defined in the Unit of Assessments.

Consequently, the ISF Mackerel fishery under assessment is according to 4 UoAs and therefore 4 UoCs respectively (Table 1).

Table 1. Units of Assessment (UoAs) and Units of Certification (UoCs) described in the fishery under assessment.

UoAs	
Target species	Mackerel, <i>Scomber scombrus</i>
Geographic area	Northeast Atlantic Mackerel Stock (NEA) - combined Southern, Western and North Sea spawning components-FAO Major Area 27
Stock	NEA Mackerel
UoA1	Midwater pelagic trawl
UoA2	Purse seine
UoA3	Handline
UoA4	Bottom Trawl
Management system	The Ministry of Fisheries and Agriculture based on fisheries Management Act 1990 and the Icelandic Coast Guard who is the responsible for the inspection in the Iceland grounds. MFRI and ICES in the science advise and Agreement between EU, Norway and Faroes.
Client group and other eligible fishers	Icelandic Sustainable Fisheries ehf is the client group and consists of 55 members or shareholders, including fisheries, primary processors, food producers and export companies. Eligible fishers are all registered Icelandic vessels that carry valid permits as issued by the Icelandic Directorate of Fisheries, to target the mackerel stock in ICES Subareas I-IX, XII, and XIV (Northeast Atlantic) using midwater trawl, seine, bottom trawl or hand line. There are 138 vessels targeting Mackerel in the client group. Vessels carrying a permit from the DoF are on average around 1300 in all quota categories. All Icelandic registered vessels, carrying a valid permit for the fisheries from the DoF, are eligible fishers.
UoCs	
Target species	Mackerel, <i>Scomber scombrus</i>
Geographic area	Northeast Atlantic Mackerel Stock (NEA) - combined Southern, Western and North Sea spawning components- FAO Major area 27
Stock	NEA Mackerel
UoC1	Midwater pelagic trawl
UoC2	Purse seine
UoC3	Handline
UoC4	Bottom trawl
Management system	The Ministry of Fisheries and Agriculture based on fisheries Management Act 1990 and the Icelandic Coast Guard who is the responsible for the inspection in the Iceland grounds. MFRI and ICES in the science advise and Agreement between EU, Norway and Faroes

Client group	Icelandic Sustainable Fisheries ehf is the client group and consists of 55 members or shareholders, including fisheries, primary processors, food producers and export companies. There are approximately - since the number can change between years via quota transfer, old vessels being scrapped and new ones coming in - 138 vessels targeting Mackerel in the client group.
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The fishery has not been previously assessed against the MSC Principles and Criteria for Sustainable Fishing under a previous certificate. The current assessment requires harmonisation taking into account other assessments led by different CABs to ensure consistency of assessment outcomes as there are other Iceland fisheries certified (see section 5.1) because the stock of Mackerel is certified by 3 different fisheries. Currently, the fishery under assessment has had relation with the fisheries listed below to make sure the harmonization process.

The fisheries involved in the harmonization process are:

- MINSA North East Atlantic Mackerel Fishery (Acoura)/Europe V1.3
- MINSA North East Atlantic Mackerel Fishery (Acoura)/Norway V1.3
- Faroese Pelagic Organisation North East Atlantic Mackerel (DNV-GL) V1.3

More details, regarding the process and the scoring and consitions set up in each fishery, are given in the section 5.1.

The ISF Mackerel fishery under assessment covers all Icelandic commercial vessels with valid fishing permits issued by the DoF, so the entire fleet is covered regardless of whether a vessel owner is an ISF member.

The client group is Iceland Sustainable Fisheries (ISF). The group was founded in 2012 by companies engaged in fishing, production and sales of Icelandic fish products. Only the company's shareholders have the right to sell their products as MSC certified. The ISF is formed by 55 partners who are involved in catching, processing and sales of pelagic catches, all the activities carry out by the client group may be consulted in the ISF website (www.icelandsustainable.is) with a clear report of how it develop them and information regarding each company involved.

The client group listing is provided in section 6.

As required by MSC FCR 7.4.12.2, a certificate sharing commitment must be made by the applicant fishery. The Client Sharing Letter can be seen at:

<https://fisheries.msc.org/en/fisheries/isf-iceland-mackerel/@assessments>

3.1 Assessment process

The assessment followed set procedures as described in the MSC FCR V2.0. Key stages of the assessment were:

- **Stage 1: Fishery Announcement and Assessment Team Formation**
 - Stakeholder Notification: Fishery enters full assessment – 22nd December 2016
 - Stakeholder Notification: Assessment Team nominated – 22nd December 2016
 - Stakeholder Notification: Additional Team Member - 25th January 2017

- **Stage 2: Information gathering, stakeholder meetings and scoring**
 - Stakeholder Notification: Site Visit scheduled – 20th-24th February 2017
- **Stage 3: Proposed peer reviewers**
 - Stakeholder Notification: Name of proposed peer reviewers – 28th April 2017
 - Stakeholder Notification: Change of one proposed peer reviewer- 11st May 2017
 - Stakeholder Notification: Revised timeline- 17th July 2017
- **Stage 4: Public Comment Draft Report**
 - Stakeholder Notification: PCDR – 1st August 2017
 - Stakeholder Notification: Change of Team Member- 28th August 2017
- **Stage 5: Certification decision- Final Report**
 - Stakeholder Notification: Final Report – 12th September 2017
- **Stage 6: Certification of the fishery – Public Certification Report (PCR)**
 - Stakeholder Notification: PCR – 6th October 2017

The eligibility date was defined following the MSC requirements:

- a. The date of the certification of the fishery; or
- b. The date when the first Public Comment Draft Report is published.

The Assessment team agreed that the date when the PCDR was posted was the eligibility date. Therefore the eligibility date was **August 1st 2017** (Section 9.1). The client was informed about the under-assessment product regulation.

3.2 ISF Iceland Mackerel strengths and weakness

Strengths

The Mackerel stock is well managed in the sense that the fisheries are compliant with the regulations. The objectives by each individual Party comply with the 3 principles of the FCR. The main strengths found in each principle are detailed below:

- Principle 1: the fishery is annually assessed by ICES, the model used to define the stock status is a fully statistical model in which all data sources (including catches) are treated as observations, assuming a lognormal observation model. Uncertainties (standard errors) are estimated for all parameters and for all states (Fs and Ns). The complete dataset used in the assessment and in the forecasts include catch data, tagging data (1980–2005 recapture year), and three survey indices: SSB index from the triennial egg survey (1992–2016), abundance indices from the IBTS survey (combined Q1 and Q4; age 0, 1998–2015), and from the IESSNS survey (ages 6–11, 2007, 2010–2016). Therefore the stock status of the species is well defined with a great skills of the trends in the reference points and patterns of biological aspects of the stock.

- Principle 2: Significant information is available on benthic characterisation of Iceland EEZ, and coupled with the some closed area management is considered to be offering appropriate protection to important habitat and their functionalities. In addition some good information and management systems were identified such as the ban on discarding and reporting which evidence good outcome status for many commercial species associated with the fishery.

- Principle 3: The management systems in Iceland are clear and transparent. The fisheries management process and system are appropriate to the fishery; these are accomplished to manage the level of fisheries exploitation in an informed and transparent manner. There is an appropriate level of enforcement and control in this fishery, the right level of confidence on the part of the authorities in the degree of compliance of the fleet with the fisheries regulations.

Iceland operates a highly transparent catch reporting system that is subject to verification by the Fisheries Directorate. All catches for all vessels are individually reported and catch data for all trips are publicly available on the Fiskistiofa (Fisheries Directorate) website where any stakeholder can consult the data by species, gears, years, etc. Therefore, the data are accessible, transparent and the regulation system is precise. The fishery management is supported by a well-resourced and strong scientific capacity, which helps to enable management to make informed decisions.

Weaknesses

Overall, some weaknesses have been identified in the fishery assessment and several conditions have been raised.

For Icelandic Mackerel, a weakness relating to Principle 1 was identified in terms of HCRs and for that reason there is a condition set up in this performance indicator.

Under Principle 2, specifically related to the bottom trawl fishery, overall procedures are weak with regards to monitoring and quantify the footprint of fishing gear as well as incidental catch of benthic biota which might be VME. In addition solitary and aggregation of large sponges could benefit from similar protection offered to coral areas, such as area closures, which prevents further damage to such biogenic habitats.

A review of an independent observer coverage program as well as appropriate analysis of data with regards to any interaction with ETPs, coupled with various alternative interventions which function around conservation goals, are areas identified with weakness.

The weaknesses that the Assessment Team has identified in Principle 3 is that management processes are not easily shared with all the stakeholders, although the systems are transparent, more effort needs to be made to allow stakeholders to access to the management system. On the other hand, regarding the harmonization process the fishery has a condition in 3.1.1 and that can be also considered as a weakness in the fishery.

3.3 Assessment results

A rigorous assessment against the MSC Principles and Criteria was undertaken by the Assessment Team and detailed, fully referenced scoring rationale is provided in Appendix 1 of this report.

The UoAs achieved the minimum required score of 80 or above on each of the three MSC Principles independently and did not score less than 60 against any Performance Indicator (PI). Final Principles scores are shown in the table 2 below.

Table 2. Overall scoring of ISF Iceland Mackerel fishery in each MSC Principle by UoAs

Principle	Score UoA 1 (Pelagic trawl)	Score UoA 2 (Purse seine)	Score UoA 3 (Handline)	Score UoA 4 (Bottom otter trawl)	PASS/FAIL
Principle 1 – Target Species	90.8	90.8	90.8	90.8	PASS
Principle 2 – Ecosystem	92.3	87.3	93.7	91.3	PASS
Principle 3 – Management System	87.1	87.1	87.1	87.1	PASS

4 Description of the Fishery

4.1 Unit(s) of Assessment (UoA) and Scope of Certification Sought

4.1.1 Eligibility for Certification against MSC Standard

The fishery is eligible for certification and able to be assessed within the scope of the MSC Principles and Criteria for Sustainable Fishing as:

- The target species is not an amphibian, reptile, bird or mammal.
- The fishery does not use explosive or poisons
- The fishery under assessment is not an enhanced fishery.
- The fishery under assessment is not an Introduced Species Based Fishery (ISBF)
- The fishery is not conducted under controversial unilateral exemption to an international agreement
- The client has not been prosecuted for violations of laws on forced labour
- There is a mechanism to resolve possible disputes
- The fishery was a part of a pre-assessment report with a positive result and other information regarding the certification has been available for the assessment
- Other fisheries certified in the area have been harmonised with ISF Mackerel Fishery (more details-section 5.1)
- Mackerel is not considered to be a “Key LTL species” following the criteria defined in the box SA1 of the FCR 2.0.

4.1.2 Unit of Assessment and Unit of Certification

The MSC guidance for FCR specifies that the Unit of Certification (UoC) is: “The target stock or stocks (biologically distinct unit) combined with the fishing method/gear and practice (vessel(s) pursuing the stock and any fleets, groups of vessels, or individuals of other fishing operators”.

The Unit of Assessment (UoA) defines the full scope of what is being assessed and further, includes other eligible fishers.

Accordingly, the ISF Mackerel Fishery under assessment is defined by four UoCs and four UoAs depending on the gears type used during the fishing activities. The details of each UoC and UoA are given in executive summary, in the linked Table 1.

4.1.3 Total Allowable Catch (TAC) and Catch Data

The total allowable catches defined in this report are expressed in tonnes and the last recent report was published on January 26th, 2017 for the season 2016/2017. The report where the TAC for 2015/2016 season was established was published one year before on September 30th, 2015. A second version of this report was published in September 30th, 2016. The recruitment index used in 2015 was incorrectly, therefore a new advice was given basis on the corrected 2015 assessment.

The client group facilitated the data but these catches may be consulted in the Directorate of Fisheries (DoF) website by vessel and ICES reports on ICES Advice 2015 and 2016, books 9. The general catches of the last two years are shown in the Table 3.

Table 3. TAC and Catch Data.

Total agreed TAC*	Year	2016	Amount	1,057,000 t
Total agreed TAC*	Year	2015	Amount	1,229,000 t
UoA share of TAC	Year	2015	Amount	168,279 t
UoC share of total TAC	Year	2015	Amount	168,279 t
Total green weight catch by UoC**	Year (most recent)	2016	Amount	170,516 t
	Year (second most recent)	2015	Amount	168,279 t

*ICES Advice- for all areas, except some catches in international waters in Subarea 2

** Reported by Directorate of Fisheries

The sum of the individual TACs for 2015 was 1,229,000 tons and in 2016 1,057,000 tons. Mackerel total catches have no agreement of sharing between the parties involved in the Coastal States. The aggregated catches reported to NEAFC are detailed in the Table 4.

Table 4. Aggregated Catch of NEA Mackerel of 2014 reported by NEAFC. Source: www.neafc.org

Aggregated Catch Statistics of NE Atlantic Mackerel (MAC/XMA) for 2014										
Zone CPs	European Union	DFG Faroes	DFG Greenland	Iceland	Norway	Jan Mayen	Svalbard	Russian Fed.	NEAFC Reg.Area	CP Total
European Union	521,735	73			3,976				9	525,793
DFG Faroes	46,450	94,801							9,168	150,419
DFG Greenland										0
Iceland		72		151,472					3,246	154,790
Norway	75,924	383			188,221	11	10		13,185	277,734
Russian Fed.		14,021				24			102,420	116,465
Zone Total	644,109	109,350	0	151,472	192,197	35	10	0	128,028	1,225,201

*Total catch reported by Directorate of Fisheries (DoF) in 2014= 171.230,471 th.tones

4.2 Overview of the fishery

4.2.1 Biology of the target species

Taxonomy

The Scientific name is *Scomber scombrus*, Linnaeus, 1758. It is known as Makrill in Icelandic and Atlantic Mackerel in English.

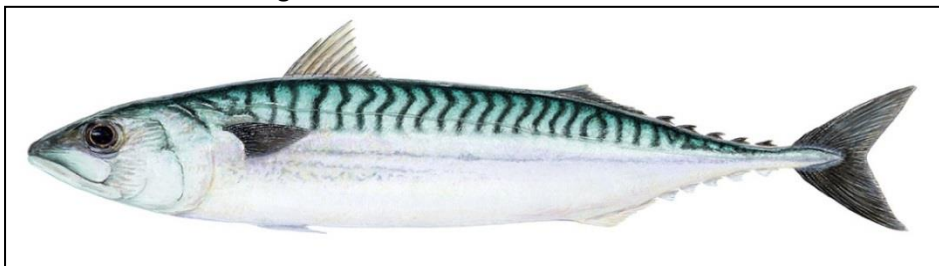


Figure 1. Mackerel: *Scomber scombrus*, Linnaeus, 1758. Source: <http://icelandpelagic.is/mackerel/>

Mackerel are a streamlined and fast swimming fish known from extensive migrations. It grows rapidly and is usually around 15 cm in the first autumn after spawning (in spring). The morphology of the species is as follows: Dorsal spines (total): 8 - 14; Dorsal soft rays (total): 113; Anal spines: 1; Anal soft rays: 12 - 13; Vertebrae: 31 (Collette, B.B. & C.E. Nauen, 1983). This species has no well-developed corselet; interpelvic process small and single; anal fin spine conspicuous, joined to the fin by a membrane but clearly independent of it; anal fin origin opposite that of second dorsal fin; no swim bladder; first haemal spine anterior to first interneural process.

Growth and Age

It reaches sexual maturity at the age of 2 to 3, then around 30 cm long. Common size for adults is from 35 cm to 45 cm, but it can reach 60 cm in length.

Feeding habit

Mackerel feed on a variety of pelagic crustaceans and small fish, including herring, sprat, sandeel and Norway pout. Feeding patterns vary seasonally and spatially. Mackerel stop feeding almost completely during winter. Euphausiids and copepods represent major food items in the north, and fish are the most important prey in the south, especially for larger individuals (Dahl, K., and Kirkegaard, E. 1986). Diurnal patterns have also been reported, feeding activity being greatest during the afternoon and until sunset (Mehl, S., and Westgård, T. 1983) .

Distribution

The Atlantic mackerel occurs from the northeast coast of USA, up to Newfoundland Island. On the eastern side it is found off Morocco, in the Mediterranean Sea and all the way up to the Barents Sea, although only occasionally. Three stocks are recognized in the north east Atlantic. The southern stock spawns in Spanish and Portuguese waters, the western stock spawns in the Bay of Biscay and around Ireland and the third stock spawns in the North Sea. The distribution of the Atlantic Mackerel is shown in the Figure 2 .



Figure 2. Distribution of Mackerel in the Atlantic Ocean And Mediterranean Sea. Source: FAO.

Mackerel have not previously been known to spawn in Icelandic waters but migrates there occasionally and can then be found all around the country. It seems clear from archives that this happens regularly as large amount of mackerel were reported for many years in a row around 1900, and during the warm period from 1926 to 1945 and sporadically in between and after. It is also clear that it is now mass migrating into the Icelandic EEZ due to the current warm oceanic conditions (<http://www.fisheries.is>)

Reproduction and early life history

The eggs of Atlantic mackerel are pelagic and spherical, ranging in size from 1.01-1.28 mm (avg. = 1.3 mm) in diameter, and have one oil globule ranging from 0.22-0.38 mm (avg. = 0.29 mm) in diameter (Berrien 1975). Larvae average about 3.1-3.3 mm standard length (SL) at hatching and have a large yolk sac; the eyes are large and unpigmented. Hatching occurs at 90-120h post-fertilization at an average temperature of 13.8°C (Berrien 1975). The 50% threshold for the onset of feeding is 3.8 mm (Ware and Lambert 1985). At about 4-6 mm the yolk sac is absorbed by which time there is a considerable change in body pigmentation and by 192h, teeth are present (Berrien 1975). Larvae undergo major changes in body form and it describes a transition stage between the larval and post-larval stages (~ 9-10 mm) where fins are in various stages of development. This probably enhances successful prey capture as well as predator avoidance (Ware and Lambert 1985). To maintain rapid growth rates, with average digestive times of 1-2 h. Post-larvae gradually transform from planktonic to swimming and schooling behaviour at about 30-50 mm (Sette 1943). By the end of their second year, Atlantic mackerel attain a size of about 26 cm and after five years about 33 cm.

4.2.2 Fishing area

Some catch has been reported in Icelandic waters in the past, probably bycatch in herring fisheries. Icelandic boats also fished for mackerel in the North Sea from 1967 to 1976. For about 20 years after that, Icelandic boats did not report any catches until after 2006 (<http://www.fisheries.is>).

The presence of Mackerel in Icelandic waters has been increasing over the years and the fishery targeting Mackerel has been increased. Icelandic catches of mackerel in 2015 were around 169 tonnes. 88% of the catches were taken inside the Icelandic EEZ, 11% in international waters, and 1% inside the Faroe Islands EEZ. The main fishing grounds in Icelandic waters in 2015 were south and southeast of Iceland in July and August but less was caught in the western part than in previous years. In September and October there was a shift in the fisheries from the Icelandic EEZ to international waters east of Iceland (Marine Institute-Hafrannsóknir nr. 182)

Since 2006, mackerel have migrated to increasingly greater extend into Icelandic waters. During the site visit, meetings carried out with stakeholders provide us with the information that Mackerel is coming to Icelandic waters early each year.

The results from an international trawl survey indicate that abundance in 2015 in Icelandic waters was the highest on record. The reasons for this change are not well known, but have been linked to increased stock size, changes in the ocean climate, and prey abundance. MFRI has in recent years participated in international surveys aimed at estimating mackerel abundance and recruitment, and collected data from commercial catches. These data have been submitted to ICES and used in the assessment of the stock. Estimates from the assessment used by ICES have varied between years, therefore a benchmark for the mackerel assessment is planned in the winter 2016/2017. There is no agreement between the coastal states on catch allocation, which has resulted in catches far exceeding the advice given by ICES (Marine Institute-Hafrannsóknir nr. 185).

The Figure 3 below shows the fishing grounds of Mackerel around Icelandic waters in 2014 and 2015 and how the distribution has changed and has no well-defined pattern. The stock is migrating every year to the northern areas.

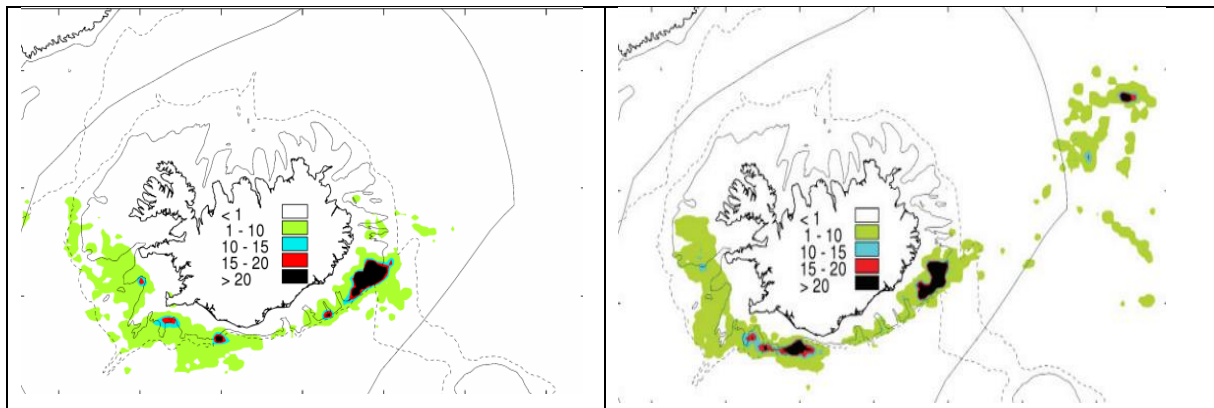


Figure 3. Fishing grounds of the Icelandic fleet in 2014 (left). Fishing grounds of the Icelandic fleet in 2015 (right). Dark areas indicate highest catch (tonnes/nmi²). Source. Hafro 2016

The gears used in the fishing grounds shown are different but most of the catches are taken with pelagic trawl. The percentage of catches of each gear types are detailed in the table below (Table 5).

Table 5. Catches and percentage of the total catch per gear types in the period of time 2013 to 2016. Source: Iceland Directorate of Fisheries (DoF).

Mackerel Catch /gear type (tonnes)	2013	2014	2015	2016	Grand Total	%	UoA/UoC fishing gears
Pelagic trawl	148,233	163,448	164,916	161,940	638,537	96.18%	Pelagic trawl
Handlines / Jiggers	4,776	7,628	3,241	8,527	24,171	3.64%	Handlines / Jiggers
Bottom Trawl	678	152	120	31	981	0.15%	Bottom Trawl
Herring Purse Seine ¹	190	0	0	0	190	0.03%	Herring Purse Seine
Total	153,877	171,228	168,279	170,498	663,906	100%	Total catch

4.2.3 History of the fishery

Traditionally, the fishing areas with higher catches of mackerel have been in the northern, North Sea along the border of Divisions IVa and IIa around the Shetland Islands, and off the west coast of Scotland and Ireland. The southern fishery off Spain's, northern coast, has also accounted for significant catches (Figure 4).

In recent years significant catches have also been taken in Icelandic and Faroese waters (ICES areas V), areas where almost no catches were reported prior to 2008. In 2012, catches in this area constituted approximately half of the total reported landings. Catches from Greenland were reported for the first time in 2011, and have increased in 2012. In the Icelandic and Faroese fisheries, in the north-western part of the distribution area, mackerel are caught together with herring (mixed fishery). In the southern part of the distribution area, Atlantic mackerel (*S. scombrus*) can be caught together with Spanish mackerel (*Scomber colias*). Catches of both species are reported separately.

¹ The name of the gear is Herring Purse seine, this does not imply that the target species is herring. Indeed the target is mackerel and there is little by-catch as in discussed in Chapter 6.

information on changes in the migration pattern (Marine resources strategic program, December 2015). The issue is that there have been changes to the distribution and timing of migrations and spawning outside the traditional patterns in recent years, and the mackerel stock has increased in size. This has changed the perception of mackerel distribution and has resulted in the development of new fisheries. This is reflected in the fact Iceland was awarded Coastal State status in 2009. This briefing note gives the background and explains the current position.

The major grounds for mackerel during the last decades are in the North Sea and around the British Isles. In that area, the main fishing takes place in the autumn and into the spring. In recent years, mackerel migrations have increased into Icelandic waters, west to the Greenland Sea to the west and into the northern Norwegian Sea during the summer and early autumn. Increasing migrations into these areas are believed to be related to an overall increase in the stock size, warming of the ocean, and changes in food distribution in the traditional feeding grounds. In 2006, mackerel began appearing as bycatch in the herring fishery using pelagic trawls off eastern Iceland and in that year landings of mackerel were roughly 4,000 tonnes. A directed mackerel fishery began in 2007 with nearly 37 thous. tonnes landed. In 2008–2013, landings increased from 112 to 159 thous. tonnes, mostly in the directed fishery. Icelandic landings in 2014 were 173 thous. tonnes (Figure 5). The main fishing grounds in Icelandic waters have been east and southeast of Iceland, but catches off the southwest and west coast has been increasing since 2010. Around 13 thous. tonnes of the 2014 catch came from Greenlandic waters and roughly 3 thous. tonnes were caught east of Iceland in international waters.

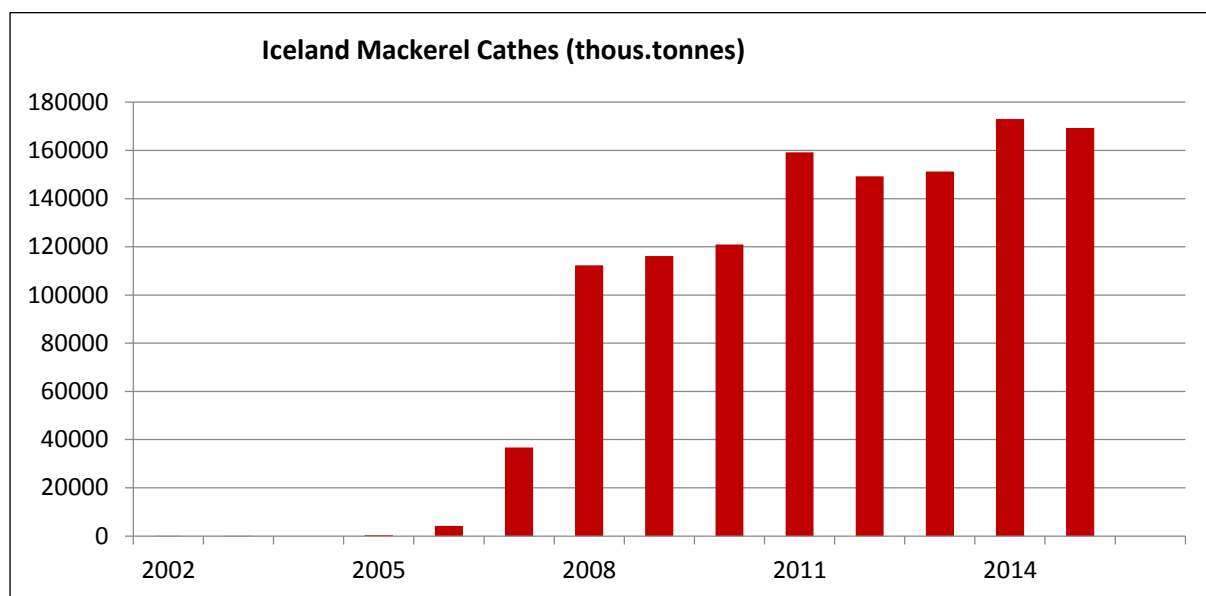


Figure 5. Catches of Mackerel in Icelandic waters over the years. Since 2007 the catches has been increasing. Source: Data from ICES advice report January 2007, book 9, plot from Assessment Team.

Mackerel fisheries are typically pelagic and associated with clean or homogenous single shoals, however where fishing gear which operate at different water depths are used, the fishery is likely to have a number of retained non-target species. Total catch composition by vessels and gear-type operating in Icelandic waters is continual updated on the DoF website, which makes this data accessible for public use. Vessels which target mackerel accounts for 99.99% of the catch.

4.2.4 Market information

Mackerel is mainly exploited in a directed fishery for human consumption, with some catch, particularly smaller mackerel being utilized for industrial purposes (ICES WGWIDE, 2008). The mackerel is normally fished with midwater trawl or purse seines. Handline is also used in small boats and some catch comes from bottom trawl. Mackerel is iced or frozen at sea and then processed after landing. The fillets are canned, smoked or sold fresh.

5 Principle One: Target Species Background

Principle 1 of the Marine Stewardship Council standard states that:

“A fishery must be conducted in a manner that does not lead to over fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery”

Under P1 the Assessment Team has described some aspects of the fishery that are divided into several sections (Figure 6). The chart below shows the PIs evaluated in the fishery and makes easier the understanding of each principle.

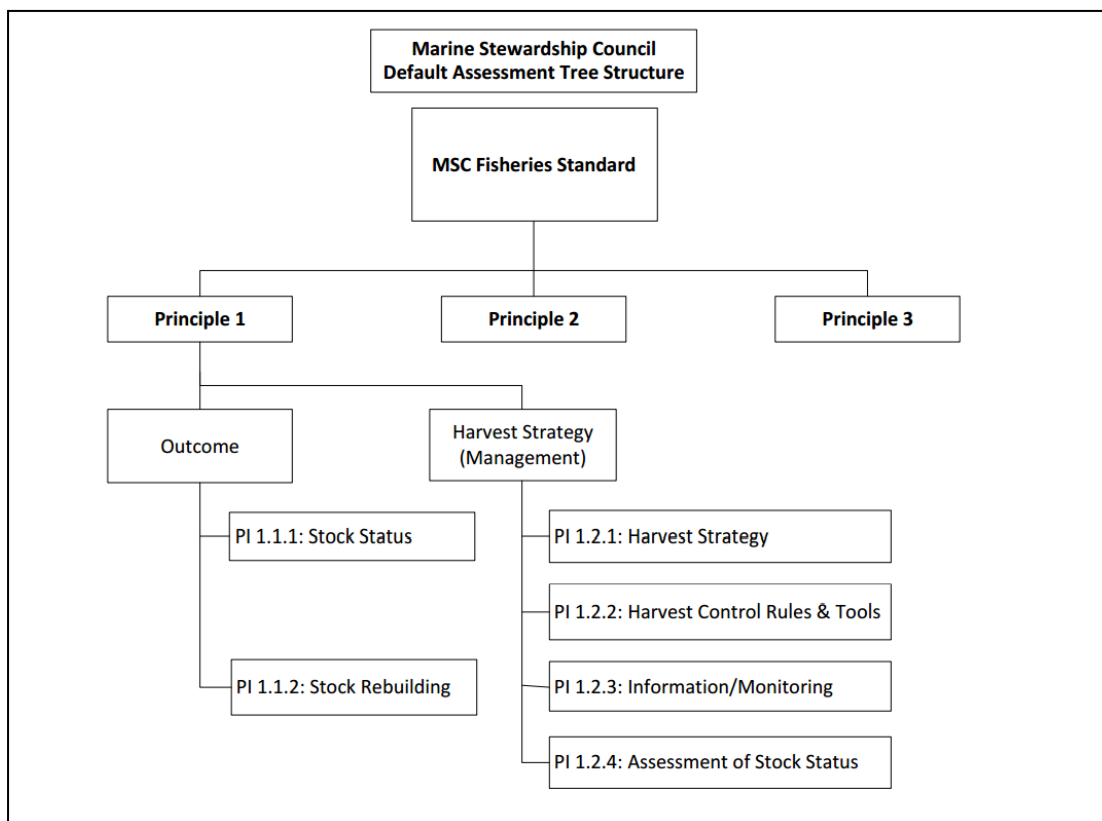


Figure 6. MSC diagram of performance indicators included in the principle 1. Source: MSC Fisheries Standard FCR v2.0

5.1 Stock Structure

The data used to analyse the stock structure are based on ICES (2016) Stock Annex: Mackerel (*S. scombrus*) in subareas 1-7 and 14 and divisions 8.a-e, 9.a (the Northeast Atlantic and adjacent waters).

Atlantic mackerel (*S. scombrus*), or mackerel, is a pelagic schooling species. Mackerel is found in the Mediterranean Sea, the Black Sea, and on both sides of the North Atlantic. There is no evidence of cross-Atlantic migration and no, or weak, support for isolated spawning components within either side of the North Atlantic. The Icelandic fishery exploits the Northeast Atlantic Mackerel.

ICES uses the term “Northeast Atlantic mackerel” (NEA Mackerel) to define the mackerel present in the area extending from the Iberian peninsula in the south to the northern Norwegian Sea in the north, and Iceland in the west to the western Baltic Sea in east.

In the Northeast Atlantic, mackerel spawn from the Portuguese waters in the south to Iceland in the north and from Hatton Bank in the west to Kattegat in the east. Spawning starts in January/February in Iberian Peninsula waters and ends in July to the northwest of Scotland and in the North Sea. These components are not completely independent but reproductive exchanges occur, and no differences were observed between these components outside the spawning season. Despite this lack of complete spatial or temporal separation, NEA mackerel is divided into three distinct entities as mentioned above, commonly namely the Southern, Western and North Sea spawning components. Catches cannot be allocated specifically to spawning area components on biological grounds, but by convention; catches from the Southern and Western components are separated according to the areas in which these are taken.

The NEA mackerel is migratory moving to northern waters for summer feeding. In later years the summer distribution area has increased grossly towards north and northwest resulting in a huge increase of mackerel in Icelandic waters over the last decade. The feeding season starts as early as April-May around Iceland, peaks in June - August and carries on into the fall. It occurs in huge shoals near the ocean surface.

5.2 Stock Status

The status of NEA stock is assessed annually by ICES. The most recent advice is published in January 2017 (ICES, 2017) based on the WGWIDE assessment (ICES, 2016) including some updates in the late 2016. The stock assessment is analytical; it is using an age-based analytical model (SAM: ICES, 2016). SAM is a fully statistical model in which all data sources (including catches) are treated as observations, assuming a lognormal observation model. Uncertainties (standard errors) are estimated for all parameters and for all states (F_s and N_s). The complete dataset used in the assessment and in the forecasts include catch data, tagging data (1980–2005 recapture year), and three survey indices: SSB index from the triennial egg survey (1992–2016), abundance indices from the IBTS survey (combined Q1 and Q4; age 0, 1998–2015), and from the IESSNS survey (ages 6–11, 2007, 2010–2016). Catches prior to 2000 are given a very low weight in the assessment because these data are considered biased (too low). Natural mortality ($= 0.15$ for all ages and years) is based on tagging studies from the early 1980s.

As noted above the NEA mackerel is considered to include three distinct entities, namely the Southern, Western and North Sea spawning components. In the recent period (since the 2007 survey) an expansion of the spawning distribution for the western spawning component has been observed. Spawning occurs now further to the west (up to 20° of latitude west) and to the north (up to the southern Norwegian Sea). However, most of the egg production of the western component remains in the traditional spawning grounds, located on the shelf edge in the southwest of Ireland to the west of Scotland. The egg production in the new areas remains marginal.

The results of the recent egg surveys indicate a decrease in the relative importance of the southern component (from 24% of the mackerel stock in 2013 to 11% in 2016) and the western component's relative contribution to the mackerel stock increased from 73% to 85%. The biomass of the North Sea component remains stable at a low level and its relative contribution to the stock increased from 3% to 4%. The current status is summaries in Figure 7.

		Fishing pressure			Stock size		
		2013	2014	2015	2014	2015	2016
Maximum sustainable yield	F_{MSY}	✗	✗	✗ Above	MSY	✓	✓ Above trigger
Precautionary approach	F_{pa} , F_{lim}	○	○	○ Increased risk	B_{pa} , B_{lim}	✓	✓ Full reproductive capacity

Figure 7. Stock status of NEA Mackerel relative to MSY and precautionary reference points.
Source: ICES (2017) Table 9.3.39.1

5.2.1 Spawning stock biomass

The spawning biomass (SSB) is found to be well above all PRI and B_{pa} reference points. Also the lower confidence limits are well above the reference points giving a high degree of certainty that the stock is at a high level (Figure 8).

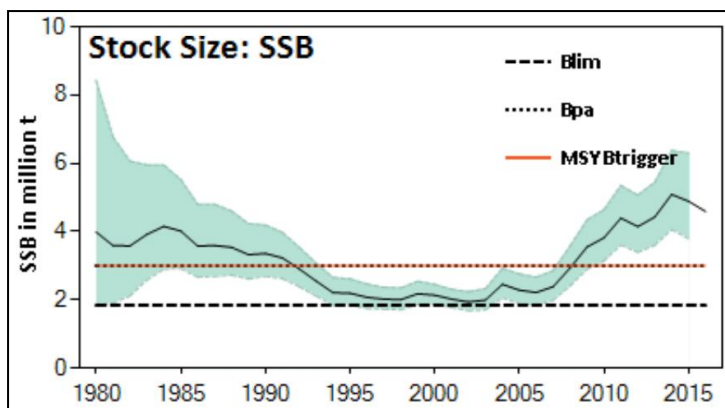


Figure 8. Spawning biomass of NEA mackerel 1980-2016. Source: ICES (2017) Figure 9.3.39.1

5.2.2 Fishing mortality

Fishing mortality was reduced in the first decade of the 2000s. The upper limits of the confidence limits just touch the F_{lim} value. The fishing mortality has been decreasing from high levels but remains above F_{MSY} (Figure 9).

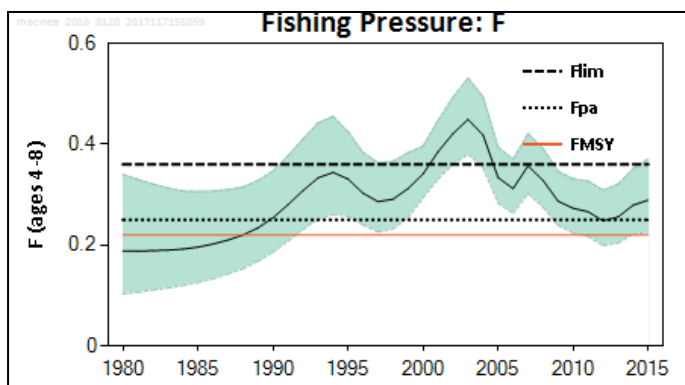


Figure 9. Fishing mortality for NEA mackerel. The green band shows the confidence interval for the estimate. Source: ICES (2017) Figure 9.3.39.1

5.2.3 Recruitment

Recruitment, Figure 10, has shown after 2000 several very strong years classes and these unusual series is the explanation for the increase.

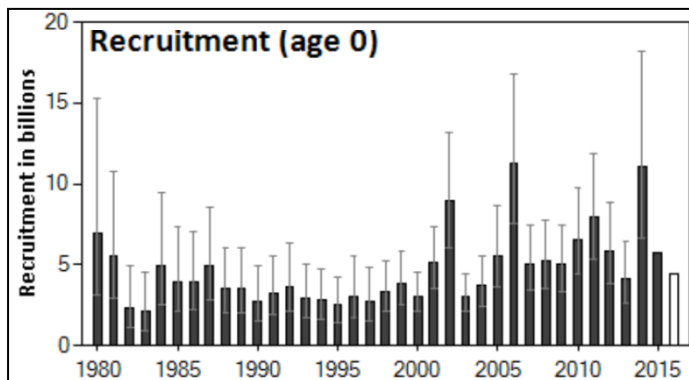


Figure 10. NEA mackerel. Recruitment (age 1) in mill. Source: ICES (2017) Figure 9.3.39.1

5.2.4 Catch and landings

Information about landings in the fishery is collected by the Icelandic Directorate of Fisheries which has access to both landing figures in the Icelandic ports (the official landings) and the recorded catch in the digital logbook kept by all Icelandic vessels.

The catches have increased in recent years. Icelandic catches of mackerel in 2015 were around 169 thous. tonnes. 88% of the catches were taken inside the Icelandic EEZ, 11% in international waters, and 1% inside the Faroe Islands EEZ. The main fishing grounds in Icelandic waters in 2015 were south and southeast of Iceland in July and August but less was caught in the western part than in previous years. In September and October there was a shift in the fisheries from the Icelandic EEZ to international waters east of Iceland. Total catches (all nations) is 1.208.990 million tonnes (ICES 2017) and the preliminary ICES estimation was 1.24 million tonnes (Figure 11).

Discarding is known to take place, but is only quantified for part of the fisheries (0.8% in weight in 2015); the proportion of the landings covered cannot be calculated. Partial discard estimates are included in the assessment and overall discarding is considered negligible (ICES advice 2016).

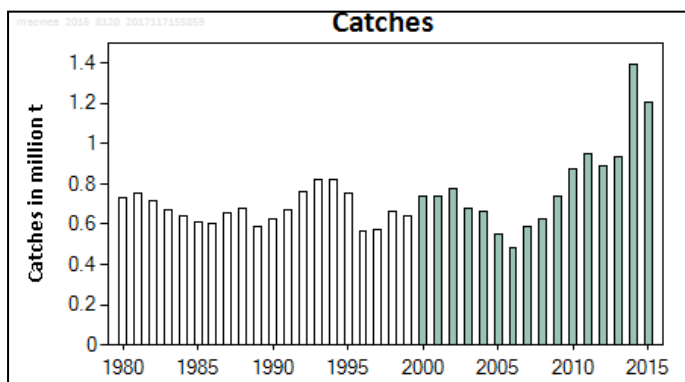


Figure 11. Total catches of mackerel from the NEA mackerel stock. The period before 2000 is marked with open bars as the data for this period are unreliable. Source: ICES (2017) Figure 9.3.39.1

5.2.5 Biological Reference points

Table 6 presents the existing reference points. These points are used in formulating the ICES advice and they were established by ICES in 2014. For the next stock assessment is planned to have the new reference points. The benchmarked is planning to be carried out in 2017..

Table 6. NEA mackerel. MSY and Precautionary reference points. Based on data in ICES (2017)
Table 9.3.39.5

Framework	Reference point	Value	Technical basis
MSY approach			
	MSY $B_{trigger}$	3 million t	B_{pa}
	F_{MSY}	0.22	Stochastic simulation
Precautionary approach			
	B_{lim}	1.84 million t	B_{los} (in 2002)
	B_{pa}	3 million t	$B_{lim} * \exp(1.654 * \sigma)$ $\sigma = 0.3$
	F_{lim}	0.36	F that on average leads to B_{lim}
	F_{pa}	0.25	F that on average leads to B_{pa}

5.3 Harvest Strategy and Harvest Control Rules

From 2001 to 2007 the internationally agreed TACs covered most of the distribution area of the Northeast Atlantic mackerel. The management was based on an agreement among the then 'old' coastal states (EU, Faroe Islands and Norway). Russia was fishing in international waters based on a quota assigned through an agreement in NEAFC. Around the mid-2000s the mackerel expanded its distribution area into first Icelandic waters and later into Greenlandic waters. Hence these parties obtained status as coastal states. From 2008 to 2014, no agreement has been reached among the Coastal States on the sharing of the mackerel quotas. In 2014 the three 'old' Coastal States agreed on a Management Strategy for 2015 and the subsequent five years. Iceland and Greenland was not part of this agreement and they set their own TAC outside the agreement. The total declared quotas for 2015 and 2016 exceed the TAC advised by ICES.

5.3.1 Harvest strategy

All Parties have declared their intension to manage the mackerel stock at MSY level or similar to keep the stock at a high level. The Icelandic ministry at the site visit (February 2017) declared as the Icelandic stock objective for the mackerel fishery that the stock should remain at a high level. The strategy for the Icelandic fishery is built on the 1) reaching agreement on management at the coastal state level, 2) implement this agreement using TACs for different Icelandic fleet segments as one of the central tools, and 3) supplement these TAC by a set of technical measures (grids, discard ban etc.). The tools are in place, the Coastal states are in almost constant contact searching for an agreement, TACs are set, currently autonomously for the Icelandic fisheries, and technical measures are established based on Icelandic fishing law. The situation is similar for the other Parties involved in this fishery (EU, Faroe Islands and Russia).

5.3.2 Harvest Control Rules

The EU, Faroe Islands, and Norway have agreed on a long-term management strategy for NEA mackerel (Anon., 2015). ICES has not yet evaluated this management strategy and not all parties involved in the mackerel fishery have taken part in the agreement. The plan is a follow-up of the previous plan and include the same elements.

Iceland has defined as its HCR to set its quota at 16.3% of the total TAC agreed by the three 'old' costal states (EU, Faroe Islands and Norway). (Information by the Icelandic ministry at the site visit – February 2017).

5.3.3 Management advice

The total declared quotas for 2015 and 2016 exceed the TAC advised by ICES. Total removals of mackerel are approximately 1.07 Mt in 2016, exceeding the recommended catch limit for 2016 by about 300 kt. The recent history is summarised in the text table below (Table 7).

Table 7. Summarised of recent history of NEA Mackerel catches

Year	Predicted catch corresp. to advice (kt)	Sum of national TAC (kt)	Official landings (kt)
2010	[527–572]	885	862
2011	[529–672]	959	930
2012	[586–639]	927	877
2013	[497–542]	906	927
2014	[927–1011]	1392	1388
2015	[831–906]	1229	1199

ICES provides in the interim period until a management plan is agreed by all Parties, advice based on the ICES MSY framework, ICES (2017). For 2017 the proposed TAC is 857.185 tons. The TAC sets by the three 'old' costal states is 1,020,996 metric tons including 15.6% set for Iceland, Greenland and Russia. The expected overshoot is thus around 250,000 t taking the Greenland and Iceland quotas into account.

5.4 Key Lower Trophic Level Status

The genus *Scomber* is one of the default low trophic level species defined by MSC. However, the North East Atlantic Mackerel does not exhibit any of the LTL species characteristics required by MSC (CB2.3.13) (ICES 2008b):

- The stock does not comprise a large proportion of trophic connections which lead to predator dependency
- There is not a large volume of energy passing from lower to higher trophic levels via this stock
- Crucially in all of these considerations, there are several other (large) pelagic stocks at this trophic level through which energy is transmitted from lower to higher trophic levels, namely North Sea herring, Atlantoscandian herring, horse mackerel, blue whiting, Norway pout, sprat, sandeel

6 Principle Two: Ecosystem Background

Principle 2 of the Marine Stewardship Council standard states that:

“Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent ecologically related species) on which the fishery depends”

In this section the main issues to be evaluated are identified within 5 components (Figure 12), namely: Primary Species, Secondary Species, Endangered Threaten and Protected (ETP) species, Habitats, and Ecosystems. Each component is based on 3 performance indicators (PI) - Outcome, Management and Information - which are scored based on available evidence.

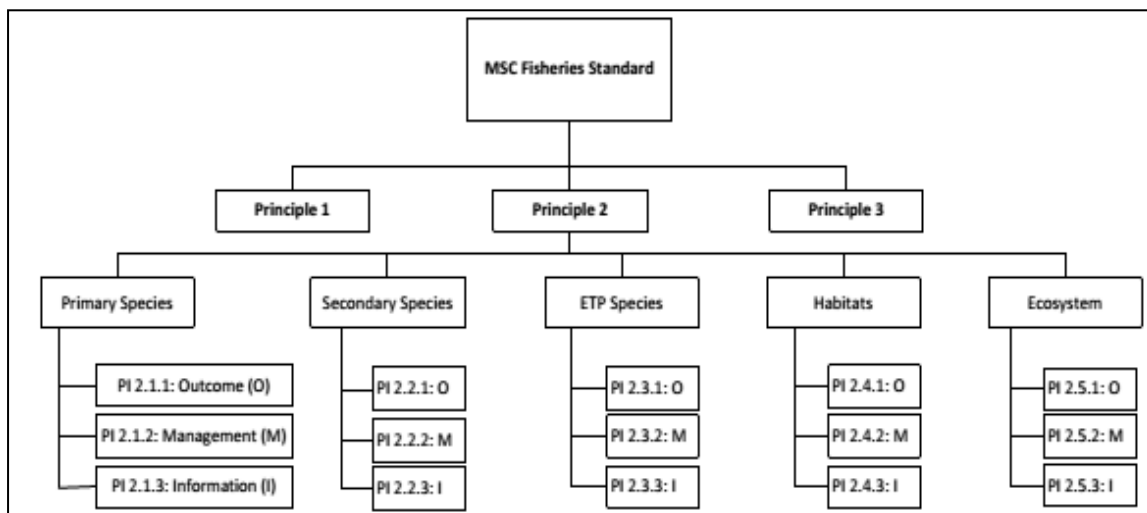


Figure 12. MSC diagram of performance indicators included under principle 2. Source: MSC Fisheries Standard v2.0

A requirement of the assessment is to consider each P2 species within only one species category, such as; primary species, secondary species or ETP species (MSC FCR2.0 – SA3.1).

Catch composition according to all 4 gear types (UoAs) targeting mackerel during 2013 to 2016 fishing season was provided by Iceland Directorate of Fisheries (DoF) and reviewed by the Assessment Team in order to identify all species which the fishery might have some interaction with, as well as to identify appropriate categorisation for each species. The data were interrogated to determine whether a species might be identified as primary (PRI), secondary (SEC), main or minor.

To define primary, secondary species and ETP species evaluated under P2, a decision tree from the MSC FCR v2.0 was used (Figure 13).

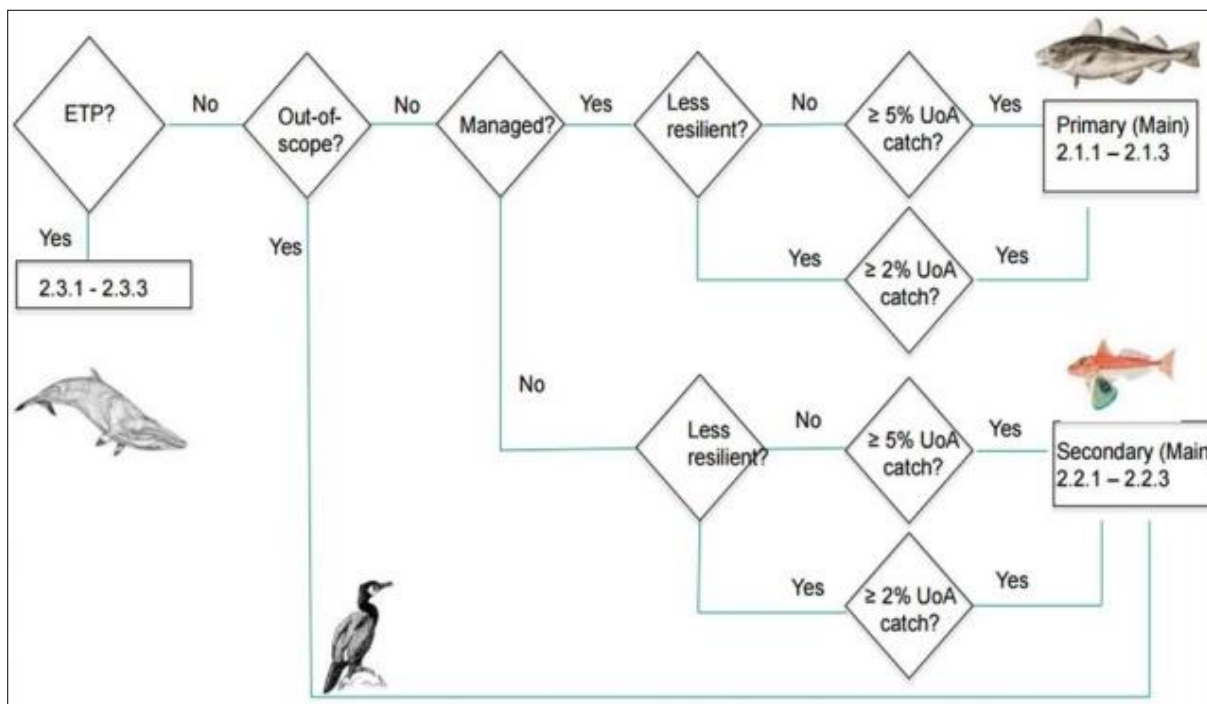


Figure 13. Decision tree of MSC FCR v2.0 to define primary, secondary and ETP species under P2

The assessment is required to classify a species if it has management tools and measures implemented (to control exploitation and maintain a stock according to maximum sustainable yield - MSY levels, or target reference points) as a primary species, and if this is absence, then they should be classified as a secondary species. Depending on the percentage of catches these species are classified as main or minor. Information on potential resilience of individual species was obtained from the fishbase¹ which included specific information on a species; size, maturity, fecundity, growth rates, and trophic level. According to the MSC guidance (SA3.4.2.2a) for evaluating species resilience, a 2% threshold on the catch was applied for less resilient species and 5% for more resilient species.

Secondary species are defined as the part of the catch that is (i) not covered by P1, (ii) are not considered primary species and (iii) might be out of the MSC scope but are not assigned as ETP species (such as; amphibians, reptiles, birds and mammals).

A list of ETP species which are typical to Icelandic waters, and the UoAs exploiting mackerel fisheries, were identified based on definitions in the MSC FCR SA3.1.5. More details are given in the section 6.4

6.1 Primary Species

The number of primary species associated with the catch varies based on gear type. During 2013-16 fishing seasons, 20 primary species were identified among the catch composition. The list of species classified as primary is shown in Tables 7-10. This representation accounts for species caught by fishing gear (UoC/UoA) included in the assessment. All catch are landed according to the no discarding fishery management policy of Iceland, and utilised in various products, therefore all catch from the fishery is taken into consideration.

¹ <http://www.fishbase.org/search.php>

6.1.1 UoA 1 - Pelagic trawl

Primary species catch composition for this gear during the 4 year period 2013-16 is illustrated in Table 8. This shows significant catch for the targeted mackerel (63.27%), and notable catch for herring (20.97%) as well as blue whiting (15.47%), while negligible catch (<0.07%) for the other species.

Main primary species identified in the pelagic trawl UoA are: herring and blue whiting, in addition to 15 primary minor species.

Table 8. ISF Pelagic Trawl catch composition (2013-2016) and species classification. Source: DoF data from 2013 to 2016

Common Name	Scientific Name	Category	4Yr Av. Landing (Kg)	Percent (%)	Resilience	Stock Component
Mackerel	<i>Scomber scombrus</i>	Target	159,634,331	63.27%	High	Northeast Atlantic
Herring	<i>Clupea harengus</i>	Main	52,911,250	20.97%	High	ICES subareas 1, 2, and 5
Blue whiting	<i>Micromesistius poutassou</i>	Main	39,030,500	15.47%	High	Northeast Atlantic
Argentine	<i>Argentina silus</i>	Minor	178,845	0.07%	High	ICES Division 5.a
Golden redfish	<i>Sebastes norvegicus</i>	Minor	153,395	0.06%	Low	ICES subareas 5, 6, 12, and 14
Greenland halibut	<i>Reinhardtius hippoglossoides</i>	Minor	137,520	0.05%	Low	ICES subareas 5 to 10
Cod	<i>Gadus Morhua</i>	Minor	104,838	0.04%	High	ICES Division 5.a
Saithe	<i>Pollachius virens</i>	Minor	54,608	0.02%	High	ICES Division 5.a
Deep sea redfish	<i>Sebastes mentella</i>	Minor	30,672	0.01%	Low	ICES subareas 5, 12, and 14
Lumpfish (Male & Female)	<i>Cyclopterus lumpus</i>	Minor	37,649	0.01%	High	Iceland Grounds
Blue ling	<i>Molva dypterygia</i>	Minor	6,169	0.00%	Low	Northeast Atlantic
Tusk	<i>Brosme brosme</i>	Minor	38	0.00%	High	ICES Division 5.a
Common Ling	<i>Molva molva</i>	Minor	300	0.00%	High	Iceland Grounds
Plaice	<i>Pleuronectes platessa</i>	Minor	74	0.00%	High	Iceland Grounds
Anglerfish	<i>Lophius piscatorius</i>	Minor	4	0.00%	High	ICES subareas 5 to 10

Common Name	Scientific Name	Category	4Yr Av. Landing (Kg)	Percent (%)	Resilience	Stock Component
Atlantic wolffish	<i>Anarhichas lupus</i>	Minor	101	0.00%	Low	Iceland Grounds
Atlantic bluefin tuna	<i>Thunnus thynnus</i>	Minor	6,026	0.00%	Low	North and East Atlantic
Haddock	<i>Melanogrammus aeglefinus</i>	Minor	571	0.00%	High	ICES Division 5.a

6.1.2 UoA 2 - Purse seine

Catch composition for ISF purse seine fleet targeting mackerel as a trial fishery during the year 2013 is illustrated in Table 9. This was an investigative fishery aimed at understanding mackerel shoal concentration within Iceland waters and fishing efficiency with purse seine gear.

A homogenous catch of target species with no primary or secondary species were identified in the purse seine UoA.

Table 9. ISF Purse Seine catch composition (2013) and species categorisation. Source: DoF data from 2013 to 2016

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
Mackerel	<i>Scomber scombrus</i>	Target	189,712	100%	High	Northeast Atlantic
Purse seine gear was used to target mackerel as an investigative fishery in 2013. As mackerel shoals continue to form concentration within Icelandic waters, fishers intend to use Purse seine gear on a commercial scale for targeting mackerel.						

6.1.3 UoA 3 – Handline

Average catch composition of primary species for ISF handline (jigger) fleet targeting mackerel during the 4 year period 2013-16 is illustrated in Table 10, showing 99% of the catch being the target specie.

No main primary species were identified for this UoA, there were 10 minor primary species.

Table 10. ISF Handline catch composition (2014-2016) and species categorisation. Source: Iceland DoF data from 2013 to 2016

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
Mackerel	<i>Scomber scombrus</i>	Targeted	6,042,777	99.23%	High	Northeast Atlantic
Cod	<i>Gadus Morhua</i>	Minor	28,581	0.47%	High	Northeast Atlantic
Saithe	<i>Pollachius virens</i>	Minor	15,247	0.25%	High	Northeast Atlantic
Golden redfish	<i>Sebastes norvegicus</i>	Minor	2,494	0.04%	Low	ICES subareas 5, 6, 12, and 14
Blue ling	<i>Molva dypterygia</i>	Minor	3	0.00%	Low	Northeast Atlantic
Argentine	<i>Argentina silus</i>	Minor	1	0.00%	High	ICES Division 5.a
Tusk	<i>Brosme brosme</i>	Minor	50	0.00%	High	ICES Division 5.a
Common Ling	<i>Molva molva</i>	Minor	189	0.00%	High	Iceland Grounds
Common Dab	<i>Limanda limanda</i>	Minor	12	0.00%	High	Iceland Grounds
Atlantic wolffish	<i>Anarhichas lupus</i>	Minor	40	0.00%	Low	Iceland Grounds

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
Haddock	<i>Melanogrammus aeglefinus</i>	Minor	73	0.00%	High	Northeast Atlantic

6.1.4 UoA 4 - Bottom otter trawl

Average catch composition of primary species for ISF bottom (demersal) trawl fleet where mackerel is captured and retained during the 4 year period 2013-16 is illustrated in **Table 11**. This shows mackerel accounting for 24%, the catch which was similar to cod (24.57%), saithe (19.95%), however smaller portions for golden redfish (13.73%), and haddock (8.95%), while the remaining catch were <3.29%.

Main primary species identified in the bottom otter trawl are: cod, golden redfish, Greenland halibut, haddock, and saithe, in addition to a further 11 species identified as primary minor.

Table 11. ISF Bottom otter Trawl catch composition (2014-2016) and species categorisation.
Source: Iceland DoF data from 2013 to 2016

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
Mackerel	<i>Scomber scombrus</i>	Targeted	245,275	24.00%	High	Northeast Atlantic
Cod	<i>Gadus Morhua</i>	Main	251,089	24.57%	High	Northeast Atlantic
Saithe	<i>Pollachius virens</i>	Main	203,851	19.95%	High	Northeast Atlantic
Golden redfish	<i>Sebastes norvegicus</i>	Main	140,265	13.73%	Low	ICES subareas 5, 6, 12, and 14
Haddock	<i>Melanogrammus aeglefinus</i>	Main	91,413	8.95%	High	Northeast Atlantic
Greenland halibut	<i>Reinhardtius hippoglossoides</i>	Main	33,569	3.29%	Low	ICES subareas 5 to 10
Herring	<i>Clupea harengus</i>	Minor	32,000	3.13%	High	ICES subareas 1, 2, and 5
Plaice	<i>Pleuronectes platessa</i>	Minor	23,225	2.27%	High	Iceland Grounds
Atlantic wolffish	<i>Anarhichas lupus</i>	Minor	6,428	0.63%	Low	Iceland Grounds
Deep sea redfish	<i>Sebastes mentella</i>	Minor	6,128	0.60%	Low	ICES subareas 5, 12, and 14

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
Ling	<i>Molva molva</i>	Minor	3,976	0.39%	High	Iceland Grounds
Lemon sole	<i>Microstomus kitt</i>	Minor	3,164	0.31%	High	Iceland Grounds
Argentine	<i>Argentina silus</i>	Minor	1,942	0.19%	High	ICES Division 5.a
Blue ling	<i>Molva dypterygia</i>	Minor	1,131	0.11%	Low	Northeast Atlantic
Anglerfish	<i>Lophius piscatorius</i>	Minor	402	0.04%	High	ICES subareas 5 to 10
Tusk	<i>Brosme brosme</i>	Minor	186	0.02%	High	ICES Division 5.a
Witch	<i>Glyptocephalus cynoglossus</i>	Minor	146	0.01%	High	Iceland Grounds

6.1.5 Status of Primary Species

Blue whiting - The International Blue Whiting Spawning Stock Survey is carried out yearly since 2004 on spawning grounds west of the British Isles in March-April. The survey is carried out by Norway, Russia, the Faroe Islands and the EU. There is no agreement between the participating nations about catch allocation. This has resulted in catches exceeding the advice given by ICES. Current stock updates (Figure 14) show an increased fishing mortality from a historical low in 2011 to above FMSY. SSB is above MSY Btrigger and is estimated to be above the long term average (ICES advice 2015b and MRI State of the Stock 2015/16).

Approximately 15% (or 39,030t) of the pelagic trawl gear UoC catch composition is blue whiting, however the fishing grounds for blue whiting is visually estimated to be less than 1% overlapping with mackerel fishing areas, and therefore is not a concentrated fishery. Icelandic landings of blue whiting in 2015 were around 215, 000t (therefore the pelagic trawl represent ~18% of the national TAC). In recent years, the bulk of the catches were taken within the EEZ of Faroes, of around 184, 000t. Around 14% of Icelandic catches were caught within the EEZ of Iceland. Currently there are 2 Northeast Atlantic blue whiting fisheries certified and participating in the MSC program (Faroesse Pelagic Organization North East Atlantic blue whiting – June 2016 and PFA, DPPO, KFO, SPSG & Compagnie des Pêches St Malo Northeast Atlantic blue whiting Pelagic Trawl – February 2016). In the figure 14 is shown that the stock is considered to be above the MSY reference point

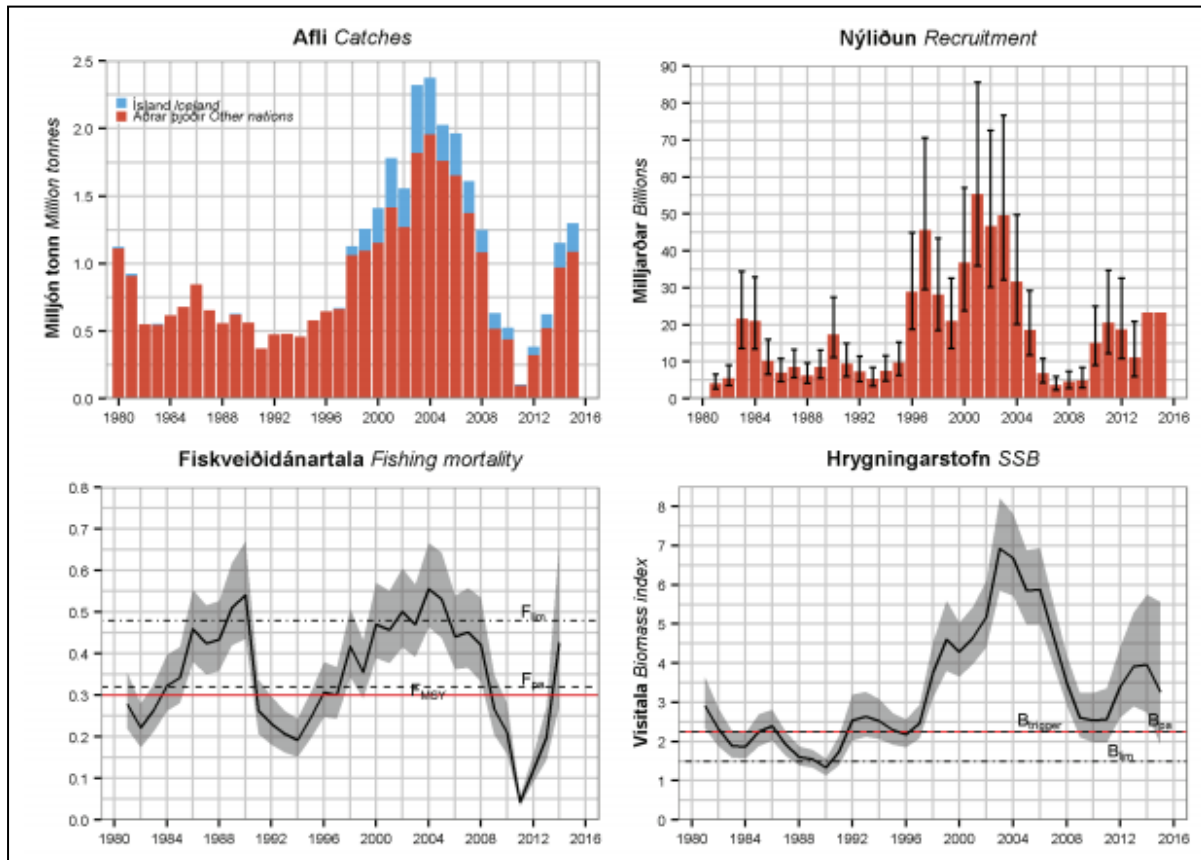


Figure 14. Blue whiting. Total and Icelandic catch, recruitment at age 1, fishing mortality and spawning stock biomass (From ICES advice 2015 and MRI State of the Stock 2015/16)

Cod – The Iceland Spring Small-Meshed (IS-SMB) survey is commonly used to monitor cod abundance. Weights of age groups 3–9 in the 2016 survey (IS-SMB) are used for estimating weight at age in the reference stock (B_{4+}) in 2016. These estimates are slightly lower than in recent years. Maturity of age groups 1–9 are estimated from the survey. Proportion mature at age 4–6 has decreased since 2000. For example, proportion mature of age group 6 was about 50% around the year 2000 but is now 30%. As shown in Figure 15, estimated SSB has increased in recent years and has not been larger in 40 years. Harvest rate has declined and is at its lowest value in the assessment period. Recruitment since 1998 is lower than the average recruitment in the period 1955-1985. The increase in SSB is therefore primarily the result of lower harvest rate. The 2013 year class is estimated small but the year classes of 2014 and 2015 that will enter the fishery in 2017 and 2018 are larger than the long-term mean recruitment.

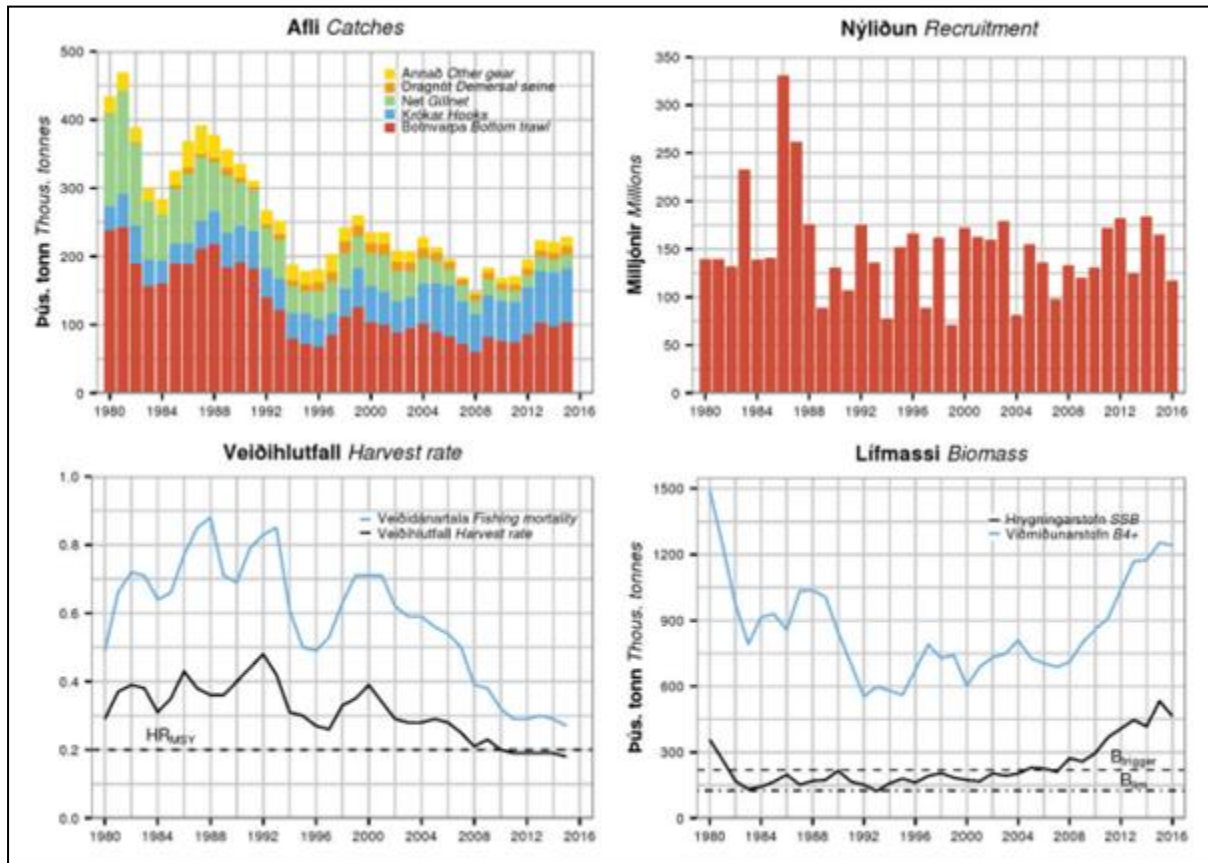


Figure 15. Cod. Catch by gear type, recruitment at age 3, fishing mortality and harvest rate, reference stock biomass (B4+) and spawning stock (From MRI State of the Stock 2015/16)

Negligible portions of cod is caught in the Pelagic trawl (0.04%), and Handline (0.47%) fishery for mackerel, however notable portions are taken in the Bottom trawl (24.57%) fishery gears of the UoAs. The general Icelandic fleet exploiting cod are bottom trawl (45%), longline (35%), gillnet (8%), demersal seine (6%) and handlines (6%). The negligible catch of cod by pelagic gear is consistent with the general landings by fishing gear. A number of Cod fisheries within the Northeast Atlantic are participating in the MSC program for certified fisheries (these included ISF Iceland Cod – April 2012, and Faroe Islands and Iceland North East Arctic cod, haddock and saithe – August 2012, as well as others). Icelandic cod stock is considered to be above its SSB $B_{trigger}$, meeting the MSY reference point and at full reproductive capacity (Figure 15).

Redfish stocks– Details on the stock status of these species is provided in this subsection. Most of the information throughout this sub-section is sourced from ICES Latest Advice 2015/16 and MFRI reports on state of the stocks 2015/16. A number of redfish species are found in Icelandic waters², and regionally (ICES Subareas 5, 6, 12, and 14) there are 3 commercially exploited species (i) Golden redfish (*Sebastes norvegicus*), (ii) Beaked redfish (*Sebastes mentella*), and (iii) Norway redfish (*Sebastes viviparus*).

Redfish species inhabit different depth strata, although species can co-occur in catches. Norway redfish (*S. viviparus*) is common in shallower waters than the other species and due to its small size attracts little commercial interest; *S. viviparus* is not reported as bycatch in the mackerel fishery.

² <http://www.fisheries.is/main-species/redfishes/>

The other two species *S. norvegicus* and *S. mentella* look quite similar and are difficult to tell apart. As a result, up until the 2010/2011 fishing season, Iceland issued a combined quota for both species and skippers were not required to separately report catches of each species. *S. norvegicus* and *S. mentella* were separated in the Icelandic ITQ system in the 2010/2011 fishing season and it is now mandatory that separate landings statistics are generated for both species in Icelandic waters.

Sampling and evaluation of commercial catch has identified 2 dominant species in the stocks common to Icelandic waters (Golden redfish *S. norvegicus* and Deepsea redfish *S. mentella*)³ (Medley et al 2017). Species in commercial catch are spilt according to procedures that are accepted to be satisfactory in collecting representative information of the fisheries, therefore the current catch is considered representative of the industry. The UoAs fisheries operates within the Icelandic slope and are not known to operate in water deeper than 500m and therefore unlikely to overlap or fish other stocks of redfish such as those stock in ICES subareas 5, 12, and 14 (Iceland and Faroes grounds, north of Azores, east of Greenland) and NAFO Subareas 1+2 (deep pelagic stock > 500 m) or the stock in Division 14.b. (demersal Southeast Greenland).

Both *S. norvegicus* and *S. mentella* are reported as co-occurring in catches with mackerel and the status of each is discussed below.

In general redfish stocks are assessed according to commercial landing data including age-length distributions of catches from Iceland, Greenland, and the Faroes; survey data by length from IS-SMB and GER (GRL)-GFS-Q4, age data from Icelandic catches and IS-SMH surveys. Analytical assessment is by the Gadget model.

For Golden redfish, spawning-stock biomass (SSB) has steadily increased for the past 20 years and is well above $MSY B_{trigger}$ (Figure 16). Uncertainty in the assessment of golden redfish is due to uncertainty concerning both recruitment and exchange of golden redfish between Iceland and Greenland⁴. The 2000–2005 year classes accounted for most of the catches in 2015. The 1996–2005 year classes are above average in size, but the 2006–2011 year classes are estimated to be below the average. Fishing mortality since 2010 has been estimated to be around F_{MSY} . (MFRI State of stocks 2015/2016, ICES Advice 2015 and Directorate of fisheries advice). The 2006-2011 year classes are estimated to be small, both total biomass and SSB are estimated to decrease. Therefore, the stock is not highly likely above reference points but the catch from mackerel fisheries do not hinder the status of the stock.

³ Kristján Kristinsson, Fishery of Golden Redfish (*Sebastes norvegicus*) in ICES Division Va in 2012 WD#15 to NWWG 2013.

⁴ <http://www.fisheries.is/main-species/redfishes/>

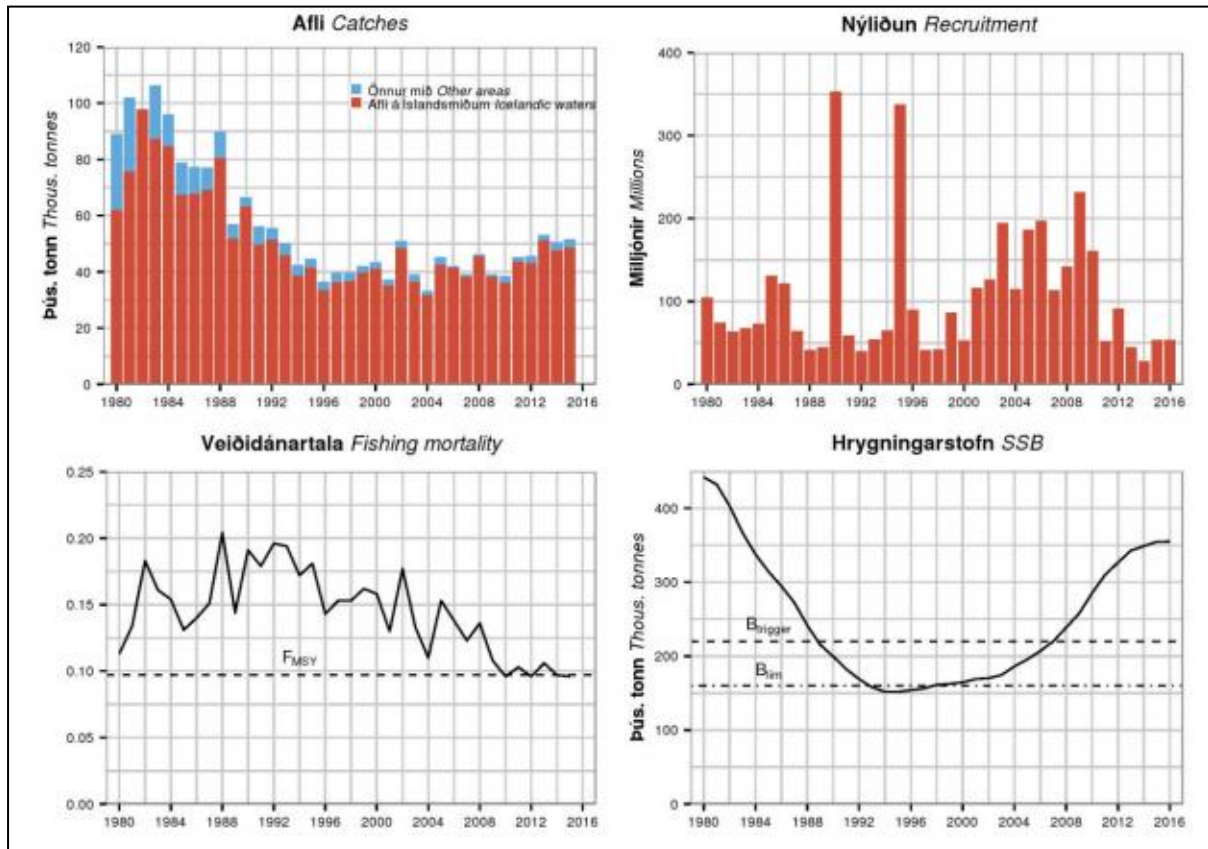


Figure 16. Golden redfish. Catch by area, recruitment at age 5, fishing mortality, and spawning stock biomass (SSB) - From MFRI State of the Stock 2015/16)

For Deepsea redfish and Demersal beaked redfish – Relative biomass index is stable for stock at depths greater than 500 m (ICES advice 2016). Indices from the survey suggest a rapid decline in the stock (less than 500m) from 2001–2015. However there is a lack of long-term time series of abundance indices which prevents accurate determination of stock status. The limited average abundance data suggests a reduction in the decline of stock status since 2015. A stock survey is expected in July 2018 to add further information (ICES advice 2016).

The Workshop on Redfish Stock Structure (ICES, 2009) reviewed the stock structure of *S. mentella* in the Irminger Sea and adjacent waters and concluded that three biological stocks of *S. mentella* are present:

1. a 'Deep Pelagic' stock (NAFO 1-2, ICES Vb XII XIV >500m)
2. a 'Shallow Pelagic' stock (NAFO 1-2, ICES Vb XII XIV <500m)
3. an 'Icelandic Slope' stock (ICES Va XIV)

Comparison of the spatial distribution of catches of mackerel and the three *S. mentella* stocks in Icelandic and adjacent waters would suggest that in all likelihood it is fish from the 'Icelandic Slope' or demersal stock of *S. mentella* that co-occur with catches of mackerel (Figure 17); therefore, the mackerel fishery is assumed to not impact pelagic stocks of *S. mentella*.

As the mackerel fishery is assumed to not impact pelagic stocks of *S. mentella* this report will assess the impact of the mackerel fishery on the demersal beaked redfish stock alone; hereafter, *S.*

mentella will refer specifically to the Icelandic slope (or demersal beaked redfish) stock unless specifically stated.

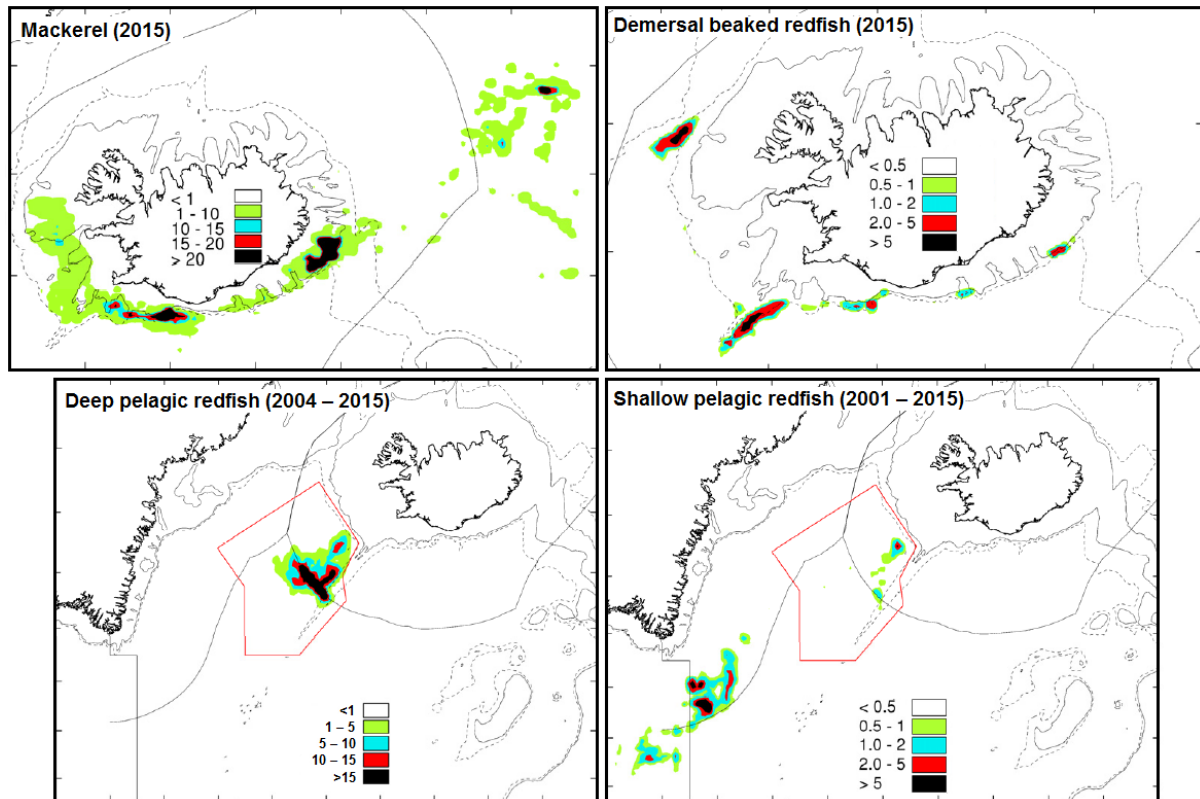


Figure 17: Spatial distribution (t/nmi2) of landings of mackerel (2015) (top left) and the Icelandic slope (2015) (top right), deep pelagic (2004 – 2015) (bottom left) and shallow pelagic (2004 – 2015) (bottom right) *S. mentella* stocks in Icelandic and adjacent (Source: MFRI, 2016).

With respect to the demersal beaked redfish stock, the lack of long time-series of abundance indices prevents the determination of stock status. Survey indices from the autumn survey since 2000 are instead used as basis for the advice.

As previously mentioned, the stock size indicator has been stable over time, with some increase in the last two years (2014 and 2015) while catches in the past three years have been the lowest since 1980. Little information is available on sustainable yield of demersal beaked redfish. The fishable biomass is considered small compared to what it was in the beginning of the time series. The abundance index of fish 30 cm and smaller has in 2007 – 2015 been at low levels, indicating little recruitment to the fishable stock.

MFRI and ICES advise that when the precautionary approach is applied, catches in the fishing year 2016/2017 should be no more than 12,922 t. TAC is set for the fishery, and as a measure it is expected to facilitate stabilising the stock until greater certainty is determined for the stock status. With the information available the team cannot confirm that the stock is above the proxies but the catch from Mackerel fisheries do not hinder the status of the stock.

Greenland halibut – The stock has been above $MSY B_{trigger}$ for the majority of the time-series, and after dropping below the trigger in 2004 and 2005 it has steadily increased and is currently above $MSY B_{trigger}$. (Figure 18) Recent fishing mortality (F) is estimated to be relatively close to F_{MSY} .

The stock is assessed using data from commercial catches (international landings); one combined survey index (GRL-deep since 1998, and IS-SMH since 1996); and one commercial index (Icelandic trawlers (since 1985). Stock assessment utilises the probabilistic (Bayesian) model⁵.

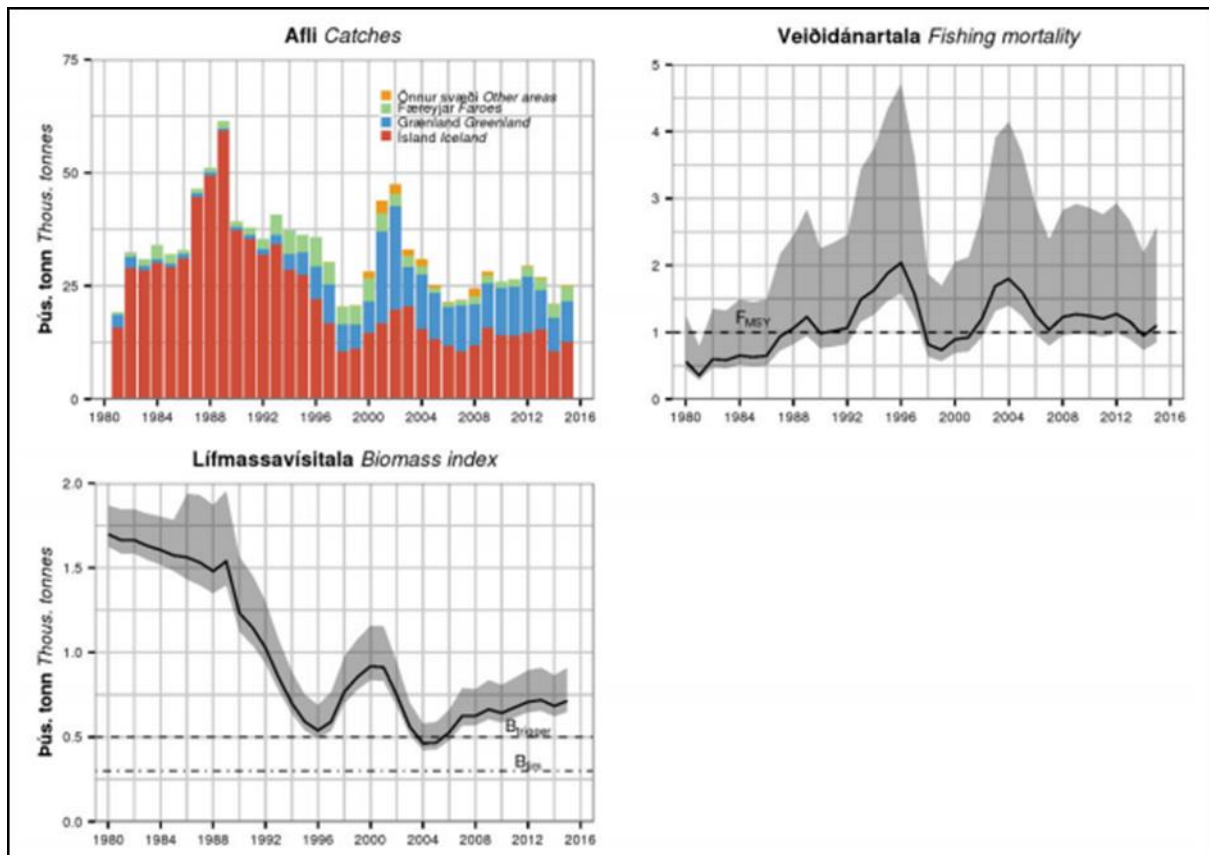


Figure 18. Greenland halibut. Catch by area, relative fishing mortality (F/F_{MSY}) and changes in relative biomass (B/B_{MSY}) – (From MFRI State of the Stock 2015/16)

Greenland halibut stock is considered to be meeting the MSY reference point and is at full reproductive capacity.

Haddock – ISF Iceland Haddock is a certified fishery participating in the MSC certified fisheries program since April 2012 (It was certified against V1.3 and currently in re-assessment). (Figure 19). Haddock stock is managed according to $MGTB_{trigger}$ rather than $MSYB_{trigger}$. Recent report from MFRI shows that SSB has decreased in recent years but is above $MGTB_{trigger}$. Harvest rate in 2014–2015 is estimated at its lowest level in the assessment period and is currently below HR_{MGT} . Recruitment in 2010–2015 was low but is estimated to increase for 2016

The main aspect of stock status in the last assessment show trends of catch decreasing, the recruitment in 2016 increased regarding the previous years, the mortality is above the sustainable limit and SSB is above $B_{trigger}$ and increasing.

⁵ <http://ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/ghl-grn.pdf>

The stock is assessed using data from commercial landings-at-age and two survey indices (Icelandic spring and autumn ground fish surveys - IS-SMB, IS-SMH), as well as the Adapt-type model (in ADMB) model (ICES Advice 2016).

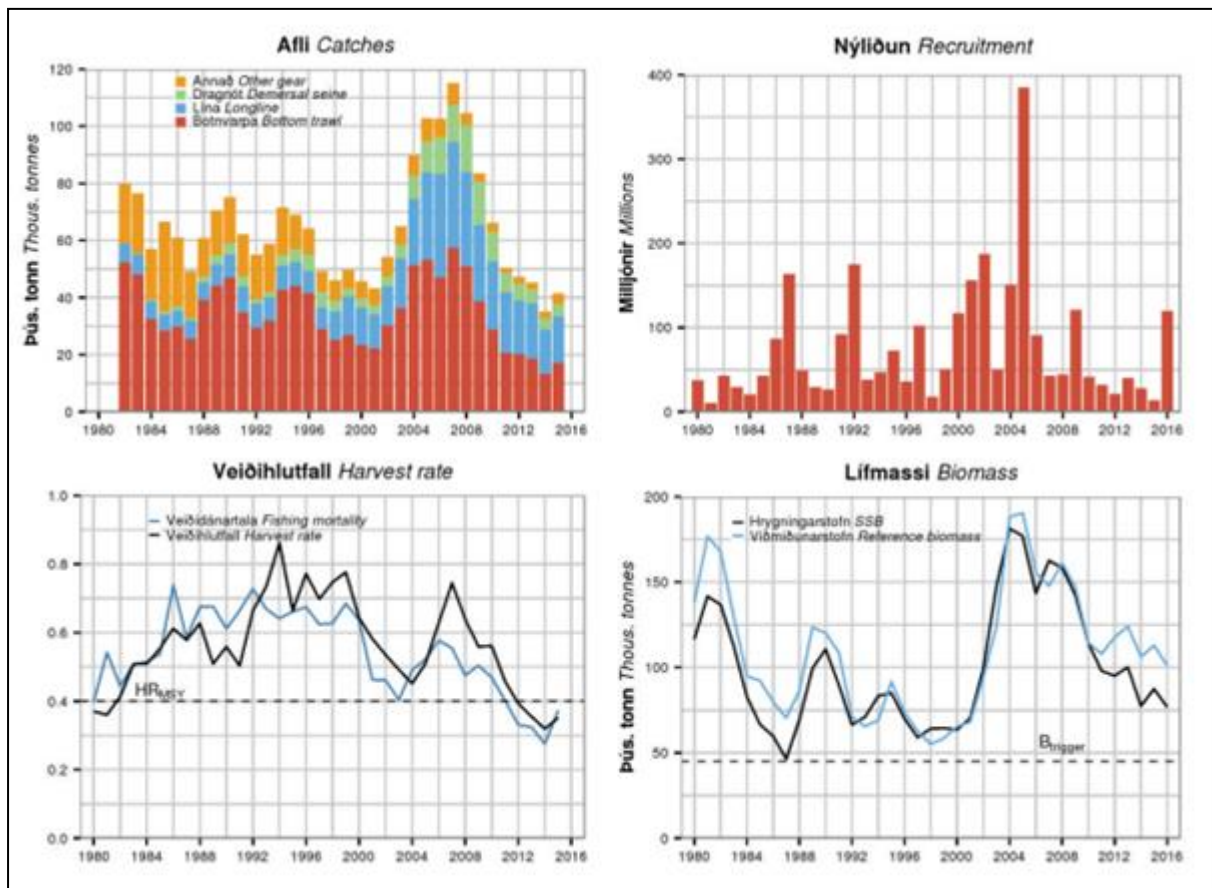


Figure 19. Haddock. Catch by gear type, recruitment at age 2, fishing mortality and harvest rate, reference stock biomass (45 cm and larger) - From MFRI State of the Stock 2015/16)

Iceland Haddock stock is considered to be meeting the MGTBtrigger reference point and at full reproductive capacity (Figure 19).

Herring – The North Atlantic herring is split into many stocks, based on where and when they spawn. The largest of these stocks is the Atlanto-Scandian herring (also called the Norwegian spring spawning herring); the Icelandic summer spawning herring(ICES advice 2016) is different from the Atlanto-Scandian stock as this stock is a coastal stock and is not believed to leave Icelandic waters; and the Icelandic spring spawning herring (Icelandic Ministry of Fishery) .

The ISF Norwegian and Icelandic herring trawl and seine fisheries are participating in the MSC fisheries certification program since May 2014.

- Summer spawning herring stock. Current stock developments (Figure 20), indicates the spawning-stock biomass (SSB) reached its highest estimated level in the late 2000s and is above MSY $B_{trigger}$. Fishing mortality (F) has been increasing after being at low levels in the beginning of the *Ichthyophonus* outbreak and is currently at F_{MSY} . The summer spawning herring stock in Icelandic grounds are above the MSY $B_{trigger}$ and at full reproductive capacity.

Stock assessment utilizes data catch-at-age and one age-structured acoustic survey index (IS-HerAco-Q4/Q1); and age-based analytical model (NFT-ADAPT) (ICES Report advice for herring 2016).

- **Spring spawning herring stock**, Current stock developments (Figure 21), indicates the stock is declining and estimated to be below $B_{trigger}$ (B_{pa}) but above the B_{lim} . Recruitment was estimated at low level since 2004. The 2013 year class is estimated to be close to the average recruitment of 1998–2012. Fishing mortality is below F_{pa} and F_{MSY} and the management plan target F (ICES advice 2016). In addition the 2016 advice on the stock from ICES indicates that the stock is at $MSY_{B_{trigger}}$, SSB_{MGT} , and full reproductive capacity (Figure 20).

In Icelandic waters and wider North Atlantic stock are assessed using data from commercial catches-at-age (stock weight-at-age from surveys and since 2009 from catch sampling). Three survey indices: Norwegian acoustic survey on spawning grounds in February/March (NASF, 1994–2005, 2015–2016); International Ecosystem Survey in the Nordic Seas (IESNS) covering the adult stock in the Nordic seas (1996–2016) and the juvenile stock in the Barents Sea (1991–2016); as well as a statistical assessment model (XSAM; ICES, 2016a, 2016b).

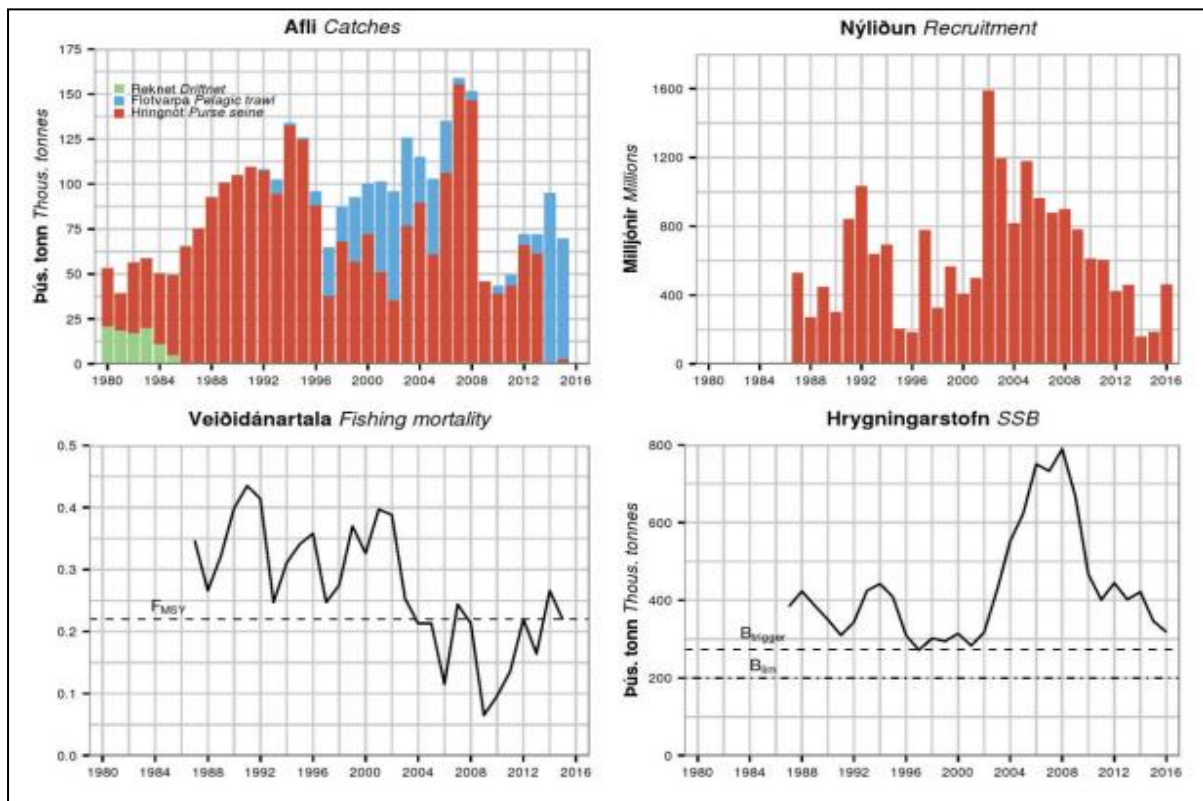


Figure 20. Summer Herring. Catch by gear, recruitment at age 3, fishing mortality and spawning stock biomass (SSB) - From MFRI State of the Stock 2015/16)

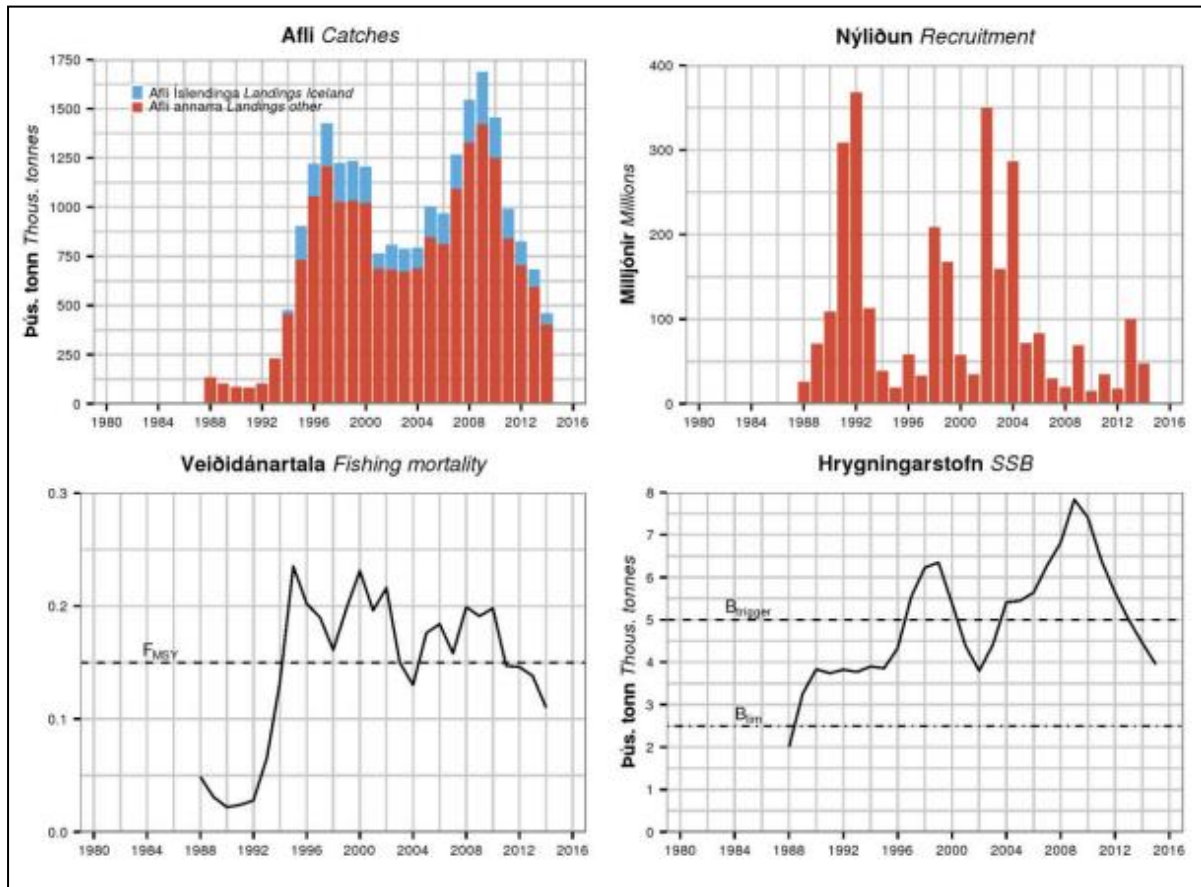


Figure 21. Norwegian spring-spawning herring. Catch, recruitment at age 0, fishing mortality and spawning stock biomass (SSB) – Source: MFRI State of the Stock 2015/16

Saithe – The ISF Iceland saithe and ling fishery are participating in the MSC certification program since September 2014.

The stock is above $MSY B_{trigger}$ and at full reproductive capacity (Figure 22). Stock size has increased in recent years and the SSB is above $MSY B_{trigger}$ and close to the average of 1980–2015 (Figure 22). Recruitment in 2009–2015 was relatively constant and about 20% higher than the average. Harvest rate in 2015 was below HR_{MSY} (HAFRO Advice 2016). The 2016 ICES advice indicate the spawning-stock biomass (SSB) to be above $MSY B_{trigger}$ since 1998 and is currently close to the time-series maximum. Recruitment has been relatively stable and the average of the year classes 2006–2012 is estimated to be above the average seen since 1980 to present.

Stock is assessed using data from the spring groundfish survey and separable statistical catch-at-age model (ICES advice 2016).

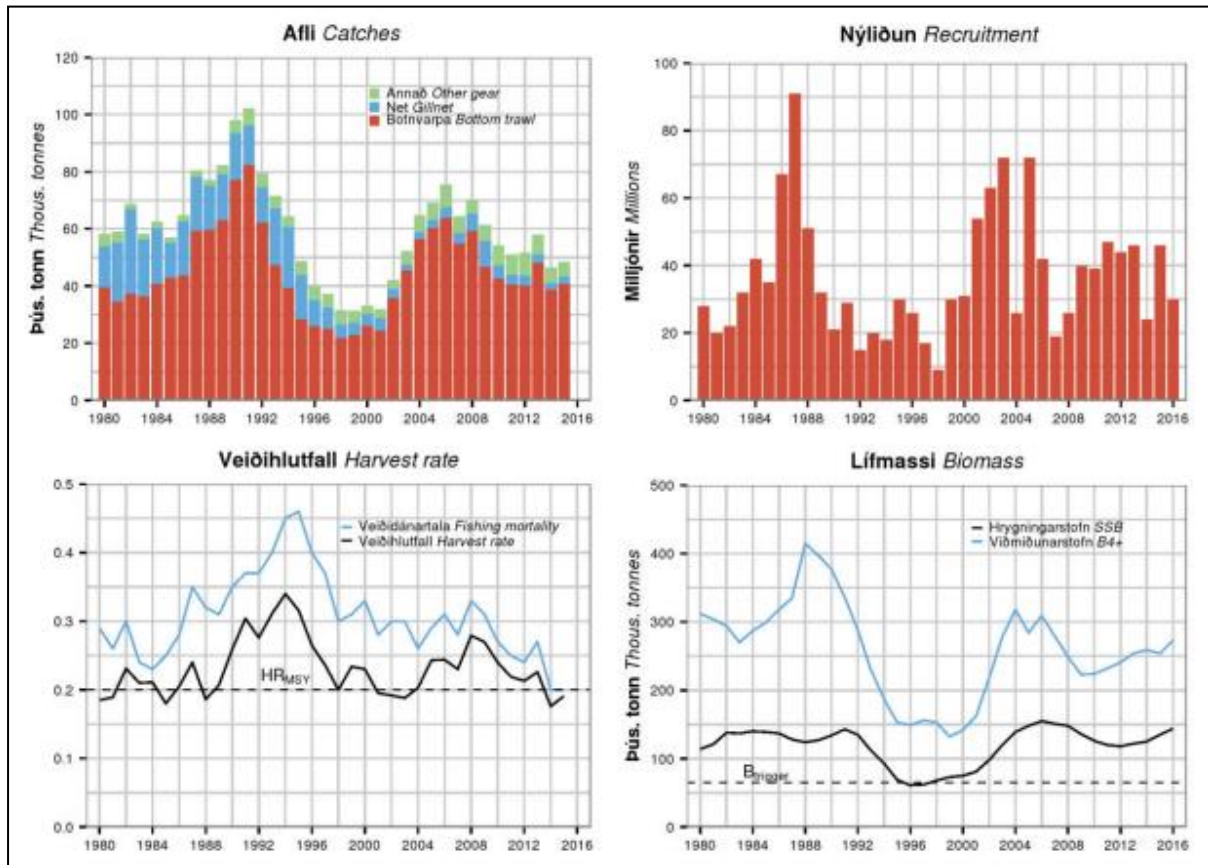


Figure 22. Saithe. Catch by gear type, recruitment at age 3, fishing mortality and harvest rate, reference stock biomass and spawning stock – Source: MFRI State of the Stock 2015/16

Anglerfish –Recruitment has been low in recent years and juvenile indices indicate that the 2008–2014 year classes are small. The index of fishable biomass has decreased since 2011. The biomass index was high in 2005–2011 compared to previous years, but has since then decreased. Juvenile indices show poor recruitment for year classes 2008–2014. F_{proxy} was stable when the stock peaked, but has reduced in the last few years. The recommended catch levels are expected to decline in coming years (Figure 23) (HAFRO advice 2016).

Stocks are assessed using commercial catches and surveys (IS-SMB) data, as well as trends in biomass indicator. IS-SMB biomass index of anglerfish 40 cm and larger, along with catch, is used to calculate F_{proxy} (catch/survey biomass). The target F_{proxy} was defined as 80% of the mean F_{proxy} from the reference period of 2001–2015. The advice is based on multiplying the target F_{proxy} value to the most recent index value.

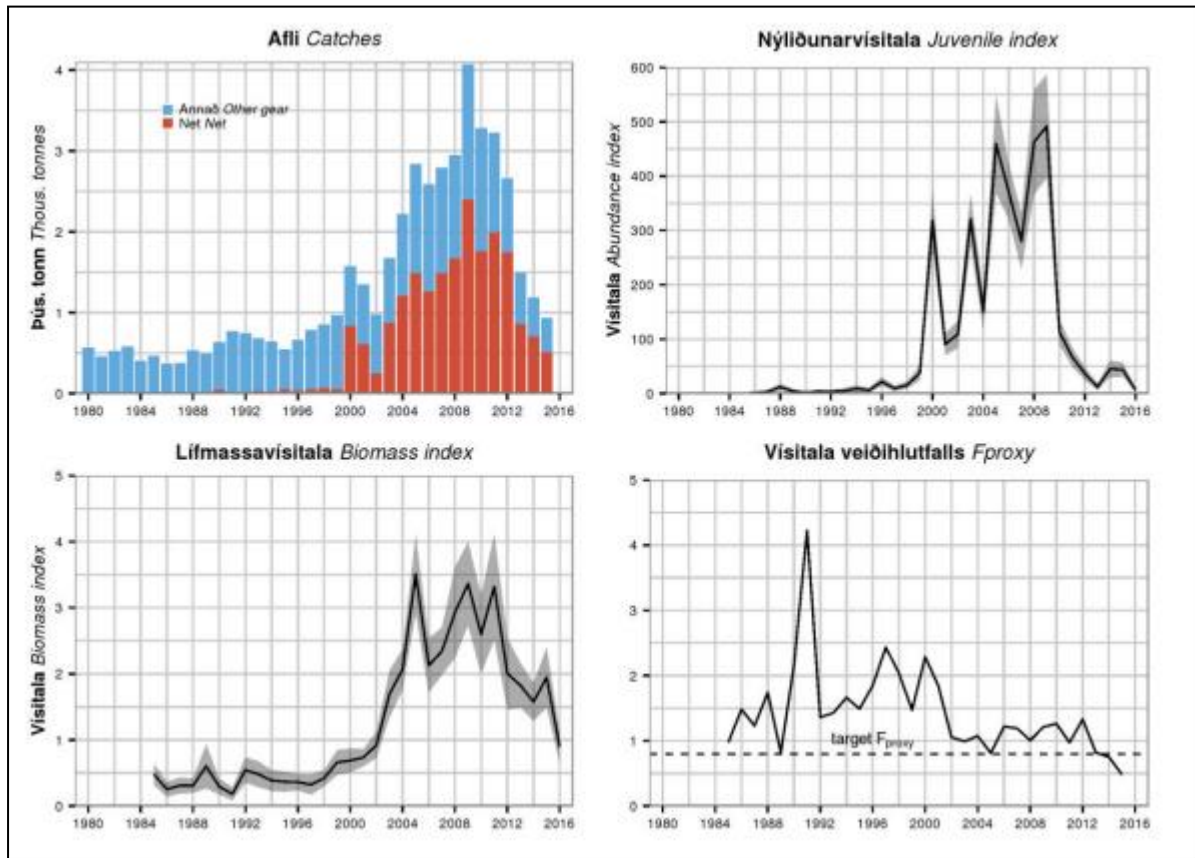


Figure 23. Anglerfish. Catch by gear type, juvenile (2-yr old) and biomass indices, and F_{proxy} (catch/survey biomass index) – Source: MFRI State of the Stock 2015/16

For ICES sub-areas 5-10 the EU and other relevant fishing industry has requested development of F_{MSY} ranges and $MSY_{PROXIES}$.⁶

Based on the historical and current information the biomass index is at levels seen in 2002, and catch levels are declining, together these support a forecast that the stock can attain high biomass index as seen in 2008-2012; it is therefore highly likely (>80% probability) that the stock is above any PRI (Figure 23).

Argentina – The survey index indicated an increase in stock biomass in 2014, followed by a decrease in 2015, however remained higher 2008-2012 levels. The F_{proxy} has decreased since 2010 and has been below the target F_{proxy} since 2014, which corresponds with a reduction in catch and stock abundance, based on the trending information, (particularly biomass index and F_{proxy}), it is highly likely that the stock is above any PRI (Figure 24).

Stocks are assessed using commercial catches (age and length) data and surveys (IS-SMH), as well as trends in biomass indicators and catches (survey trends-based assessment). The Icelandic autumn trawl survey (IS-SMH) was used as biomass indicator. The target F_{proxy} (catch/survey biomass) was defined as the mean from the reference period 2002–2007. The advice is based on multiplying the

⁶http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/Special_Requests/EU_Western_Waters_MSX_Proxies.pdf

target F_{proxy} with the most recent index value. As this value is greater than previous catch advice the uncertainty cap of 20% is not applied. Since the target F_{proxy} is considered precautionary, the precautionary buffer was not applied⁷.

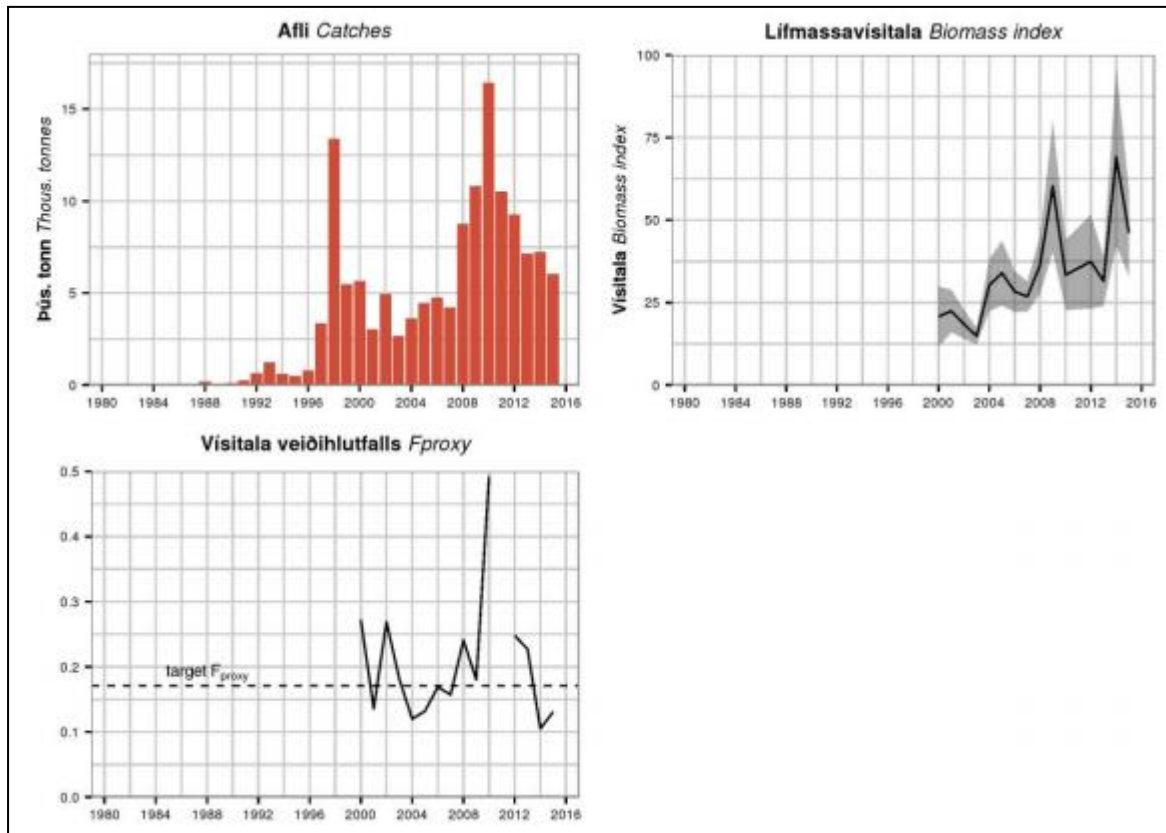


Figure 24. Greater silver smelt. Catch, biomass indices, and F_{proxy} (catch/survey biomass index) – Source: MFRI State of the Stock 2015/16.

Atlantic Bluefin tuna – The perception of the stock status derived from the 2014 updated assessment has improved in comparison to previous assessments, as F for both younger and older fish have declined during the recent years. All the runs investigated by the Committee (ICCAT) showed a clear increase of the SSB. F_{2013} appears to clearly be below the reference target $F_{0.1}$ (a reference point used as a proxy for F_{MSY} that is more robust to uncertainties than F_{MAX}) in both catch scenarios: $F_{2013}/F_{0.1} = 0.4$ and 0.36 for the reported and inflated catch scenarios, respectively.

Stocks are assessed using available data from catch, effort, and size statistics which also include use of an enhanced data collection program and approaches that take unquantified uncertainties into account (ICCAT stock status). Since 2010, there is an Atlantic-wide Research Program for Bluefin Tuna (GBYP) with research plans for improving the scientific advice that the Committee provides to the Commission with respect to fisheries-independent indices of stock size. In 2015 a review was conducted on the biology, spatial dynamics, catch statistics and fisheries catch rates, as well as progress made by the GBYP and other research programs with regards to the aerial survey, tagging, data mining, biological sampling, stock mixing and new modeling approaches.

⁷ http://www.hafro.is/Astand/2016/english/greatersilversmelt_2016.pdf

Stock management is bycatch limit, the outlook indicates that TACs are set at levels sufficient to rebuild the stock to B_{MSY} by 2022 with at least 60% probability. Trending (2014/17) stock assessments including quantitative estimates of the status (abundance) of the fish stocks is available from the ICCAT website.

Blue-fin tuna (*Thunnus thynnus*) probably occurs regularly in the southern extremes of the Icelandic EEZ where the waters are warm enough⁸, with some overlap with mackerel fishing grounds especially since the north and western expansion of the stock. During 2016 catches were 5,936kg⁹.

By decision of the International Convention for the Conservation of Atlantic Tunas (ICCAT), annually, Iceland has been allocated 78t of bluefin tuna from the East Atlantic and the Mediterranean¹⁰. Based on current and historic information (increasing SSB and F being below the reference point) it is highly likely that the stock is above any PRI.

Atlantic wolffish – Fishing mortality has declined since 2009 and is now below F_{MSY} . Harvestable biomass has dropped since 2006, but is above average compared to the years from 1980. Recruitment was low in 2008–2015. Juvenile index in 2016 is predicted to be above the average of 2008–2015. Fishing mortality has been lower than F_{MSY} in the last two years, and the harvestable biomass has increased from 2013¹¹(Figure 25).

Stocks are assessed using commercial catches (age and length) data and surveys (IS-SMB), as well as analytical assessment (Gadget model).

MFRI recommends a continued closure of the spawning area off West Iceland during the spawning and incubation season in autumn and winter. Atlantic wolffish is typically demersal rather than pelagic with limited pelagic overlap. Based on current and trending information (low F and average relatively stable harvestable biomass) it is highly likely that the stock is above any PRI.

⁸ <http://www.fisheries.is/fisheries/fishing-grounds/pelagic-and-straddling-stocks/>

⁹ <http://www.fiskistofa.is/english/quotas-and-catches/catches-in-individual-species/>

¹⁰ <http://www.fisheries.is/management/total-allowable-catch/>

¹¹ http://www.hafro.is/Astand/2016/english/wolffish_2016.pdf

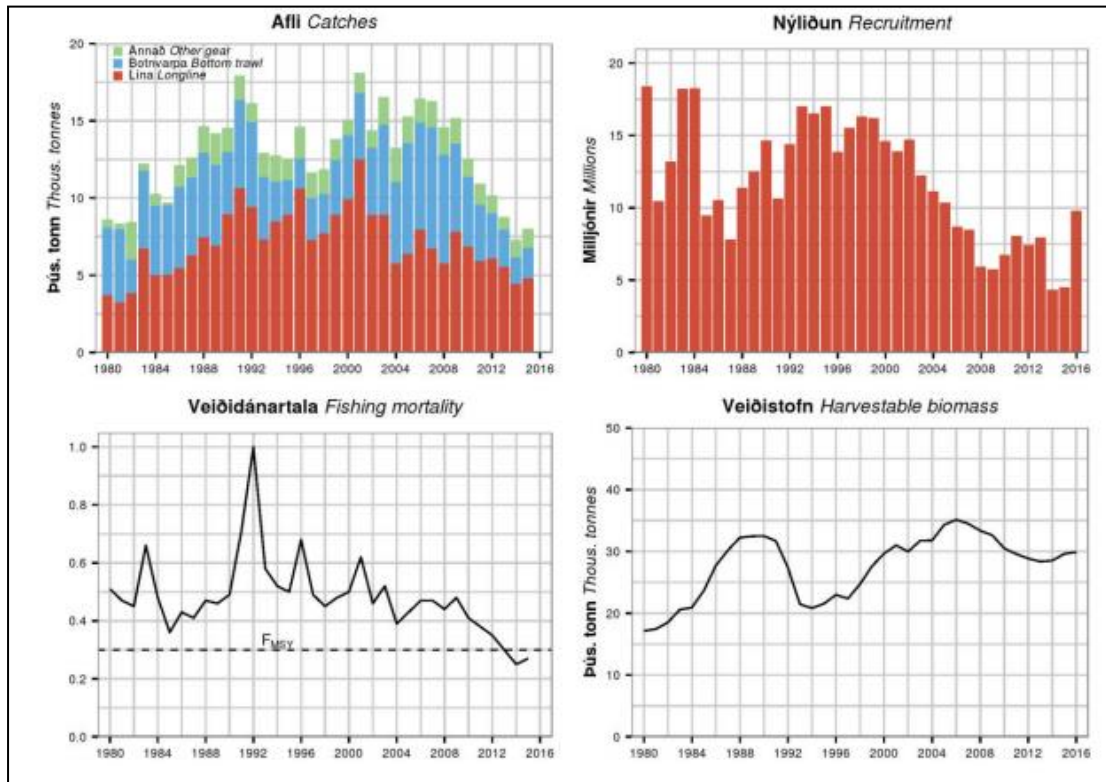


Figure 25. Atlantic wolffish. Catch by gear type, recruitment at age 5, fishing mortality, and harvestable biomass - From MFRI State of the Stock 2015/16

Blue ling – The biomass index peaked in 2009 but has declined since then. The biomass index is still considered above possible biomass reference points. F_{proxy} has been below the target value for the last two years. Juvenile index has been at low level since 2010. It is anticipated that the low recruitment estimated in the IS-SMH since 2010 will result in stock decline when these cohorts enter the fishery¹² (Figure 26).

Stocks are assessed using commercial catch data and indices from the Icelandic Autumn survey (IS-SMH), as well as trends in biomass indicators and catches. Changes in stock distribution are monitored in surveys. The target F_{proxy} (catch/survey biomass) was defined as the mean from the reference period 1990 to 1996. The advice is based on multiplying the target F_{proxy} with the most recent index value. This value is constrained by an uncertainty cap of 20% compared to the previous catch advice. Since the target F_{proxy} is considered precautionary, the precautionary buffer was not applied.

MFRI advises that known spawning areas south of Vestmannaeyjar and Franshóll be closed to all fishing activities during spawning season (15 February to 30 April). Based on current and historic information (reduction in catch, high average biomass index, and low F_{proxy}) it is highly likely that the stock is above any PRI.

¹² http://www.hafro.is/Astand/2016/english/blueling_2016.pdf

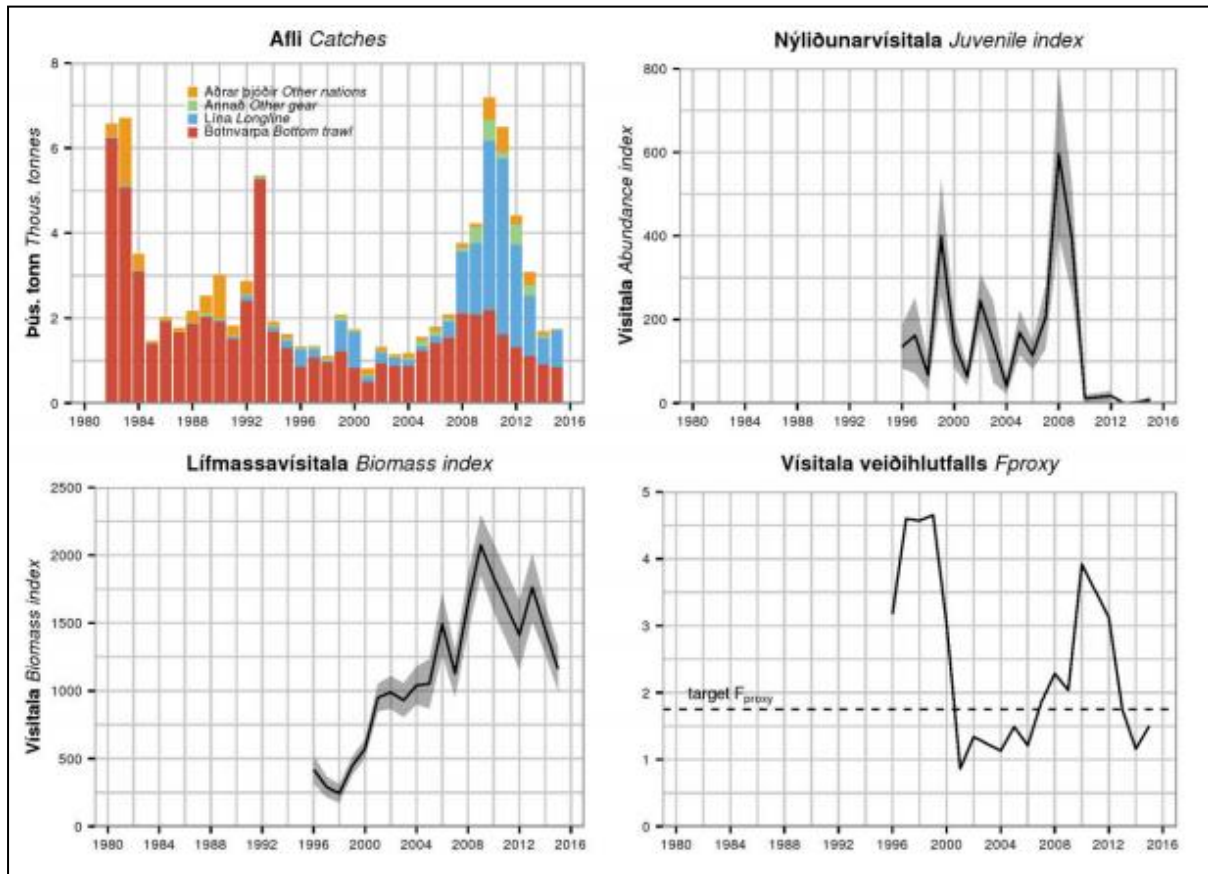


Figure 26. Blue ling. Catch by gear type, juvenile (abundance) and biomass indices and F_{proxy} (catch/survey biomass) – Source: MFRI State of the Stock 2015/16.

Common dab – Considerable uncertainty exists around the 2016 stock biomass estimate due to lack of information on the fish hatched in 2011–2012 that are recruiting into future fishable population. Also survey recruitment indices are considered inadequate to provide information on recruitment, due to the fact that the survey area does not cover the main nursery areas. IS-SMB biomass index is variable, it was low in 2006–2009, higher between 2010 and 2014, however low over the past two years, and increasing again¹³ (Figure 27).

Stocks are assessed using catches and IS-SMB surveys data. Catch by length and age information is available from 1993–2015. Catch in 2015 consisted mostly of 5–7 year old fish. Sexually maturity in dab is reach around 2-3 years, therefore reproduction is expected among the stock before capture.

MFRI recommends a precautionary TAC no higher than 500t for the fishing year 2016/2017, which corresponds to around the fishery by-catch levels, rather than a directed fishery. The relatively stable increases identified in the biomass index suggest that it is highly likely that the stock is above any PRI.

¹³ http://www.hafro.is/Astand/2016/english/dab_2016.pdf

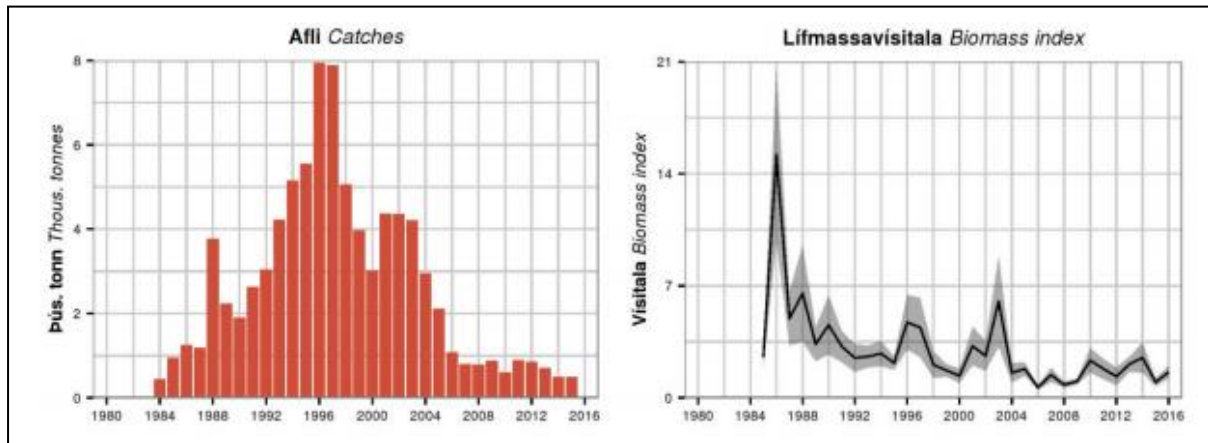


Figure 27. Dab. Catch and biomass index- Source: MFRI State of the Stock 2015/16

Lemon sole – The spring survey biomass index has been relatively low for the past couple of years, in particular when compared to the 2003– 2013 period (figure 28). Estimated fishing mortality has been unstable recently. Spring survey recruitment index has been high since the year 2002. Current information indicates relatively stable biomass index and juvenile index, however an increased F_{proxy} that corresponds with the increase in catch .

Stocks are assessed using commercial catch and surveys (IS-SMB) data and trends in biomass indicator.

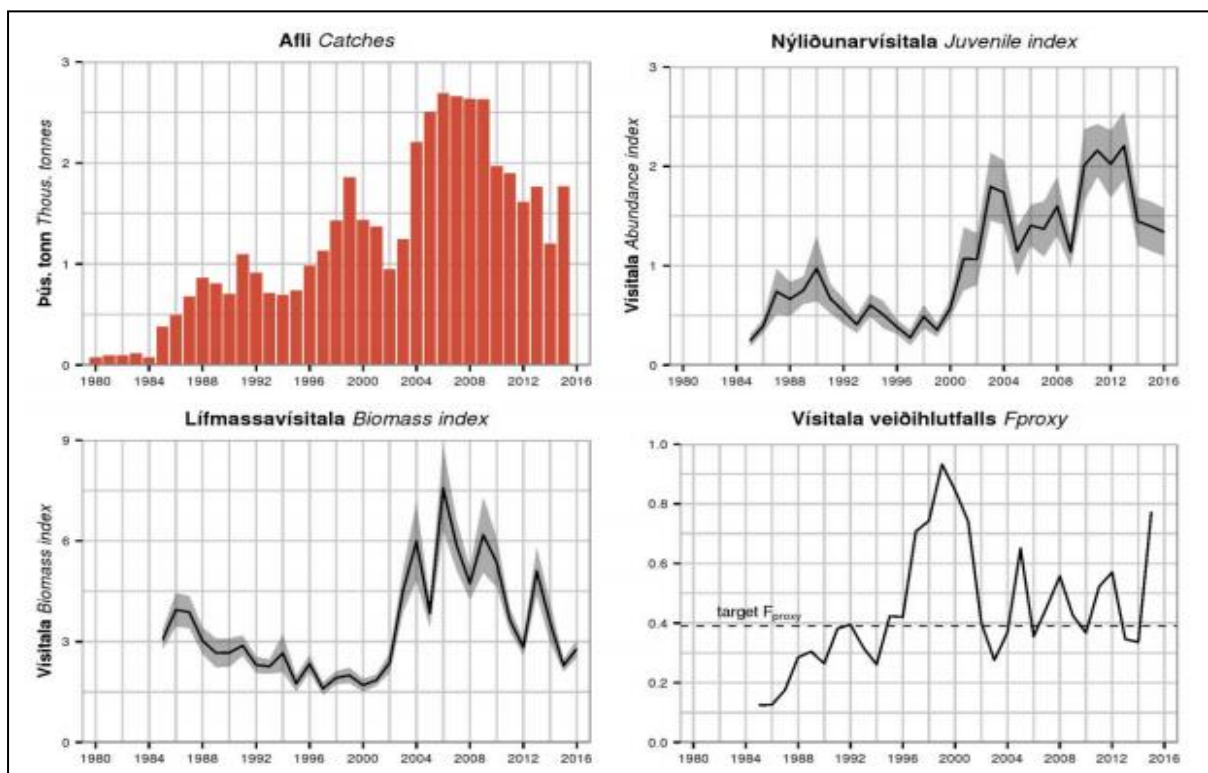


Figure 28. Lemon sole. Catch, juvenile and biomass indices and F_{proxy} (catch/survey biomass) – Source: MFRI State of the Stock 2015/16

A precautionary approach is applied for management of the fishery, TAC is set at 1,087t for 2016/17 periods. Overall information on current and forecasted biomass and juvenile index suggest that this species is highly likely to be above PRI.

Ling – This species is also a component of the 2014 MSC certified ISF Icelandic Saithe and Ling fishery. Stocks are assessed using commercial catches and surveys (IS-SMB) data, and the Gadget (analytical age-length based assessment) model. Fishing mortality has declined since 2009 but is still above F_{MSY} . SSB has increased since 2004 and is at the highest level in the time series¹⁴ (Figure 29). In addition ICES advise that the stock is above the $MSYB_{trigger}$ (ICES Advice 2016).

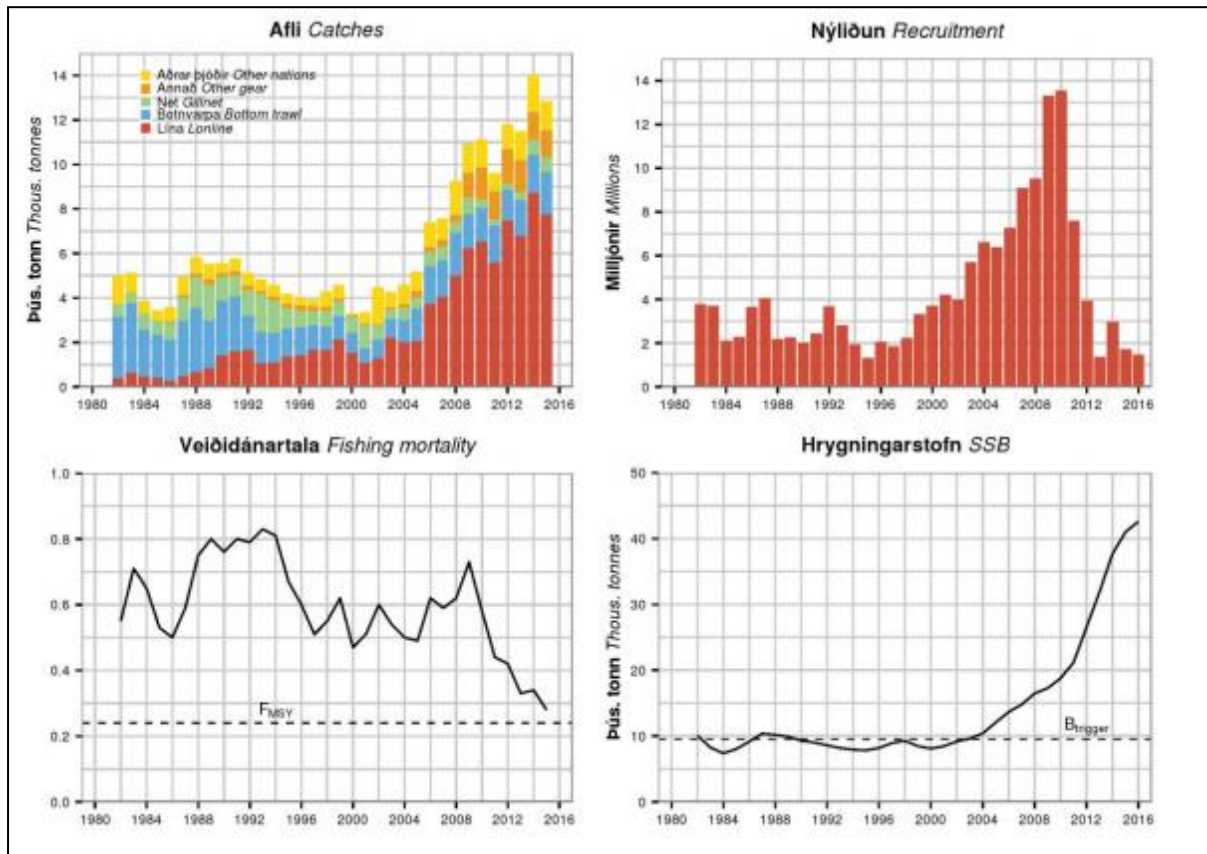


Figure 29. Ling: Catch by gear types, recruitment at age 3, fishing mortality and SSB- Source: MFRI State of the Stock 2015/16

The MSY approach is applied for management of the fishery. All current information suggest that this species is highly likely to be above the PRI.

Lumpfish – The fishery for Iceland Gillnet Lumpfish was MSC certified in 2014. The female biomass index decreased between 2006 and 2013, but has increased since then. The male biomass index in 2016 has increased from 2015 and has now risen above the average of the reference period 1985–2011 (Figure 30). Current biomass index indicates stock increase for male and female of the species¹⁵. F is increasing but below target F proxy.

¹⁴ http://www.hafro.is/Astand/2016/english/ling_2016.pdf

¹⁵ http://www.hafro.is/Astand/2016/english/lumpfish_2016.pdf

Stocks are assessed using commercial catch and survey (IS-SMB) biomass indices and trends in biomass indicators.

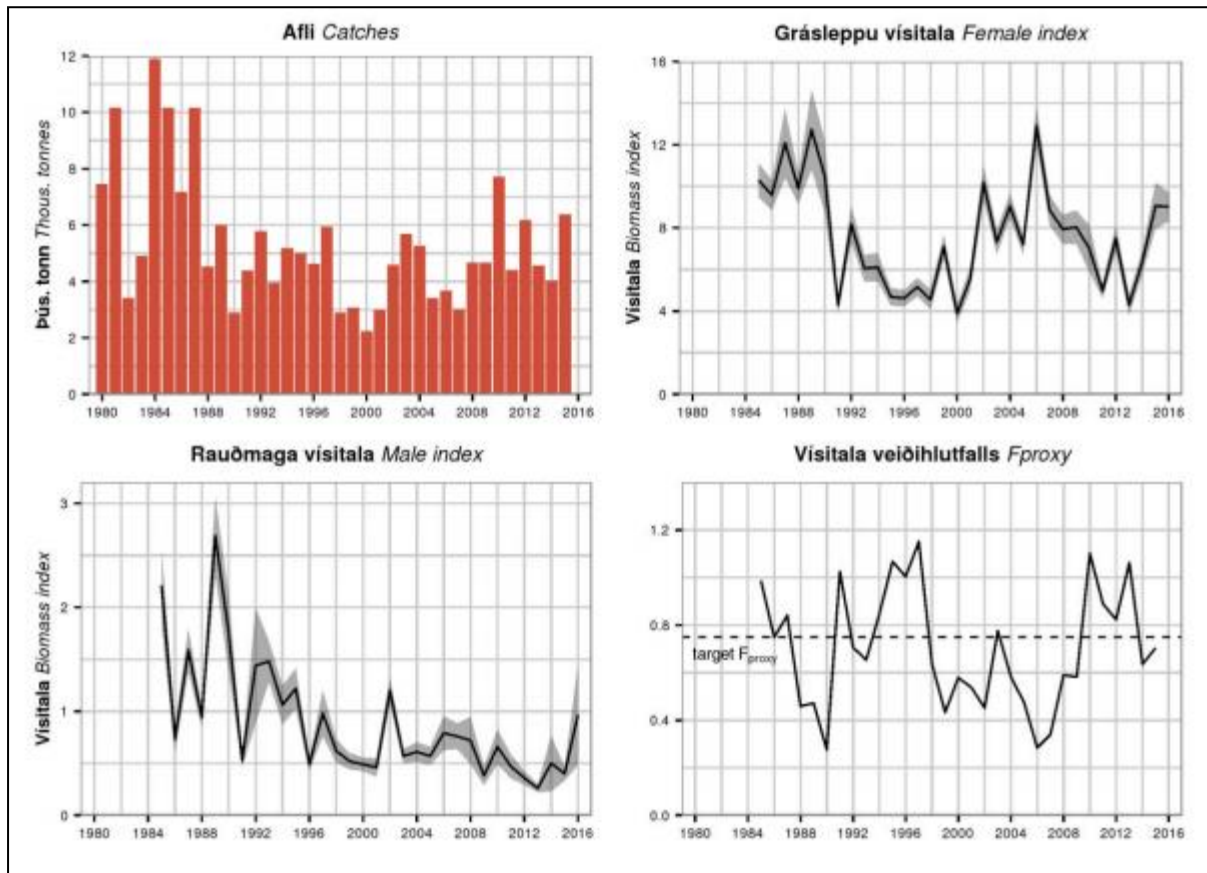


Figure 30. Lumpfish: Catch of females, biomass indices of females and males, and Fproxy (catch/survey biomass) of females. Source: MFRI State of the Stock 2015/16

A precautionary approach, as well as fishing effort limitation (number of boats and or number of days) is applied to management of the fishery. MFRI advises that the initial TAC for the fishing year 2016/2017 does not exceed 2,030t. The MFRI will, after estimation of the biomass index in spring 2017, provide final advice for the fishing year 2016/2017.

Current trend of increase in both male and female biomass index, with F below target Fproxy indicates that the specie is highly likely to be above the PRI.

Plaice –The stock size is likely to remain stable over the next years, but considerable uncertainty is present in the assessment due to a lack of recruitment data (Figure 31).

Stocks are assessed using data from catch in numbers and age disaggregated indices (IS-SMB), as well as age-based modelling.

The MSY approach is applied to management of the stock, and catch should not exceed 7,330t in the 2016/17 fishing year. MFRI recommends that regulations regarding area closures on spawning grounds remain in effect. Also the wider EU fishing community has request recommendations from ICES with regards to F_{MSY} and $MSY_{PROXIES}$.

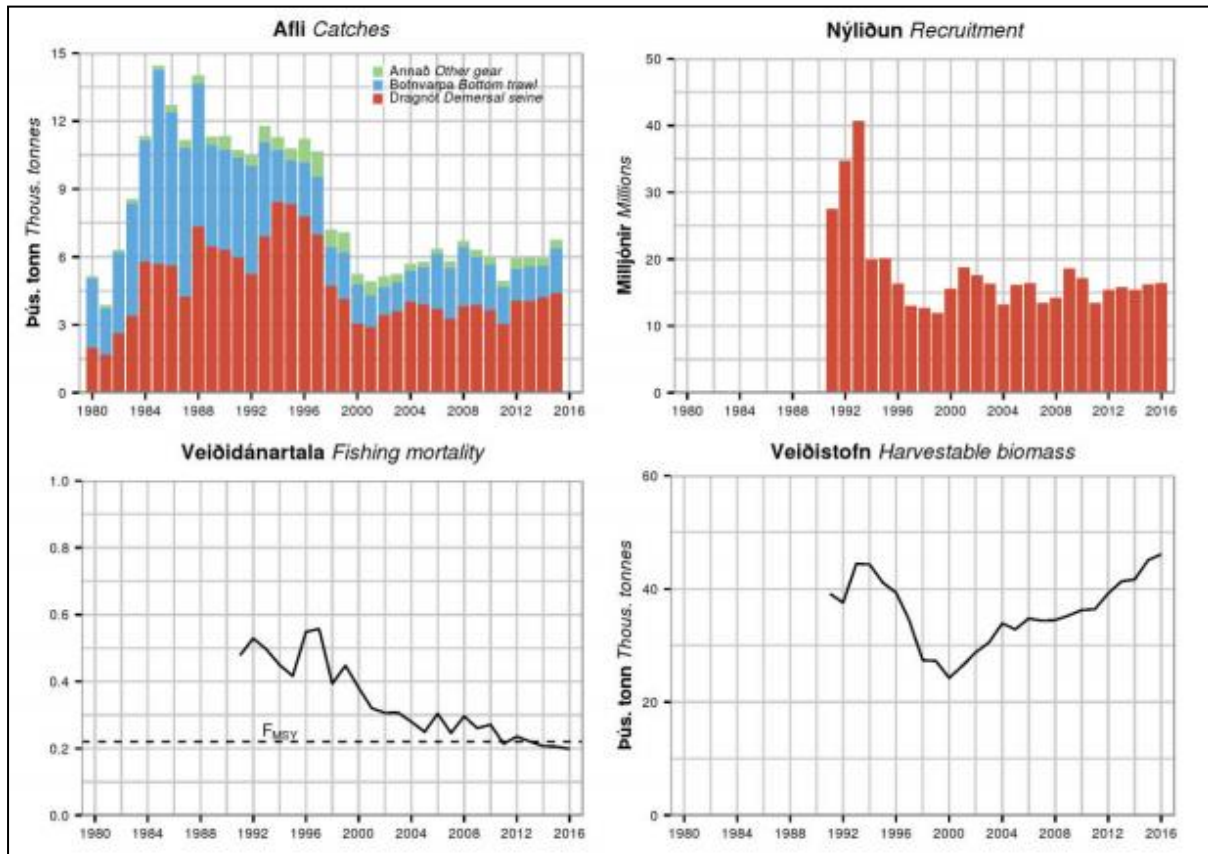


Figure 31. Plaiice. Catch by gear type, recruitment (3-yr old), fishing mortality, and harvestable biomass- Source: MFRI State of the Stock 2015/16

Considering the stock assessment indications of stable recruitment and increase biomass index, it is highly likely that this specie is above the PRI.

Tusk – Recruitment peaked in 2004 to 2006 but declined to a historical low level in 2013 and has increased since. Fishing mortality has declined in recent years, but is above the F_{MSY} estimate. SSB has been increasing in recent years¹⁶.

Stock is assessed using data from the March Icelandic groundfish survey and landings in Division 5.a. (age-length data from catches and survey (IS-SMB), and the analytical length-based assessment (Gadget model, ICES advice 2016).

The MSY approach is applied to management of the stock. Catches in the fishing year 2016/2017 should be no more than 3,780t including catches from foreign ships in Icelandic waters. In addition, continued closure of the known nursery areas off the southeast and southern coast should be maintained.

¹⁶ http://www.hafro.is/Astand/2016/english/tusk_2016.pdf

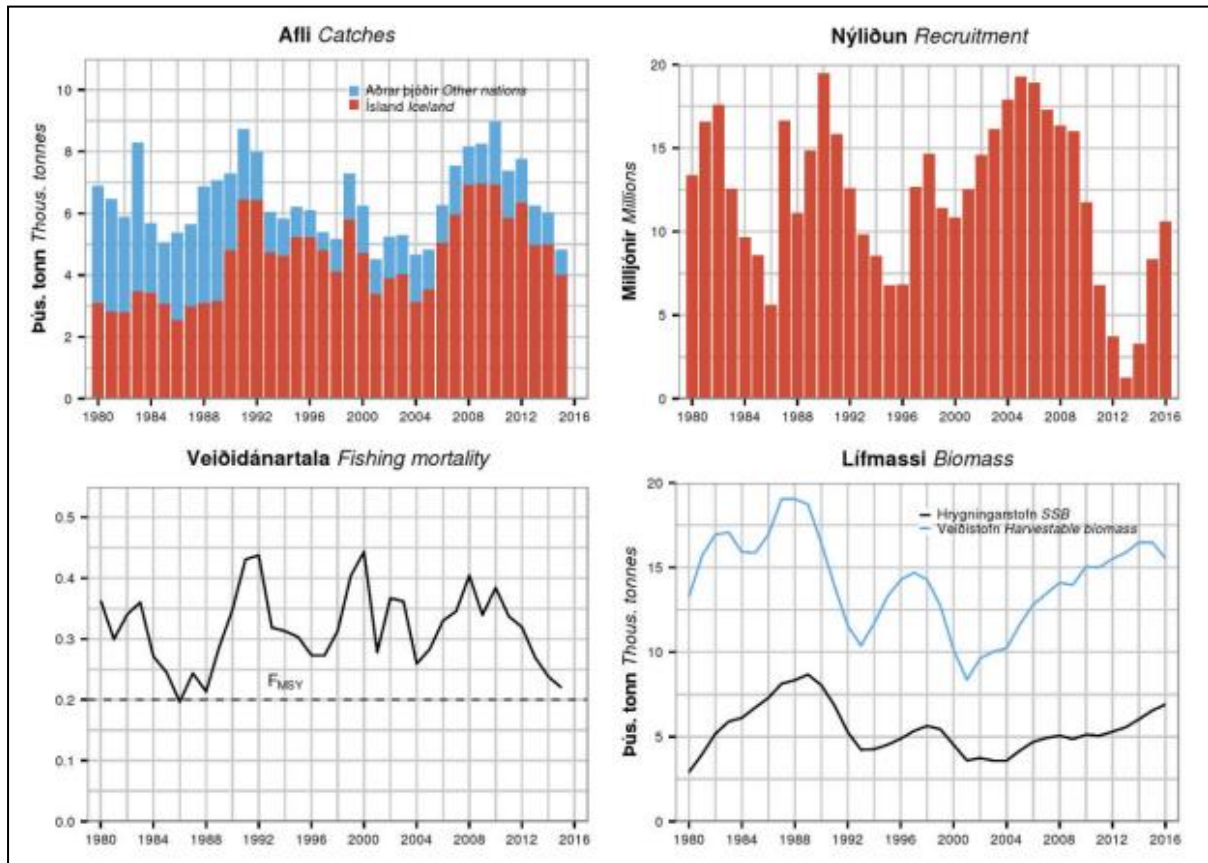


Figure 32. Tusk. Catch, recruitment at age 3, fishing mortality, and spawning stock and harvestable biomass- Source: MFRI State of the Stock 2015/16

Current trend of increasing recruitment and biomass indicates that the species is highly likely to be above the PRI.

Witch – IS-SMB biomass index has been high since 2004. The recruitment index has declined since 2009. F_{proxy} has remained relatively low over the last four years (Figure 33).

Stock is assessed using data from commercial catch and survey (IS-SMB) biomass indices, and trends in biomass indicator.

The precautionary approach is applied to management of the fishery. Current stock information indicates that juvenile index is lower than previous periods however, the stock is around F_{proxy} , and fairly high biomass index, overall it is highly likely that the specie is above the PRI.

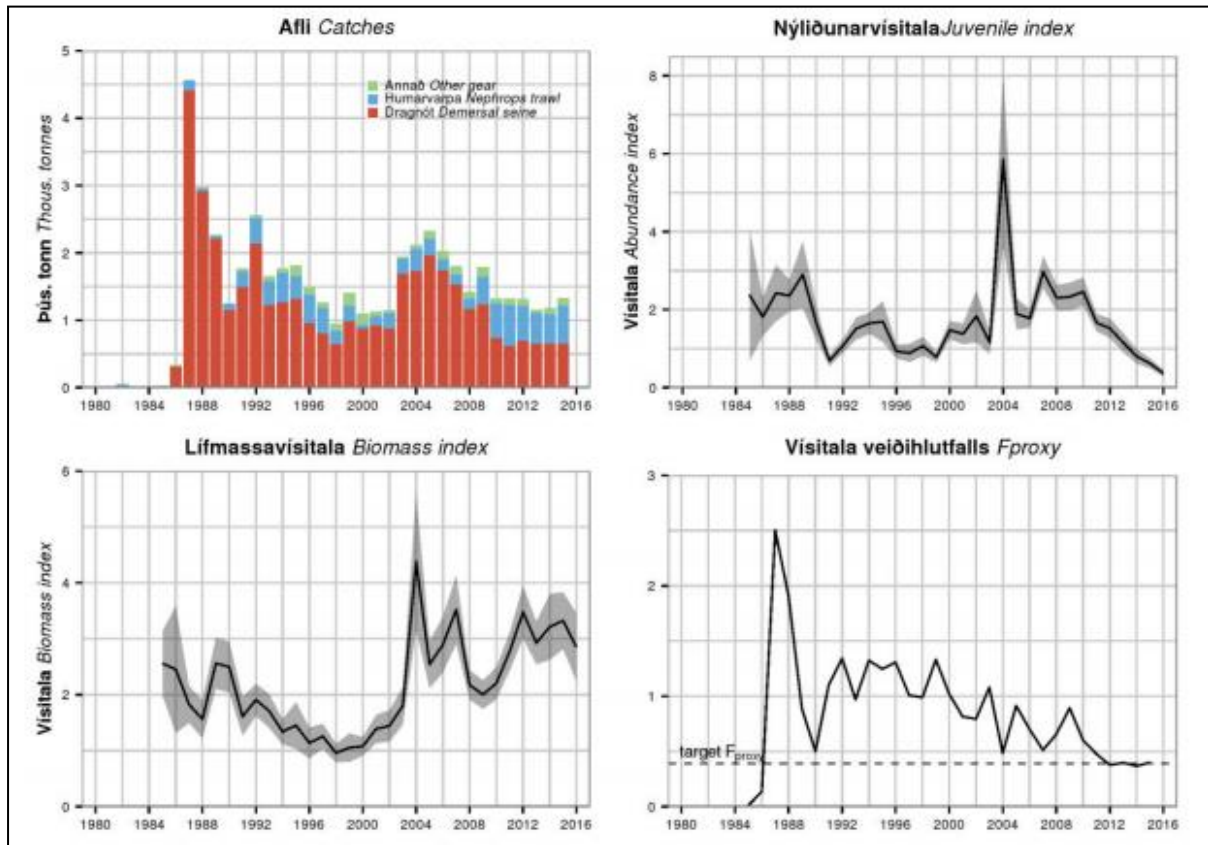


Figure 33. Witch: Catch by gear type, juvenile and biomass indices and Fproxy (catch/survey biomass) – Source: MFRI State of the Stock 2015/16)

6.1.6 Information

The information in Iceland is well monitored. The obligation of landing all the catch makes easy the understanding of the fisheries and which species are caught. On the other hand, information held for these species include direct monitoring of biological reference points within Icelandic waters and wider ecoregions such as the North Eastern Atlantic and ICES representative areas. Species stock trending information is calculated using data (age-length-weight-sex) collected from commercial catch, inspection/observation and coastguard patrol reports as well as a number of fishing and ecosystems surveys (Icelandic groundfish surveys, acoustic surveys, summer and spring surveys, and spawning stock surveys), and analytical assessment method (such as using the Gadget model¹⁷), which are proven to be appropriate for use to track or advice on abundance of these species.

6.1.7 Management

Primary species are managed using a number of measures in Icelandic waters. There are fisheries management (Acts) laws prohibiting discard as well as others promoting conservation and efficient utilization of marine resources¹⁸, with punishment by law where there are any violations. In addition there are measures implemented for restriction on TAC and fishing effort since 1976, as well as individual vessel quota or allocation systems since 1984. Conservation and efficient utilization of marine resources are important components of effective fishery management in Iceland. With discarding being punishable by law, there are facilities for direct use, or processing of all catch for

¹⁷ <http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/usk-icel.pdf>

¹⁸ <http://www.fisheries.is/management/fisheries-management/the-fisheries-management-act/>

human consumption or industrial purposes¹⁹. In addition there are designated area closures to protect undersize fish, juvenile species, or other vulnerable species and their dependent habitats/ecosystem. Area closures might be permanent, seasonal, temporary or more selective based on the objective²⁰. Large vessels and some pelagic as well as bottom trawl are restricted from fishing within 6nm and 12nm from shore in Icelandic waters. Management is supported by effective enforcement measures such as at-sea and port inspections/observations by members of the DoF and Coast Guard. All catch landed in Iceland are weighed by certified trained fisheries staff with this information shared with DoF and MFRI. Catch from Iceland EEZ that is landed in foreign ports are also checked at designate points at-sea and final weight reported to the DoF (Under by-lateral agreements)²¹.

6.2 Secondary Species

From the catch composition of all 4 gears of the UoAs, unique species include one main secondary species, and 13 secondary minor species. These were identified according to defining information in the MSC FCR 2.0 (SA3.1.4). As previously mentioned, some species overlap with the 4 different gear types in the UoAs (Tables 11-12).

No secondary species were identified for the Purse seine gear, therefore the following sub-sections only provide details for species in the Pelagic trawl, Handline, and Bottom trawl gear of the UoAs.

Among this group, some species are monitored to a degree; such as through by-catch monitoring, indirectly in surveys, commercial fishers self-sampling, or by at-sea inspections/observation of other fisheries, and included in reported from ICES and MFRI; however they are not managed using tools and measures to control exploitation levels or important reference points.

Species listed in Tables 11-12, are all secondary minor species with negligible (less than 0.28% of catch by weight of the UoAs. It is therefore interpreted that these catches of secondary species, by their own or in a collective manner, are highly unlikely to contribute to permanent changes to the biological diversity of the ecological community and the ecosystem's capacity to deliver ecosystem services.

6.2.1 UoA 1 - Pelagic trawl

Twelve secondary species are identified, with White-Beaked Dolphin being the only out-of-scope species and therefore considered Main Secondary species. Negligible catch of the remaining 11 species is identified.

Table 12. Secondary species composition of ISF pelagic trawl fishery. Source: DoF data from 2013 to 2016

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
White-Beaked Dolphin	<i>Lagenorhynchus albirostris</i>	Main	67	0.00%	Low	Northeast Atlantic

¹⁹ <http://www.fisheries.is/products/processing-methods/>

²⁰ <http://www.fisheries.is/management/fisheries-management/area-closures/>

²¹ <http://www.fisheries.is/management/fisheries-management/enforcement/>

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
Squid	<i>Todarodes sagittatus</i>	Minor	19,377	0.01%	High	Northeast Atlantic
Pearlside	<i>Maurollicus muelleri</i>	Minor	4,393	0.00%	High	Northeast Atlantic
Porbeagle	<i>Lamna nasus</i>	Minor	20	0.00%	Low	Northeast Atlantic
Grenadier	<i>Coryphaenoides rupestris</i>	Minor	690	0.00%	Low	Northeast Atlantic
Atlantic Salmon	<i>Salmo salar</i>	Minor	6	0.00%	Low	Northeast Atlantic
Whiting	<i>Merlangius merlangus</i>	Minor	4	0.00%	High	Northeast Atlantic
Common Skate	<i>Dipturus flossada</i>	Minor	269	0.00%	Low	Northeast Atlantic
Black dogfish	<i>Centroscyllium fabricii</i>	Minor	5,452	0.00%	Low	Northeast Atlantic
Black scabbard fish	<i>Aphanopus carbo</i>	Minor	4,186	0.00%	Low	Northeast Atlantic
Starry ray	<i>Amblyraja radiata</i>	Minor	539	0.00%	Low	Northeast Atlantic
Ocean sunfish	<i>Mola mola</i>	Minor	75	0.00%	Low	Northeast Atlantic

6.2.2 UoA 2- Purse Seine

No secondary species or whatever, but explain with a line that there is no species in here.

6.2.3 UoA 3 - Handline

Whiting is only minor secondary species identified in the Handline fishery. It is closely associated with catch from managed ground fisheries.

Table 13. Secondary species composition of ISF Handline fishery. Source: DoF data from 2013 to 2016

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
Whiting	<i>Merlangius merlangus</i>	Minor	164	0.00%	High	Northeast Atlantic

6.2.4 UoA 4 - Bottom trawl

Four secondary species are identified with negligible catch levels in the bottom trawl UoA.

Table 14. Secondary species composition of ISF Bottom trawl fishery. Source: DoF data from 2013 to 2016

Common Name	Scientific Name	Category	4Yr Average Landing (Kg)	Percent (%)	Resilience	Stock Component
Grenadier	<i>Coryphaenoides rupestris</i>	Minor	2,819	0.28%	Low	Northeast Atlantic
Whiting	<i>Merlangius merlangus</i>	Minor	141	0.01%	High	Northeast Atlantic
Megrim	<i>Lepidorhombus whiffiagonis</i>	Minor	79	0.01%	High	Northeast Atlantic
Common Skate	<i>Dipturus flossada</i>	Minor	8	0.00%	Low	Northeast Atlantic

6.2.5 Status of Secondary species

Information (such as from ICES and MFRI mixed fisheries survey and commercial fisheries, as well as IUCN database) on the status of these secondary species includes:

White-Beaked Dolphin - a marine mammal was the only out of scope species (meaning species of amphibians, reptiles, birds and mammals) identified within the catch composition, and among the catch of the pelagic trawl fleet (Table 12). Its portion of total UoA catch was significantly low (0.00003%).

The IUCN Redlist considered this specie to be of Least Concern (LC)²² in addition it is list in CITES Appendix II. This species is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party.

No further marine mammal interactions were identified for this fishery, however, based on cumulative consideration with assessment of Icelandic Gillnet fishery, there is a count of 6 or 1.4% of by-catch²³ from catches of White-Beaked Dolphin during 1997-2014 (Pálsson et al, 2015; and Medley et al 2017).

The feeding habits are diverse; often associated with capelin, herring, and cod are common food sources, but less so for mackerel, and therefore less like of high occurrence or overlapping with the mackerel fishery.

The last report of assessment status of this species carried out by IUCN in 2012 showed that the species is widespread and abundant (with current population estimates exceeding 100,000) and there have been no reported population declines or major threats identified.

Black scabbard fish is taken by pelagic trawl (0.002%) of the UoA fishery. According to the 2010 ICES NWWG report, by-catch of Black Scabbard fish are low and rare in Icelandic waters. The stock size biomass index is estimated to be stable and increasing since 2013 with reducing fishing pressure.

²² <http://www.iucnredlist.org/search>

²³ <http://www.hafro.is/Bokasafn/Timarit/fjolrit-178.pdf>

DoF catch monitoring system²⁴ indicated low levels of non-target catch (346t) for the 2016 calendar year.

Grenadier (*Coryphaenoides rupestris*) is monitored for areas where harvesting is known, such as: division Va1 (Oceanic Northeast Atlantic and Northern Reykjanes Ridge). Substantial landings were recorded in the 1970s and 1980s. Since then, landings have been variable and at a considerably lower level²⁵. Negligible volume of Grenadier is taken in pelagic trawl (0.0002%) and bottom trawl (0.28%) of the UoA fishery.

IUCN evaluation indicated *Coryphaenoides rupestris* to be critically endangered globally, and endangered within Europe waters²⁶. This species is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party.

Megrim is only taken in the bottom trawl (0.01%) of the UoA fishery. MFRI suggest that there are fluctuations in the stock and recruitment since 2006²⁷. Megrim is predominantly caught as by-catch in nephrops trawl, demersal seine and bottom trawl.

Sunfish is rarely taken in the UoA pelagic trawl (0.00003%). Icelandic water is the edge of its northern range and catches are rare to nil. The IUCN classify this species as data deficient in Europe and vulnerable globally²⁸. This species is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party.

Pearlside is taken in the UoA pelagic trawl (0.002%). The Stock size, productivity, and importance of pearlside as food for other species is not known²⁹. MFRI advises that when the precautionary approach is applied, catches in the fishing year 2016/2017 should be no more than 30,000t, which is the level corresponding to bycatch trend.

Porbeagle is taken in the UoA pelagic trawl (0.00001%). ICES advises that when the precautionary approach is applied for porbeagle in the Northeast Atlantic, fishing mortality should be minimized and no targeted fisheries should be permitted. This advice is valid for 2016 to 2019³⁰. ICES advises that fishing mortality should be minimized; therefore, any possible provision for bycatch to be landed should be part of a management plan which includes close monitoring of the stock. This species is taken by recreational fishers and, although often released, post-release survival is unquantified. Discarding is known to occur but has not been quantified. Discard survival has not been estimated. Exploratory stock assessments carried out in 2009 by ICCAT and ICES using a Bayesian Surplus Production (BSP) model and an age-structured production (ASP) model indicated that biomass was below biomass maximum sustainable yield (BMSY) and that recent fishing mortality was near or possibly above fishing mortality maximum sustainable yield (FMSY) ICES considered the stock to be depleted, especially in the northern parts of the ICES area. The BSP model

²⁴ <http://www.fiskistofa.is/english/quotas-and-catches/catches-in-individual-species/>

²⁵ <http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2015/2015/rng-1012.pdf>

²⁶ <http://www.iucnredlist.org/details/15522149/1>

²⁷ http://www.hafro.is/Astand/2016/english/megrim_2016.pdf

²⁸ <http://www.iucnredlist.org/details/190422/1>

²⁹ http://www.hafro.is/Astand/2016/english/pearlside_2016.pdf

³⁰ <http://ices.dk/sites/pub/Publication%20Reports/Advice/2015/2015/por-nea.pdf>

projections indicate that sustained reductions in fishing mortality would be required if there is to be any stock recovery. Recovery of this stock to BMSY under zero fishing mortality would take ~15–34 years. IUCN considered this species vulnerable globally and critically endangered in Europe. It is listed in the Appendix II of CITES, however is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party³¹.

Rock Grenadier is taken in the UoA pelagic trawl (0.00002%). ICES has not provided advice the biomass or a directed fishery for this species. It is typically a by-catch fishery with data records from 1990³².

Atlantic Salmon is taken in the UoA pelagic trawl (0.000002%). The population abundance of Atlantic Salmon is low in rivers of Europe likely impacted by the life history at-sea. Only Iceland was assessed as having virtually unimpacted natural populations (99% of river basins considered 'Healthy'), and only Ireland (38%), Norway (47%), Scotland (63%) and England and Wales (33%) having significant percentages of 'healthy' salmon rivers. 'Healthy' salmon populations might also occur in northern European parts of Russia and this region might be the largest stronghold of the species, however data are poorly available from that region. The species has been the subject of widespread conservation actions (e.g., NASCO Action Plan; NASCO 1999), primarily focused on fisheries management, and on habitat conservation and restoration⁽⁷⁸⁾. Nil directed fishery and catch of Salmon is recorded for the 2016³³.

Black dogfish is taken in the UoA pelagic trawl (0.002%). Recent population trends in parts of the Northwest Atlantic appear stable. Given stable population trends in the Northwest Atlantic and the species' relatively wide depth and geographic range, there is no reason to suspect that the global population has declined by approaching 30% and the species is assessed as Least Concern by IUCN. However, deepwater fisheries are more developed and have a long history of operation across this species' range in the Northeast Atlantic, where it is taken as bycatch⁽⁷⁸⁾.

Common Skate is taken in the UoAs pelagic (0.0001%) and bottom trawl (0.001%). A number of species of Common Skates are known to be caught as a by-catch in Icelandic waters, but information on amount of the catches is incomplete, and the status of these species is not known. Information on status and trends of non-commercial species are collected in extensive bottom trawl surveys conducted in early spring and autumn (ICES NWWG Report 2016).

Starry Ray is taken in the UoAs pelagic (0.0002%). According to Jónsson and Pálsson (2006), Starry ray is fairly abundant all around Iceland, but no formal stock assessment is conducted on this species.

Squid is taken in the UoA pelagic trawl (0.01%). *Todarodes sagittatus* is assessed as Least Concern by IUCN because it has a wide geographic distribution, making it less susceptible to human impact. It is occasionally targeted by fisheries in some regions of its range and is sometimes taken as by-catch but there is no evidence of stock decline, although stocks fluctuate markedly because of environmental variability⁽⁷⁸⁾.

³¹ <http://www.iucnredlist.org/details/11200/1>

³² <http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2015/2015/rhg-nea.pdf>

³³ http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/Salmon_NEAC_2016.pdf

Whiting is taken in the UoA pelagic (0.000002%), handline (0.003%), and bottom trawl (0.01%). MFRI does not provide catch advice for this species; however, both recruitment and biomass are estimated to be declining in recent years³⁴.

6.2.6 Information

Information held for these species does not include monitoring of biological reference points within Iceland waters, rather they include by-catch information that is collected due to the associated nature of fishing and might be inappropriate for use to track or advice on abundance of these species. In addition a number of these species caught as a by-catch in Icelandic waters. All catch are landed by mandatory obligations in the fishery therefore catch records are appropriate representation of fishery information. Furthermore, information on status and trends of non-commercial species are collected in extensive bottom trawl surveys conducted in early spring and autumn (ICES NWWG Report 2016).

6.2.7 Management

Management of Secondary species is by association with the commercial species. Management of Icelandic fisheries is by output control regimes such as TAC and Individual vessel quota. The catch limitation system which include catch share allocation and transfers of individual quotas are key elements of the Icelandic fisheries management system³⁵. There is a policy for no discarding of catch except for species with requirements for live-return. All together fishing effort are understood, managed, and monitored in order to facilitate monitoring of non-target species.

In general, the Directorate of Fisheries (DoF) and Marine and Freshwater Research Institute (MFRI), Iceland, facilitate research, information and management of Icelandic fisheries. By regulation all catches are recorded and reported by vessel logbooks (and e-logbooks) which are randomly checked by trained fisheries inspectors and coast guard patrol staff. There are standard protocols for the keeping of log books on-board all fishing vessels, containing information on fishing practices such as location, dates, gear and catch quantity. Log books must be made available to inspectors from the DoF and data shared with the MFRI for scientific purposes. A team of inspectors from DoF monitors landing and weighing practices and inspectors may board fishing vessels to monitor catch composition, handling methods and fishing equipment. Following a random investigation, inspectors can join the vessel crew to the same fishing ground the vessel visited during the previous fishing trip, in order to examine their fishing practices. Also, the system of instant recordings of landings and satellite supported VMS allows for the use of DoF database to trace the origin and date of catch and to compare catches by an individual vessel to other vessels fishing at the same location and date. Discrepancies in catch proportion can lead to further inspections or sanctions where violations are identified. Other management measures include; area restrictions, fishing gear restrictions, and the use of closed areas to conserve important vulnerable species and habitats. Extensive provisions are made for temporary closures of fishing areas to protect spawning fish from all fishing. These measures are all meant to support and secure the sustainability of the fisheries.

6.3 ETP species

As previously mentioned, ETP species are defined according to the MSC FCR SA3.1.5. Iceland has ratified a number of conventions on species protection and management, such as party to the United Nations Environment Programme Multilateral Environmental Agreements - MEA Information and Knowledge Management (IKM) Initiative, which brings together Multilateral Environmental

³⁴ http://www.hafro.is/Astand/2016/english/whiting_2016.pdf

³⁵ <http://www.fisheries.is/management/fisheries-management/nr/206>

Agreements ³⁶(MEA) to develop harmonized and interoperable information systems for the benefit of Parties and the environment community at large; the Convention on Biological Diversity (CBD); the OSPAR Convention³⁷ and the CITES Convention³⁸. However, Iceland is currently not a signatory to Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS³⁹). These conventions have established objectives for conserving endangered, threatened or protected species and habitats, and if issues are identified relating to ETP species, a number of mechanisms have been developed to detect and reduce impacts.

ETP species which are typical to Iceland marine areas and might interact with mackerel fisheries are provided in **Table 15**; information on their vulnerability and management is also included; CITES I&II, AEWa and IUCN status (EN – Endangered, LC – Least Concern, NT – Near Threaten, VU – Vulnerable, or UK – Unknown). Nationally, the MFRI⁴⁰ undertake research, monitoring and provide management advice on some of these species within Icelandic waters.

Table 15. ETP species common to Icelandic marine areas. Source: Ministry of Fisheries and Agriculture, Iceland-(<http://www.fisheries.is/>)

Common Name	Scientific Name	IUCN Status	CITES Appendix	AEWA Status
Sea birds				
Atlantic Puffin	<i>Fratercula arctica</i>	VU	N/A	Decreasing
Black Guillemot	<i>Cheppus grylle islandicus</i>	LC	N/A	Unknown
Black-tailed godwit	<i>Limosa limosa islandica</i>	NT	N/A	Increasing
Common Pochard	<i>Aythya ferina</i>	VU	N/A	Decreasing
Gyrfalcon	<i>Falco rusticolus</i>	LC	I	Stable
Horned Grebe	<i>Podiceps auritus</i>	VU	N/A	Stable
Long-tailed Duck	<i>Clangula hyemalis</i>	VU	N/A	Decreasing
White-tailed eagle	<i>Haliaeetus albicilla</i>	LC	I	Increasing
Whooper swan	<i>Cygnus cygnus</i>	LC	N/A	Increasing
Cetaceans				
Blue Whale	<i>Balaenoptera musculus</i>	EN	I	N/A
Bowhead whale	<i>Balaena mysticetus</i>	LC	I	N/A
Fin Whale	<i>Balaenoptera physalus</i>	EN	I	N/A
Humpback whale	<i>Megaptera novaeangliae</i>	LC	II	N/A
Minke whale	<i>Balaenoptera acutorostrata</i>	LC	I & II	N/A
North Atlantic Right Whale	<i>Eubalaena glacialis</i>	EN	I	N/A
Sei Whale	<i>Balaenoptera borealis</i>	EN	I	N/A
Sperm Whale	<i>Physeter macrocephalus</i>	VU	II	N/A
Belugas	<i>Delphinapterus leucas</i>	NT	II	N/A
Blainville	<i>Mesoplodon densirostris</i>	UK	II	N/A

³⁶ <https://www.informea.org/en/countries>

³⁷ <http://www.ospar.org/organisation/contracting-parties>

³⁸ <https://cites.org/eng/cms/index.php/component/cp/country/IS>

³⁹ <http://www.ascobans.org/en/parties-range-states>

⁴⁰ <http://www.fisheries.is/ecosystem/marine-life/marine-mammals/>

Common Name	Scientific Name	IUCN Status	CITES Appendix	AEWA Status
Bottlenose whale	<i>Hyperoodon ampullatus</i>	UK	I	N/A
Pinniped				
Hooded Seal	<i>Cystophora cristata</i>	VU	N/A	N/A
Sea Turtle (Reptile)				
Leatherback turtle	<i>Dermochelys coriacea</i>	VU	I	N/A
Fish				
Atlantic Halibut	<i>Hippoglossus hippoglossus</i>	VU	N/A	N/A

A great detail of information on ETP species and their interaction with fisheries in Icelandic waters and wider Northeast Atlantic can be accessed from Ministry of Fisheries and Agriculture⁴¹ and ICES⁴².

Birds

No lethal interaction with marine birds was reported or identified during this assessment. Initial concerns with regards to Gannets (*Sula bassana*) interaction with the fishery was expressed during communication with representatives of Birdlife International. It is suggested that Gannet diet in the Westmans is largely (approx. 50%) composed of Mackerel and presumably also in Eldey, (for example, the majority of the Icelandic Gannet population). Gannets have been increasing in Iceland for over a half a century, presumably triggered in part by release from human hunting pressure. They switched diet from 50:50 sandeel: herring in 2005 to approximately 50:50 mackerel: herring (Vigfusdottir 2012). It is not generally thought that there is much seabird bycatch in the mackerel fishery itself which uses “floating/pelagic trawls”.

The status of Gannets are considered to be at Least Concern (LC) with increasing trend, according to the IUCN Redlist for monitoring of ETP species. Also literature review and discussions with Stakeholders (skippers, researchers at University of Iceland, and representatives at DoF) confirmed that Gannets have been hunted in Iceland throughout the centuries but adult gannets are now protected, and there was no observed or reported incidents of seabird capture for the fisheries being assessed. The Icelandic seabird populations are well studied and populations protected where needed (Ministry of Fisheries and Agriculture⁴³, and <http://fuglavernd.is/english/>). In addition information on Icelandic seabird population is evaluated and reviewed through a number fisheries assessment (MSC⁴⁴ and IRF⁴⁵).

Marine Mammals

About 12 species of cetaceans and 2 species of seals are most common to the area (IMFA). However no lethal interaction with the UoA fishery is identified. The recording and reporting of all retain capture, including marine mammals, is mandatory (Regulation no 557/2007 on logbooks) in Iceland and this incidental capture information facilitate monitoring and advice of these species. Discussions during meetings with Stakeholders from the MFRI, DoF, and local Whale watching group

⁴¹ <http://www.fisheries.is/ecosystem/marine-life/marine-mammals/>

⁴² http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/Protected_species_bycatch.pdf

⁴³ <http://www.fisheries.is/ecosystem/marine-life/seabirds/>

⁴⁴ <https://fisheries.msc.org/en/fisheries>

⁴⁵ <http://www.responsiblefisheries.is/certification/certified-fisheries/>

(IceWhale⁴⁶) confirmed no known lethal interactions of UoA fisheries with whales or other marine mammals.

Fishes

Atlantic halibut (taken in pelagic trawl and bottom trawl -

Table 16) is the only recorded interaction of ETP species considered for this assessment and will be the focus of the remaining sub-section of this report on ETPs.

Table 16: ETP Species caught in the ISF Mackerel fishery 2013-16. Source: DoF Data.

Species	Total Catch (Kg)	% of Catch	Period	UoA Gear Type
Atlantic Halibut	1475	0.0001%	2013-16	PT
	111 & 36 (147)	0.01% & 0.03%	2013 & 2016	DT

Atlantic halibut - In 2012, a regulation was issued to ban all targeted fishing for Atlantic halibut and stipulating that all viable halibut must be released in other fisheries. MFRI recommends that these regulations should be maintained until clear indications of improvement in stock are evident (

Figure 34). Evidence from surveys index indicated that Atlantic halibut stock is currently increasing, although it has been heavily depleted since 1984. This information includes unpublished survey data and might not be most suitable for tracking the abundance of the species (Medley et al 2017).

Survey (such as IS-SMB) only covers fishing grounds of juvenile Atlantic halibut, and there is a lack of information on adult population (Survey indices have been stable between years, and uncertainties around them are low. A committee established in 2010 by minister of fisheries due to poor state of Atlantic halibut stock, concluded that most effective way to rebuild stock would be to ban all targeted fishing. MFRI followed this advice, by consulting with the fishing community - experienced captains - on what would be best action to protect the stock.

The resulting recommendations were to ban targeted fishing, and to make it mandatory to release all viable Atlantic halibut caught as bycatch in other fisheries. Regulations from the ministry of fisheries and agriculture that followed the advice were put into effect in January 2012

⁴⁶ <http://icewhale.is/>

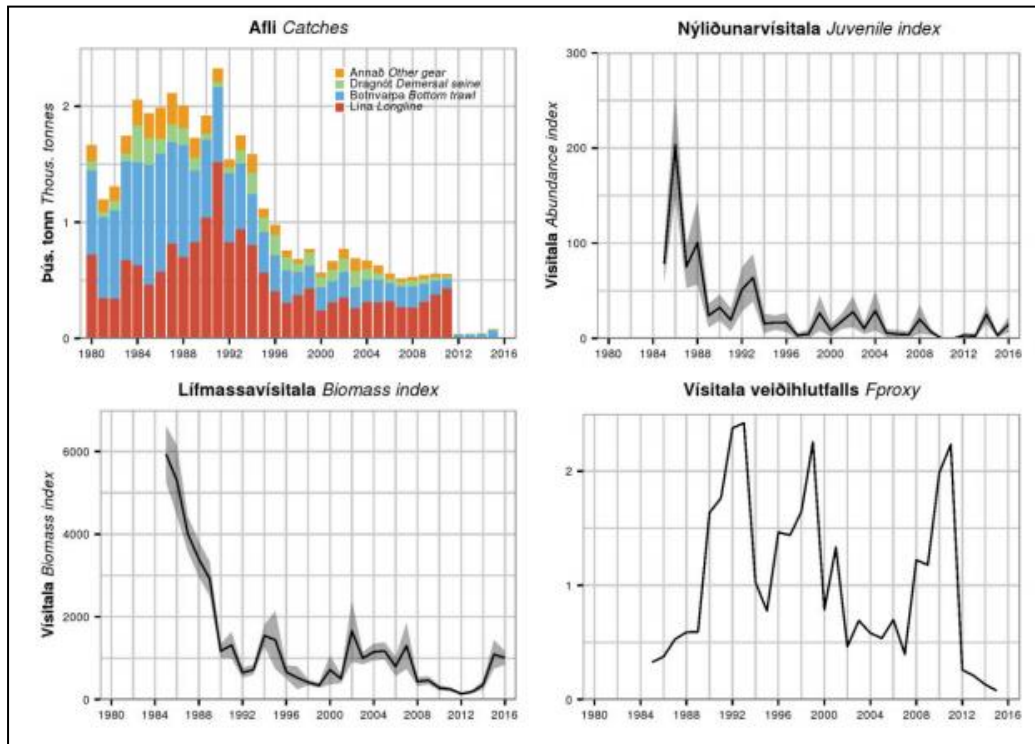


Figure 34. Atlantic halibut. Catch by gear type, IS-SMB juvenile and biomass indices, and Fproxy (catch/survey biomass). Source: MFRI State of the Stock 2015/16

Around 2,000t of Atlantic halibut were landed annually from Icelandic waters. A steady decline in catch occurred from 1991 to 1997, after which the catch stabilized between 500 and 800t until the ban on targeted fishing in 2012. The overall reduction in Iceland fleet capacity is expected to corresponding with reduced fishing pressure for this stock. Atlantic halibut is now only caught as bycatch in bottom gear all around the island. Catch are typically taken by demersal fishing gear (82%), however, the UoA pelagic trawl (0.001%) and bottom trawl (0.01%). IUCN evaluation indicated Atlantic halibut to be endangered globally, however vulnerable within Europe waters⁴⁷.

6.3.1 Management

In general, the Icelandic Directorate of Fisheries monitors the fishery and operates a program of fishery inspectors. The DoF website provide constant report of any catch. Fishers self-sample their catch and Fishery Officers inspect catch randomly; all information is provided to the MFRI. In addition there is a platform for International and Regional Co-operation focused on conservation of Iceland natural marine resources⁴⁸. The ETP species common to Icelandic waters and the UoA fishery are monitored and afforded protection where needed. By nature of operation (pelagic and bottom trawl fishing gear) and management (such as mandatory landing of all catch and reporting all catch or lethal interaction with protected species) of the UoA fishery. In addition to area restrictions such as 6nm and 12nm from shore exclusion to bottom and pelagic trawl fishers, as well as temporary and seasonal closed area where ETP species are sighted or known to congregate.

Mackerel fishers have reported a common way of working which included delaying fishing when whales are observed in the fishing grounds to avoid incidental capture with consequential damage

⁴⁷ <http://www.iucnredlist.org/details/10097/1>

⁴⁸ <http://www.fisheries.is/management/government-policy/international-policy/>

to fishing gear, loss of the catch, and other economic losses. Indirect impacts such as competition in the natural environment among adult mackerel and ETP species for food is likely and is address within the Ecosystem section of this assessment. It is therefore understood that the strategy for managing fisheries' interaction with ETP species is functioning well to provide information, quantify outcomes or impacts, and provide management tools such as regulations.

6.4 Habitats

The section is split up by Units of Assessment (UoAs) due to the nature of the gear types used in the fishery. To understand better which habitats are affected depending on the fishing gears the Assessment Team has split up the section in pelagic gears (UoA 1, UoA 2 and UoA 3) and Bottom otter trawl (UoA 4).

6.4.1 UoA 1, 2 & 3- Pelagic gears

The pelagic gears used in the certification are three: pelagic trawl, purse-seine and handline. All of them have the same encountered habitat: *the water column*.

Therefore, in pelagic gears, the encountered habitat in the fishery is, as defined, the water column. Nets are towed at the appropriate level in this area of the sea to intercept target shoals, with gear depth being controlled by altering towing speed and/or warp length, therefore the interaction with the habitat is very low, the physical impacts of the gear on seabed habitat types are known. There are no known impacts of the fishery on the pelagic habitat (water column).

Even in the handline, where nets are not used, the impacts on the pelagic habitat is the same. In handlining the fishing line is vertical and is operated from a drifting or anchored vessel. The operation can be scaled up by using several lines on larger vessels. In recent years jigging has become mechanised and automated by the development of jigging machines.

In all these pelagic gears, during normal fishing operations, the fishing gears do not touch the seabed and associated fauna/flora, therefore the fleets have no contact with the bottom surface. The possibility to contact with the seabed's surface is limited, and therefore, also the fishery is highly unlikely the likelihood to damage to sea bed benthic habitats.

The method of fishing operations of the gears, include to allow the net or line to remaining within the water column, in the cases where net is used, it would be immediately (and expensively) damaged were it to if it comes in contact with seabed structures. Skippers have good control over the position of the net and the use of technology reduces the likelihood of any encounters with the seabed. A net monitor (sonar) with a transducer actually on the net enables skippers to accurately fish to within a couple of meters of the seabed without making contact. Further, the skippers have good knowledge of the fishing grounds where they realize their fishing activities occur. They have a good knowledge of depth, kind of substrates, geomorphology among others features. Further, the accessory equipment, sonar, is a useful tool to detect fish concentration ahead of the trawler and the trawl path and trawl depth can be adjusted accordingly avoiding any contact with the bottom surface.

Therefore, the pelagic gears evaluated in the assessment, are not designed to contact the seabed and then they do not impact with the bottom surface being less erosive than other gears. The gear types under evaluation are designed to fish in pelagic habitats and when any interaction happens with the seafloor, is very unusual almost irrelevant; the contact with the bottom implies large economical losses for these kind of fisheries.

NE Atlantic mackerel is a pelagic species usually found at depths of 0-200m, although may extend to 1000m, Mackerel is normally swimming in shoal in the water column, and therefore the fishery does not need to contact the surface.

The habitats and the ground where the Mackerel are and where the fishing activities take place are well defined and monitored. There is a widely information and mapping regarding the closed areas and the kind of substrate in each ground to allow fishing activities without damage the gears.

The Ministry of Fisheries and Agriculture has large knowledge regarding the distribution and characteristics of the grounds and the track record allow knowing where the vessels are fishing. Figure 35 shows the distribution of these grounds where the Mackerel fishery takes place.

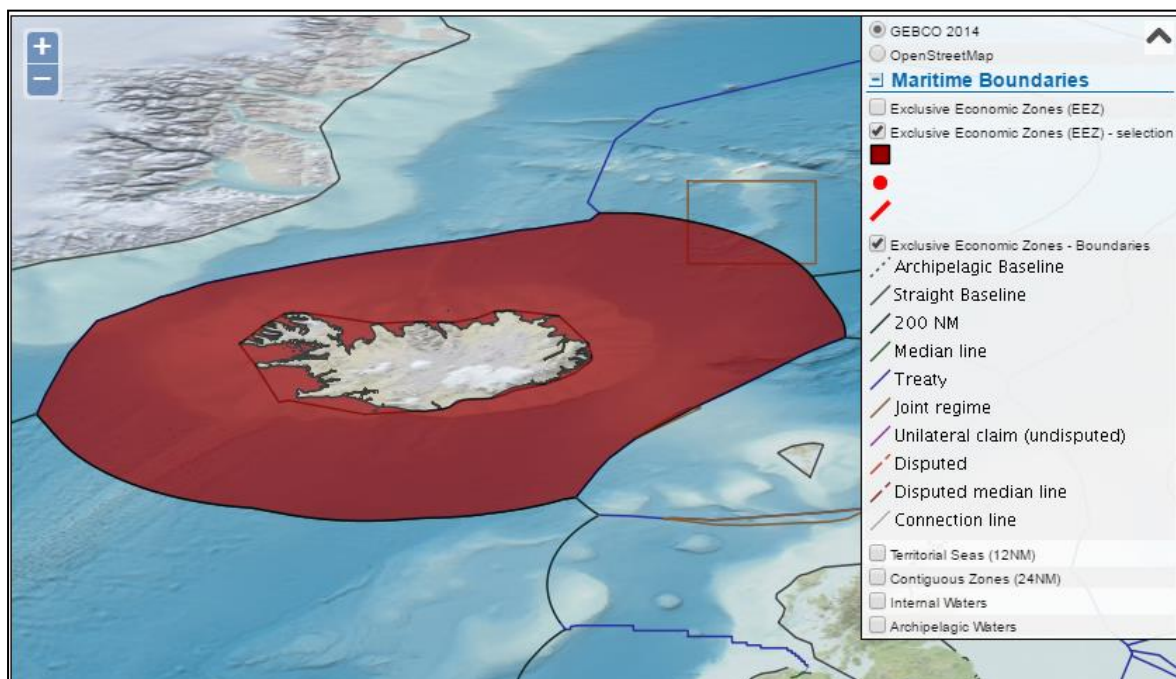


Figure 35. The 200 miles EEZ around Iceland and around neighbouring countries. Source: Flanders Marine Institute (2016). <http://www.marineregions.org/gazetteer.php?p=details&id=5680>

The geographic boundaries of the Icelandic fishing grounds have changed with time. Originally, the grounds consisted of the waters above the continental shelf where Icelanders could conduct their fisheries in their small boats. Later the Icelandic fishing grounds were generally acknowledged as the International Council for the Exploitation of the Sea (ICES) fishing area Va. Most recently, the grounds have been extended to the 200 nm exclusive economic zone (EEZ).

In Iceland, there are several VMEs. They are classified as VMEs because of the presence of hard corals (*Lophelia pertusa*), soft corals (Gorgonacea & Pennatulacea) and or Sponges. In general, VMEs around Iceland occur in deep waters and are commonly close to the continental shelf break or deeper. Therefore the pelagic gears used in the fishery have no interactions with the VMEs in the area and no precautionary actions are needed for these gear types.

Therefore each pelagic gear types in the fishery are highly unlikely to reduce structure and function of the encountered habitats and the VMEs, and do not have irreversible harm due to the fishing activities.

To conclude with the justification above FAO guideline (FAO technical measures for responsible fisheries) has explained how the effects on the habitats of each gear types are and therefore:

- **Pelagic trawls (UoA1)**, generally have high species selectivity as they are commonly used for catching schooling pelagic fish that tend to occur in single-species aggregations. The size selectivity is poorer as the fish bag of the trawl is usually made from small mesh webbing to avoid meshing by smaller individuals. Successful trials have been done with sorting grids that effectively release the smallest fish (e.g. with trawling for mackerel). By-mortality is hence a minor problem with pelagic trawling and this gear, naturally, does not have any ghost fishing or habitat destructive effects.

- **Purse seine (UoA2)** is a non-selective gear regarding fish size, as the mesh size is chosen to be so small that there should be no risk of mass meshing of fish, even by the smallest size groups of the target species. However, the species selectivity is fairly high and both from the fishers experience and by use of modern sonar equipment makes easier to identify the species before the seine is set and it's difficult to not recognize the species to fish, therefore the selectivity is higher and as it happens with other pelagic gears the contact with the surface is negligible.

- **Handline (UoA3)**, this gear is commonly used in specific seasons or at specific grounds where the fishers, by experience, are able to catch only one or a few species, so that the catches are usually dominated by a few targeted species. Therefore, handline is generally regarded as habitat/ecosystem-friendly ways of fishing which produce catches of high quality.

Therefore the pelagic gear types used in the fishery are not susceptible to reduce any element or structure in the Icelandic habitats where the fishery takes place.

6.4.2 UoA 4- Bottom Otter trawl

Bottom otter trawl is also operated with smart technology based on acoustic for directing and positioning of the fishing gear however it operates in close contact with the seabed and are known to interact with seabed communities, therefore the encountered habitat are benthic habitats including sand, gravel, mud, ridges, and cobble, as well as infauna and epifaunal species. The interaction with the bottom surface is normal during the fishing operations.

There are several VMEs in Icelandic waters. As previously mentioned and in general, VMEs around Iceland occur in deep waters and are commonly close to the continental shelf break or deeper. Although, maerl beds and hydrothermal vents in the Eyjafjörður fjord are examples of vulnerable habitats that occur in coastal waters, normally they are classify as deep sea habitats. The common VMEs define in Icelandic waters are listed below:

- **Cold Water Hard Corals:** includes species aggregations of *Lophelia pertusa*, *Solenosmilia variabilis*, and *Madrepora oculata*. Based on seabed mapping information (MFRI) these species are distributed in discrete aggregations in Iceland EEZ, where they form reef structures (5-10m diameter) that support various species of fish and crustaceans. Usually they occur on soft bottoms in excess of 150m and occasionally in shallower inshore waters. Rarely found attached to solid substrata. These are long-live slow growing species with global distribution.

On the other hand, *L. pertusa* reefs provide a habitat for a variety of species and the living and dead coral skeletons provide a biodiversity 'hot spot' on the edge of the continental shelf. In Icelandic waters these cold water hard coral aggregations are known to occur mainly along the Reykjanes

Ridge, other ridges and areas of the continental shelf. The figure 36 has shown that following scientific mapping, fourteen coral areas with *L. pertusa* have been closed for all fisheries using bottom contact gear

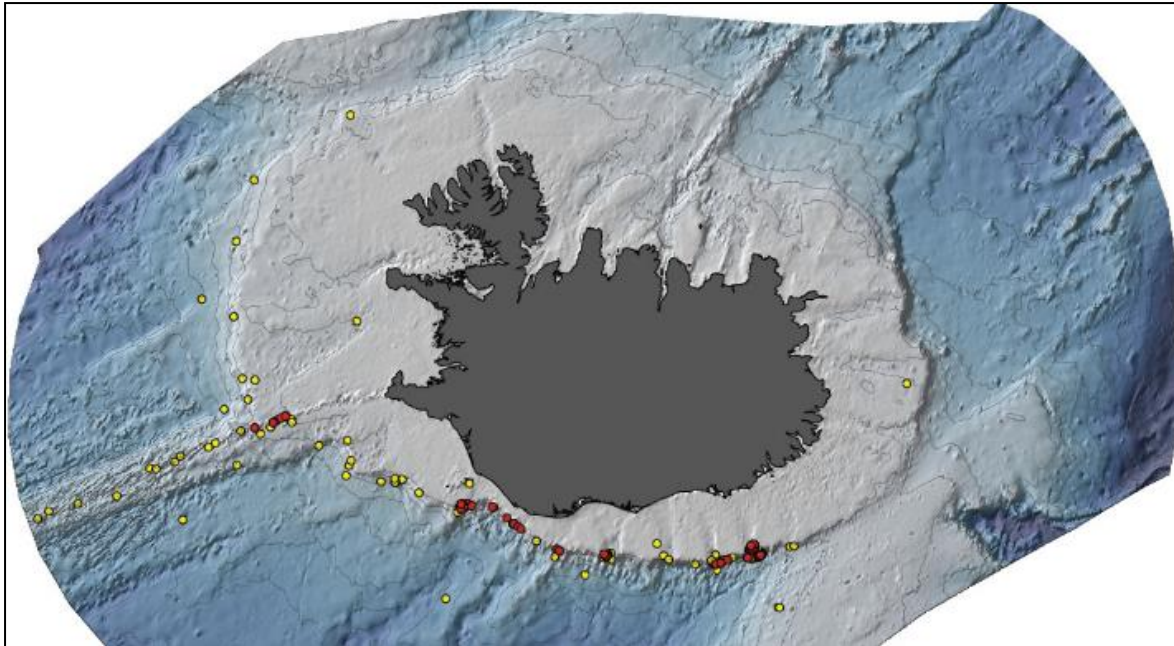


Figure 36. *Lophelia pertusa* distribution in Icelandic EEZ; areas closed to trawling activities. Source: Burgos et al, 2014.

L. pertusa is considered to be brittle which makes it vulnerable to physical damage, in particular from contact with fishing gear. In addition to Iceland, adjoining fishery management areas of Norway, Faroe Island, and the EU are participants in research and management of cold water corals, which forms a publication by OSPAR.

Therefore the gear type has interaction with VMEs and to avoid any damage or irreversible harm to structure or key elements, NEAFC following the OSPAR criteria has established several move-on rules to close the areas. In the case of cold water corals the limit is set in 30 kg per set, if that is found during the research surveys the criteria is set up in the area and 2nm from the location of the VME are closed to all the vessels until review or general recommendation is in place.

Recent data from MFRI analysis of bottom trawl fisher's logbook data has showed that about 79,000 km² or 10% of the ecoregion are fished using this gear type. The total fishing effort by otter trawls targeting fish has decreased between 2000 and 2014 by around 40%. The decrease in the fishing effort varied locally, with decreases mainly noted on the southern shelf and trawling grounds on the northern shelf (ICES Ecosystem Overview 2017).

- **Cold Water Soft corals:** includes aggregations of Gorgonacea and Pennatulacea, which are distributed within Iceland EEZ at depths of 800 – 1300m (deep water corals), which fishing vertical overlap is likely at depths down to 600m. Some species are more known than others. Dense aggregation of colonies or individuals of one or more coral species of leather corals (Alcyonacea), (Gorgonacea), sea pens (Pennatulacea) and black corals (Antipatharia) are found, however there are some uncertainty to the extensive distribution of these species due to their deep-water nature. MFRI seabed surveys have identified gorgonian species, such as *Paragorgia arborea* and *Primnoa*

resedaeformis, which are sometimes associated with the *L.pertusa* aggregations. Although known from Icelandic waters since 1915 (Jungersen, 1915; Kramp, 1939), only few specimens had been found prior to a recent habitat mapping off Iceland, which has shown species of primnoidea to be common along the south continental slope and mainly associated with *L. pertusa* as mentioned. Soft corals typically form dens aggregations rather than ridged reef structures. Pennatulaceans aggregations are common in deep waters (>500m) in southern areas of Iceland EEZ. They are both common to soft sediments such as sand, mud or cobbles, and may consist of retractile or non-retractile parts.

Colonies of soft coral species are vulnerable to direct impact from trawling especially on seabed habits where they are unable to retract into sediments and reduce contact with the fishing gear. Marine areas in Iceland and other EEZ which are closed to bottom trawl gear are known to offer indirect protection to these soft corals.

Sponges: form dense aggregations in Icelandic waters down to depths of 1300m, however usually more common down to 300-750m in the eastern and western areas of the northern part of Reykjanes Ridge. Cold water sponges are characterized to be; variable sized, slow reproduction and recruitment, slow growing, long-lived large specimens, aging uncertainty, and slow recovery or total dislocation in case of repeated disturbances. The dominant species includes *Geodia* spp. (*G. atlantica*, *G. mesotriaena*, *G. barretti* and *G. phlegraei*) with catch levels in trawl samples (McIntyre, et al. 2016).

Sponges function as habitat refuge for a number of species and different life stages such as juvenile. The high densities and distribution of sponge aggregations were recorded in the MFRI 2002 groundfish survey, which shows the biomass of sponge bycatch, superimposed on fishing effort as mean annual swept area (nm² per 1° latitude x 1° longitude cell). In the figure 37 black dots indicate total biomass (kg/h otter trawl haul) of sponges.

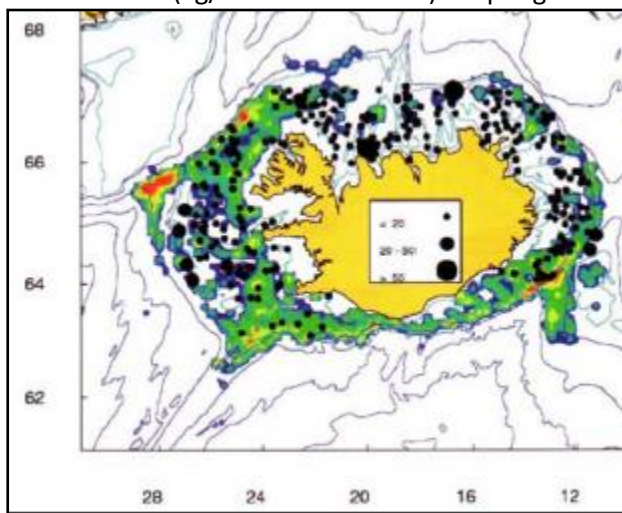


Figure 37. Sponge distribution Iceland EEZ. Source MFRI Groundfish Survey 2002

The presence of sponges is regulated by NEAFC in a move-on rule, some species are used as indicators of VMEs as is also established by OSPAR. Therefore some of these areas are closed from the location of the sponges' aggregation to 2 nm to all the vessels.

Therefore the bottom otter trawl is a gear that is highly likely to reduce elements or structure presence in the VMEs or habitats encountered. As it's explained in the FAO guideline of technical

measures; Bottom otter trawls are widely used for the capture of different demersal fish species - most often in so-called mixed-species fisheries. The size selectivity may to a certain degree be regulated by the cod-end mesh size. Ideally, a certain mesh size should allow for the release of all fish below a certain size. However, the mesh size selection of trawls may be hampered in many ways. Considerable research and development effort has been spent in recent years to improve the size and species selectivity of trawl gear and different solutions have been developed and implemented, like the sorting grid that is now used in many demersal trawl fisheries to avoid higher effect in the habitats and ecosystems. The interaction with encountered habitats that can have irreversible harm are controlled by the declaration of closure areas for this gear type.

Due to the interaction with the bottom surface the fishery has raised two conditions in the UoA of otter demersal trawl which are detailed in the section 10.3.

6.5 Management and Information (all UoAs)

The management system in Iceland is applied for all the types gear with concrete limitations depends on the encountered habitat or the possible irreversible harm caused.

To manage the MPAs, VMEs and sensitive areas to fishing activities, the ministry has published an “Icelandic National Biodiversity Strategy and ActionPlan” (Ministry for the Environment, 2008). The main measures of the plan are listed below:

- protect threatened species in Icelandic waters
- develop fishing methods with less impact on marine ecosystems
- protect vulnerable benthic ecosystems

Large areas of Icelandic waters are closed for fishing, mostly for trawling, some of them temporarily (hours per day, days in total or seasonal) and others permanently (years). Areas are usually closed for fishing with bottom otter trawl or longline due to the presence of juvenile fish over extended periods of time or in order to protect spawning grounds (DoF). Although, area closures are aimed at protecting juvenile fish, the measures have a secondary effect, i.e. protecting seabed habitats, such as deep-sea coral reefs or sponge aggregations, from being damaged by fishing activities

These grounds are well located and can be monitored. On the other hand, the DoF enforces to comply with the laws established.

Other measure to protect the habitat in Iceland, it is the prohibition on fishing with trawls within 12nm of the coast in many areas of Iceland where the most vulnerable areas of seabed (deep-sea coral reefs) and benthos organisms live.

The Icelandic Coast Guard is in charge to monitor fishing activities in Icelandic waters, including surveillance of areas closed for fishing. The vessel are informed of the areas and are updated with the DoF following the MFRI advice. The VMS system makes easy the control and track record of every fishing haul in the Coast Guard operation centre. Figure 38 shows the areas in the surveillance program which must be monitored because are closed or protected for any reason such as a move-on rule from OSPAR or NEAFC or any national regulation.

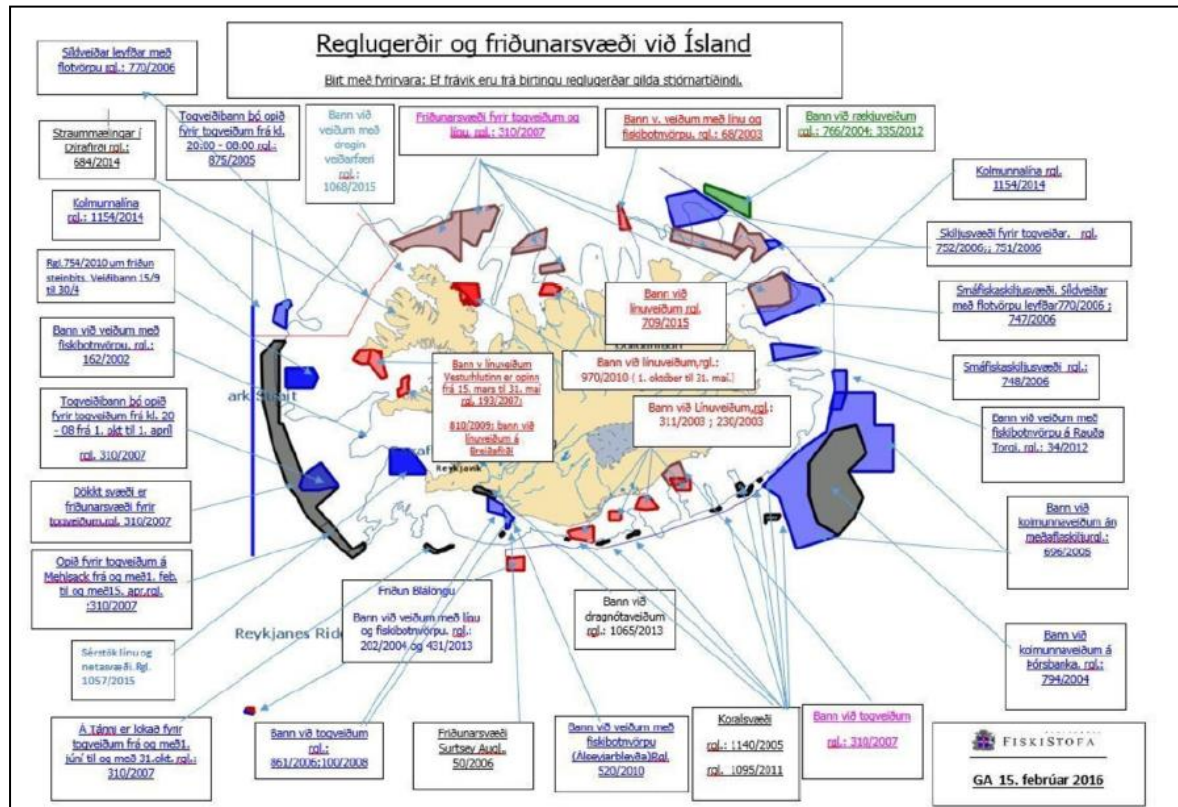


Figure 38. Areas with restricted fishing. Shadings indicate different levels of restriction and type of gear involved, ranging from temporary (e.g. time of day, season) to permanent closure. Source: Directorate of Fisheries Icelandic version for February 2016:

<http://www.fiskistofa.is/fiskveidistjorn/veidibann/reglugerdarlokanir/>

6.6 Ecosystems

Iceland is the second largest island in Europe, after Great Britain. It touches the Arctic Circle in the North and has maritime boundaries with Greenland in the west and north-west, Jan Mayen (Norwegian) in the north and the Faroe Islands in the south-east. The nearest neighbours are Greenland, 280 km to the northwest and the Faroe Islands, 430 km to the southeast.

The ocean around Iceland includes the boundary between warm Atlantic waters in the south and colder waters from the north. Thus, inter-annual variability in oceanic conditions is high, depending on the strength of the currents. Nevertheless, due to the warm current from the south the climate in Iceland is temperate compared to how far to the north it is located.

The Irminger current keeps the waters south and west of Iceland relatively warm and stable both inter and intra-annually. The major spawning grounds for most Icelandic fish stocks are in these waters. Most of them spawn in early spring, when the larvae are able to utilise the spring phytol- and zooplankton bloom, while they drift to nursery areas. The waters north of the country are colder and fluctuate more, both between seasons, years and decades, depending on the strength of the Irminger current versus the colder currents. The waters north of Iceland are also important rearing grounds for juveniles of many species such as capelin, herring, haddock and cod. Most of the coldest waters are habited by capelin, sandeels, mackerel and Greenland halibut. That could be a reason for the distribution of Mackerel in the Icelandic grounds, because there are foods resources, but nowadays there is no a clear justification of what the distribution of Mackerel is changed to

northeast areas. Some researches indicate the climate change, the food availability among others environmental factors (Olafur S.A., et al. 2012).

The ecosystems in Iceland is well known, the MFRI realized several projects to improve the skills regarding the environmental conditions around Iceland. The Iceland Sea Ecosystem Project, of the Marine Research Institute, was initiated in 2006 and continued in 2007. The main objective of the project is to analyse structure and function of the Iceland Sea ecosystem, with particular emphasis on life history of the capelin stock and other pelagic species to determinate the recent changes in the abundance and distribution of some Icelandic species.

Some of the data collected in this project are still collected during the surveys realized to evaluate the stock status of main target species (MFRI- State of Marine Stocks). The layers of salinity, temperature and nutrients are well defined in the Icelandic waters (Figure 39 and Figure 40).

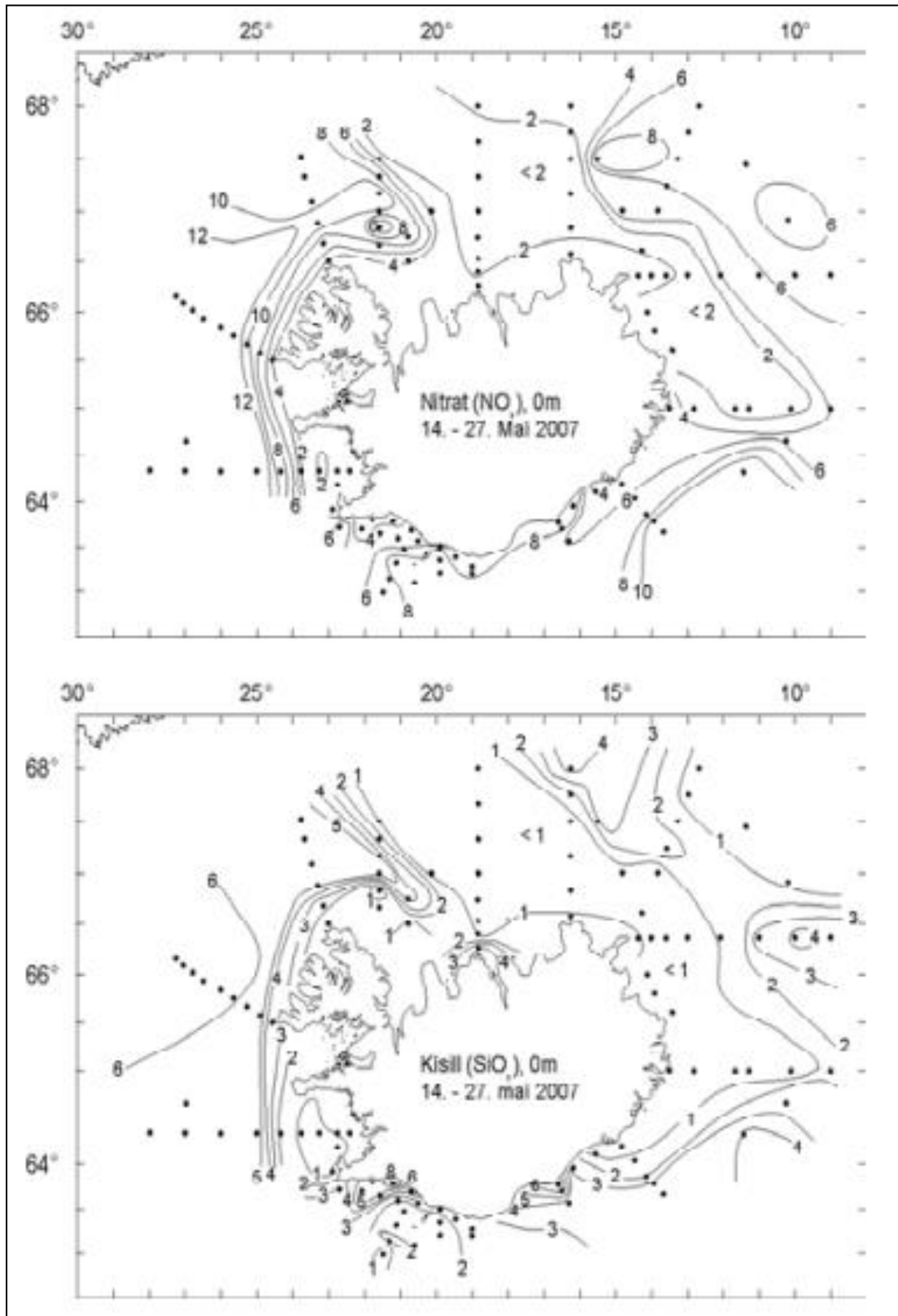


Figure 39. Nutrient concentrations at the surface in Icelandic waters 14.—27. May 2007 above) nitrate (NO₃, µmol l⁻¹) and bellow) silicate (Si, µmol l⁻¹). Source: Hafro.is.

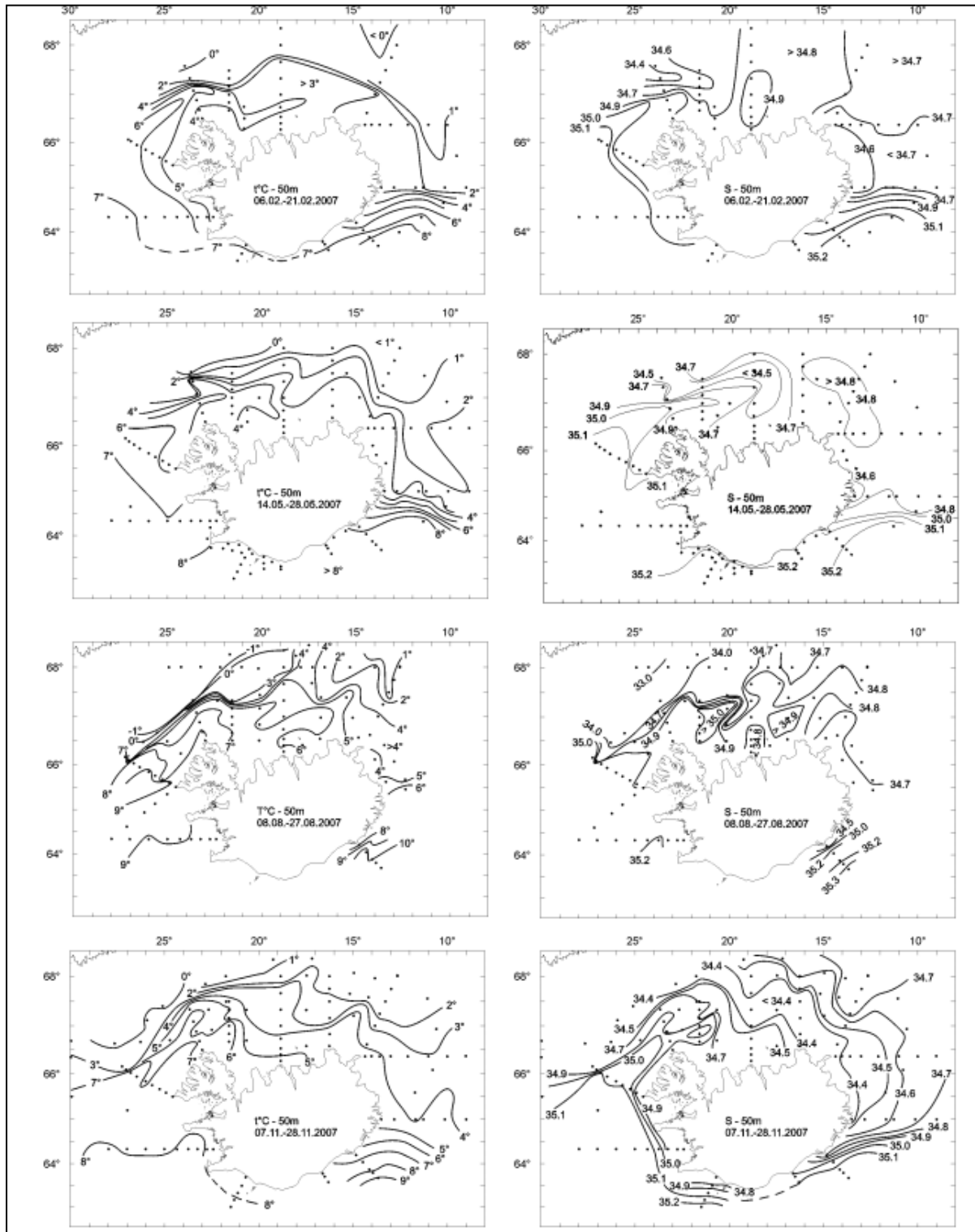


Figure 40. Sea temperature (°C, left) and salinity (right) at 50 m depth in Icelandic waters, for February, May, August and November 2007. Source: Hafro.is.

In the 755,932.4 km² that Iceland has as Exclusive Economic Zone including territories there are defined 18 Marine protected Areas with specific regulations to control their activities that are listed below and their distribution can be consulted on this link. Even most of the areas are closed to

fishing activities the precautionary approach has been used to evaluate the UoA of bottom otter trawl due to the interactions reported with the bottom surface.

- Breidafjörður Nature Reserve Conservation Area (Serlog)
- Dyrhólaey Nature Reserve (Fridland)
- Flatey Nature Reserve (Fridland)
- Grotta Nature Reserve (Fridland)
- Hamarinn Natural Monument (Natturvaetti Monument)
- Herdísarvík Nature Reserve (Fridland)
- Hornstrandir Nature Reserve (Fridland)
- Hrísey Nature Reserve (Fridland)
- Ingolfshofdi Nature Reserve (Fridland)
- Jökulsárgljúfur National Park
- Melrakkay Nature Reserve (Fridland)
- Reykjanesfólkvangur Public Recreation Area or Country Park (Fólkvangur)
- Salthofdi og Salthofdamyrar Nature Reserve (Fridland)
- Skrudur Nature Reserve (Fridland)
- Stapi og Hellnar Nature Reserve
- Surtsey Nature Reserve (Fridland)
- Varmarosar Nature Reserve (Fridland)
- Vatnsfjörður Nature Reserve (Fridland)

Further, the Coast Guard and the DoF managed and controlled these areas. The Coast Guard has an interpretation centre where the track record of every set carried out by Icelandic vessels can be consulted to enforcement the laws and regulations.

For the UoAs carried out with pelagic gears, the interactions with the bottom surface doesn't occur and the impact in the bottom surface is negligible or null. The most important interaction that these fisheries have in the ecosystems is the removal of species but mackerel is not defined as a prey for a wide range of fish, mammals and birds, therefore the indirect impacts is not relevant.

The Northeast Atlantic mackerel (*S. scomber*) has been extending its summer feeding distribution north and west, including around Iceland, since the mid-2000s. There is an identified food competition between mackerel and herring (*C. harengus*). Mackerel feeding in Icelandic waters are estimated to gain 43% weight during the summer (a higher weight compared to herring). Copepod were the most important prey for mackerel (Óskarsson, et al., 2015).

Icelandic waters are comparatively rich in species and contain around 30 commercially exploited stocks of fish and marine invertebrates. Mostly the patterns are similar for fish species which spawn in the warm Atlantic water off the south and southwest coasts. Fish larvae and 0-group subsequently drift west and then north from the spawning grounds to nursery areas on the shelf off northwest, north and east Iceland, where they grow in a mixture of Atlantic and Arctic water.

MFRI research outcomes has shown the feeding ecology of a large number of fish species, marine mammals and seabirds; and have shown that capelin and sandeels are key prey species in the Icelandic marine ecosystems (MFRI, 2016). However, Mackerel has no that role in Icelandic ecosystem.

Climate variability during the 20th century has affected the marine ecosystem in Icelandic waters. This was evident during the warm period of 1920-1940, the cold period starting in the late 1960s, and again the warming of the climate observed during the last decade. These variations of environmental conditions is believed caused changes in the abundance and distribution of many fish stocks as well as other components of the Icelandic marine ecosystem. In the waters to the north and east of Iceland, available information suggests a bottom driven food chain, from phytoplankton (mainly *Calanus*) to larger predators (Astthorsson et al., 2007).

Biomass estimates for stocks of fish, whales and seabirds in Icelandic waters and production estimates of *Calanus finmarchicus* and other zooplankton species have been used to estimate the biomass of individual components in the Icelandic marine ecosystem (Astthorsson et al. 2007). In total, the biomass of all the major components is about 56 million tonnes wet weight, phytoplankton being the largest component (29 million tonnes), followed by zooplankton (17 million tonnes, whereof *C. finmarchicus* is about 7 million tonnes), pelagic fish (8.8 million tonnes), demersal fish species (1 million tonnes, i.e. cod, haddock and saithe), baleen whales (900.000 tonnes), seabirds (14,000 tonnes) and seals (2,000 tonnes).

Management of fisheries ecosystems within Icelandic waters is based on national and Regional Corporation to deliver an ecosystem based fisheries management approach. The Ministry of Fisheries is responsible for management of the Icelandic fisheries and implementation of the legislation. The Ministry issues regulations for commercial fishing for each fishing year, including an allocation of the TAC for each of the stocks subject to such limitations. Below is a short account of the main features of the management system that take part in the conservation of the ecosystem around Iceland:

- Establishing check points for at-sea inspecting (monitoring and reporting) of foreign vessels fishing with permission in Iceland waters;
- Fishing gear restriction, such as mesh size and close areas, such as inshore areas (<12nm) and VMEs to bottom trawl and some larger commercial or industrial vessels, compared to smaller inshore vessels;
- Multi-species or stock fisheries management plans, in order to facilitate (based on understanding) appropriate trophic relationships among predatory commercial species (mackerel, herring, cod, and haddock) and commercial prey species (capelin, sandeel, and shrimp);
- Target species management plans which include considerations relating to discarding, and other mortality, environmental changes and physical issues, mixed fisheries removal strategy, awareness of stock or species interrelated complexities such as dependency on functional units;
- Collective interdepartmental or agency research, advice, monitoring, and control of marine resources in Iceland EEZ;
- ITQ - A system of transferable boat quotas was introduced in 1984. Within this system individual boat owners have substantial flexibility in exchanging quota, both among vessels within individual company as well as among different companies. These measures, which can be acted on more or less instantaneously, are likely to result in lesser initiative to discards and misreporting than can be expected if individual boats are restricted by strict TAC measures alone. They may however result in fishing pressures of individual species to be different than intended under the single species TAC allocation.
- Discard ban

- Mixed fisheries, capacity and effort - A number of species caught in Icelandic waters are caught in fisheries targeting only one species, with very little bycatch. Advice given for these stocks should thus not influence the advice of other stocks (ICES NWWG 2016).

Information on predator-prey interactions and multispecies are researched using ecosystem models such as GADGET3 (Globally applicable Area-Disaggregated General Ecosystem Toolbox) or BORMICON (boreal migration and consumption model). The multispecies program BORMICON is a model for an ecosystem approach to fisheries management and was developed in the 1990's using information on the Icelandic marine ecosystems, such as feeding habits of fish, migration patterns of predator and prey, predation, mortality and fish growth. The programme was developed for modelling marine ecosystems in a fisheries management and biology context. BORMICON is now developed under the name GADGET3 which has been applied to fish species regularly harvested in Icelandic waters (Taylor et al. 2007, Medley et al. 2017)

In general the Icelandic marine ecosystem is well studied with various evaluations on likely interaction with pelagic and demersal fishing gear (ICES NWWG 2008 & 2016). Monitoring measures provides a host of information that is used to understand natural variations in the ecosystems, and guide implementation of appropriate management measures and strategies to reduce unacceptable risks and protect the ecosystem from fishing activities.

7 Principle Three: Management System Background

Principle 3 of the Marine Stewardship Council standard states that:

“The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable”

In the following section of the report, a brief description of the key characteristics of the management system in place to ensure the sustainable exploitation of the fishery under assessment is made provided of the key characteristics of the management system in place to ensure the sustainable exploitation of the fishery under assessment.

The chart below shows the PIs evaluated in the fishery under P3 and makes easier the understanding of this principle (Figure 41).

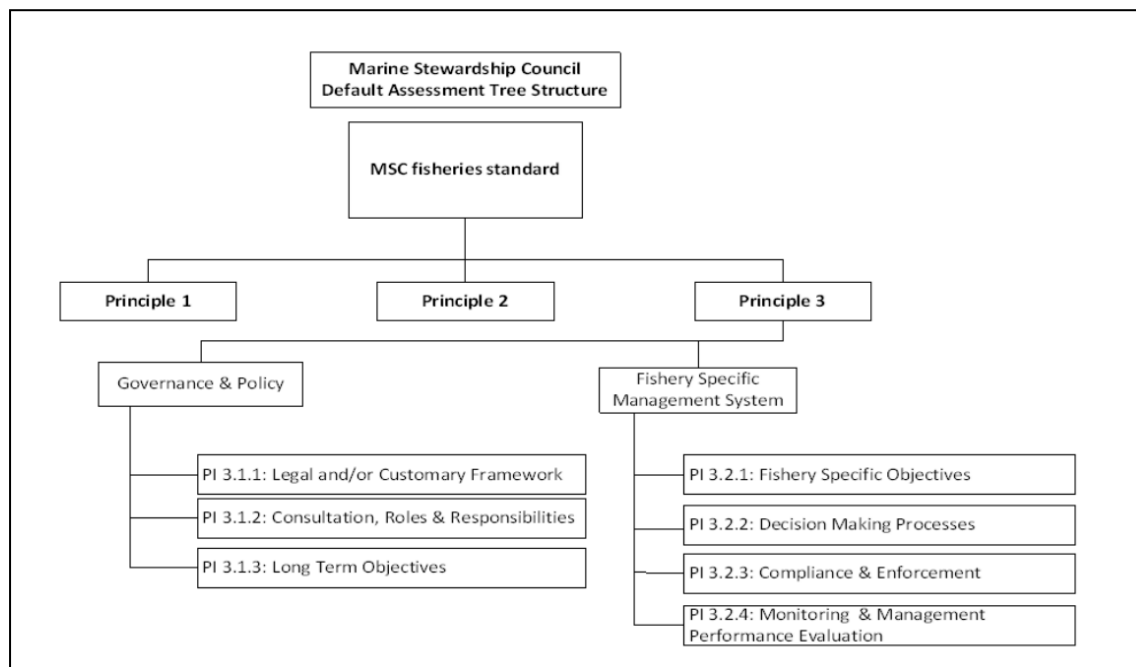


Figure 41. MSC diagram of performance indicators included under principle 3. Source: MSC Fisheries Certification Standard v2.0

7.1 The legal basis and Scope of the management system

North East Atlantic (NEA) mackerel is an Highly Migratory Species (HMS) which is presently exploited by fishermen from Norway, EU, Faroe Islands, Russia, Iceland and Greenland. Presently, the stock migrates between the national EEZs of Norway, EU, Faroe Islands, Iceland and Greenland. These states are now all recognized as coastal states, Greenland being the last one to be elevated to that status in 2016. Iceland has been reackognized as a coastal state since 2010. The mackerel stock is also fished in international waters by vessels from the coastal states and also by vessels from Russia.

The Coastal States and Russia are signatories to the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10

December 1982 (UNCLOS) relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.⁴⁹

The North East Atlantic Fisheries Commission (NEAFC)⁵⁰ organizes the cooperation of the states in policing fishing in international waters. There exists a Memorandum of Understanding (MoU)⁵¹ between NEAFC and ICES which describes the roles of the two organizations and their cooperation. This MoU recognizes that NEAFC “is the competent organisation for managing fish stocks in NEAFC Regulatory Area ...”

The Coastal States cooperates in the research on the mackerel stock and scientists from these countries and Russia meet within ICES to agree on management advice. There is also extensive cooperation between these states on surveillance and policing of mackerel fishing in NE Atlantic and people from the Directorates of fisheries in these countries meet to share experience from their work, including detection of offences.

The importance of the mackerel fishery in Iceland is mainly economic. It affects those that directly participate in the fishery, i.e. fishers and owners of fishing vessels, buyers of the catch, processors in Iceland, the workers in the processing plants and the customers/consumers. Practically all of the catch is exported. The mackerel fishery in Iceland is an important part of the fisheries in Iceland, which, in turn, is the single largest contributor to the country's net foreign exchange earnings. Mackerel is targeted by large Icelandic vessels using midwater trawl in off-shore waters, and also by small vessels using handline operating close to shore. Mackerel is also bycatch in some other gear, especially bottom trawl and seine.

Fisheries used to be the main economic foundation of local communities outside of the Reykjavik area. While the relative importance of the fisheries sector in the Icelandic economy has declined and the sector is no longer the backbone of as many towns and villages as it used to be in earlier times, it is still very important to the national economy as well as to the economic health of many communities outside of the Reykjavik area.

The Ministry of Industries and Innovation (MII) is responsible for the management of fisheries in Iceland as well as for the implementation of fisheries legislation, including the issuing of relevant regulations. The Ministry's duties include general administration, long-term planning and relations with other fisheries institutions at the international level. The Minister is responsible for deciding the annual TAC. Before making the decision the Minister must consider the MRI's advice for the stock.

The Icelandic Fisheries Management Act (No. 116/2006) states (Art. 1) that the authorities should “contribute to the protection of (exploitable stock in Icelandic waters) and their economic exploitation and thereby ensure secure employment and settlement in the country.”⁵² The Act on the utilization of exploitable marine stocks (No. 57/1996) states (Art. 1) that its aim is to contribute

⁴⁹ See e.g. http://www.un.org/depts/los/convention_agreements/texts/unclos/UNCLOS-TOC.htm and https://en.wikipedia.org/wiki/United_Nations_Convention_on_the_Law_of_the_Sea.

⁵⁰ The organization's website is at <https://www.neafc.org/>, and it is described in some details at https://en.wikipedia.org/wiki/North_East_Atlantic_Fisheries_Commission.

⁵¹ Available at https://www.neafc.org/system/files/ices_mou_2007.pdf.

⁵² No. 116/2006, accessible (in Icelandic) at <http://www.atvinnuvegaraduneyti.is/media/Skyrslur/Stjorn-fiskveida-2010-endanlegt.pdf>. An English translation is accessible at <http://www.fisheries.is/management/fisheries-management/the-fisheries-management-act/>.

to “sustainable utilization which ensures maximum benefits to the Icelandic nation in the long-run.”⁵³ These Acts make no references to the precautionary principle. The principle is embedded in some of the international conventions to which Iceland is a signatory (e.g. the OSPAR convention and the United Nations Agreement on the implementation of the provisions of the United Nations convention on the Law of the Sea, 10 December 1982, which relates to the conservation and management of straddling fish stocks and highly migratory fish stocks (in force as of 11 December 2001). The precautionary principle is also mentioned in the preface of the European Economic Area (EEA) agreement and is now firmly embedded in EEA law and regulations.⁵⁴

7.2 Fishery specific objectives

The Coastal States are signatories to the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 (UNCLOS) relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks which commits the signatories to responsible fishing of migratory species like the mackerel. The states cooperate in the research of mackerel and other pelagic species in the North-East Atlantic and they have agreed on a management plan which is regarded as precautionary by ICES and used to provide management advice in the form of TAC. The MoU between NEAFC and ICES states that NEAFC “shall apply the precautionary approach” and “take due account of the impact of fisheries on other species and marine ecosystems, ...”

The Fisheries Management Act of 1990 established the present system of Individual Transferable Quotas (ITQ) for the Icelandic fisheries. The Act stipulates that each year fish quotas shall be allocated to eligible fishing vessels according to their quota shares. The Act does not define a terminal date for the system. In that sense the shares can be considered permanent. On the other hand the shares do not form a property right and can be altered or abolished by the Icelandic legislative assembly, the Althing. The quota shares can be traded and so can the annual quota allocation. There are some restrictions on this trade, e.g. each vessel must catch at least half of its quota allocation each fishing year and there are specified upper limits for the quota holdings of any one company.

This legislation on fishing rights has been tested in courts on many occasions. Two court cases in 1998 and 2000 settled basic disagreements on the foundations of the present system. On December 3rd 1998, the High Court in Iceland ruled that the provision in the Fisheries Management Act allowing the authorities to limit the entry of fishing vessels was unconstitutional as it treated those that had originally got licensing of their fishing vessels (in 1984) differently from later applicants. The High Court ruled that such unequal treatment of Icelandic citizens could only be accepted as a temporary measure justified by some extraordinary conditions. Subsequently, the Act was amended in accordance with this ruling. The amendment opened up the possibility that anyone, who applies for the licensing of a fishing vessel which conforms to a particular standard, can obtain a fishing license. However, a fishing license is not a sufficient condition for commercial fishing of a species which is subject to quota restrictions; for such fishing to be legal some quota must also be registered to the vessel and/or – as currently is possible – the vessel may have a license for Coastal fishing.

⁵³ No. 57, June 3 1996, accessible (in Icelandic) at <http://www.atvinnuvegaraduneyti.is/media/Skyrslur/Stjorn-fiskveida-2010-endanlegt.pdf>.

⁵⁴ See discussion on the precautionary principle in the proposal for law on main principles of environmental law (Frumvarp til laga um meginreglur umhverfissréttar, þskj. 842 – 566. mál) put forward during the 133. Session of the Althing 2006-2007, <http://www.althingi.is/altext/133/s/0842.html>. This proposal was not passed.

The limitations of “the right to catch” set by the Fisheries Management Act were tested in court on the 6 of April 2000 when the High Court ruled that limitations of fish catch is constitutional.⁵⁵

The rights of different fishers to access the resource are clearly codified in the legislation. As with all other legislation in Iceland, the legislation on fisheries management has been developed through legally based, democratic processes where various stakeholder groups were consulted. Between plenary debates (readings) on draft legislation in the Althing, extensive hearings with experts and stakeholders have been conducted by permanent committees of the assembly.

Gradually the rights of different fishers to access the resource have become more homogenous and the total catch has become more predictable. The introduction of Coastal fishing (strandveiðar) in 2009, where small vessels using only hand-line can take part and where there is a common total quota for all vessels in the fishery, introduced some heterogeneity into the system. However, so far the catch allocated to Coastal fishing is small, i.e. 6,000 tonnes in total. Before deciding the total quota for the present fishing year the estimated catch in Coastal fishing was subtracted from the TACs for the relevant species. All permissions to catch mackerel are allocated in the quota system this system allows to establish the objectives of the fishery in the legislation. Although, the precautionary approach is not explicitly mentioned in the legislation on fisheries management in Iceland nor has it been introduced in a general form in Icelandic law but it is stated in a number of international agreements that Iceland has signed. The precautionary principle is explicitly referred to by the MRI, ICES and the MII in relation to the catch rules that have been adopted and to the fisheries management in general.

7.3 Decision making- processes

Before 2009 Norway, EU and Faroe Islands, the recognized Coastal States at the time, agreed on the TAC and the sharing of it. But since 2009 mackerel has migrated into the EEZ of Iceland and also into the EEZ of Greenland leading to Iceland being recognized as a coastal state in 2010 and Greenland in 2016. These countries had observer status at the meetings of the Coastal States on mackerel before they were recognized as coastal states. In spite of regular meetings and efforts to reach an agreement the Coastal States have in the end decided their own quotas which in total have significantly exceeded the TAC given by the management plan. There is no detailed description of the how to share the stock given its migration pattern⁵⁶ and feeding and spawning areas, and there is no court or arbitrator which can provide a binding sharing of the advice TAC between the Coastal States and Russia. Presently, NEAFC doesn't have these powers.

Three public institutions are at the heart of Icelandic fisheries management: the Marine Research Institute (MRI)⁵⁷, the Directorate of Fisheries (DoF) and the Ministry of Industries and Innovation (MII) formerly the Ministry of Fisheries and Agriculture). The Coast Guard also has a role in monitoring fishing activities, gears, fishing locations and discarding. Many areas in the waters around

⁵⁵ This ruling is available in Icelandic at <http://www.haestirettur.is/domar?nr=767>.

⁵⁶ There is presently a working group looking into this possibilities.

⁵⁷ In 2015 Althing, the Icelandic Parliament, passed laws establishing a new institution merging the old Marine Research Institute (Hafrannsóknastofnun, website: www.hafro.is) and the much smaller Institute of Freshwater Fisheries (Veidimálastofnun, website: www.veidimal.is) in Marine Research Institute – Institute for Oceanic and Fresh Water Research (Hafrannsóknastofnun – rannsókn- og ráðgjafastofnun hafs og vatna, website: www.hafogvatn.is). This merger became effective 1st of July 2016. The new institution has 165 employees, thereof some 20 from the Institute of Freshwater Fisheries and has 2 specially equipped research vessels.

Iceland are closed for fishing, mostly because they contain large quantities of juvenile fish, but also for ecological reasons (e.g. to prevent the destruction of corals). Some areas are closed permanently for some fishing while other area closures are temporary. All discarding of catches is explicitly banned by Icelandic law.

The MRI is responsible for biological research and stock assessments and provides advice on Total Allowable Catches (TACs) to the Ministry. Its stock assessments are based on data from extensive research fishing as well as data on catches, length and age composition and sexual maturity of the fish. The MRI presents its advice at the end of May/beginning of June each year. The MRI's stock assessments and advice for many important species are reviewed each year by ICES.

There is extensive cooperation between MRI and marine research institution in other coastal states in the North Atlantic on pelagic species, including mackerel.

The MRI plays an important role in communicating scientific advice to the fishing industry. This communication takes place through the web, newspapers and meetings with people from the industry, including public meetings. Most of the funding of the MRI comes from the state budget, but the institute also obtains funds from domestic and international research funds, among them the fund "Verkefnasjóður". This body receives income from the tax on low value catch and from some fines for illegal fishing collected by the Directorate of Fisheries. The estimated funding of MRI in 2016 amounts to 3,419 million ISK (25 million EUR). Of that sum 54% is estimated to come from the state budget.⁵⁸ The number of employees is 165 and it operates two specially equipped research vessels. The MRI is responsible for the management of living marine resources in Icelandic waters. The minister is constitutionally responsible to the Althing (Parliament). As fisheries are so important for the economy of Iceland the Althing has a permanent committee on matters related to fisheries and fish processing⁵⁹. This committee discusses all proposed legislation on these matters and can decide to discuss any aspect of the industry's behaviour or any concern that some people may have. It can require that information on the relevant matters be supplied by the MRI or the public institutions serving the fishing industry.

7.4 The consultation processes

The Coastal States meet regularly to agree on the quotas for mackerel. The results of these meetings are reported in the media.

There is legislation in Iceland ("Upplýsingalög" or Freedom of Information Act) which requires ministers and public institutions to reveal existing information. Members of the Althing can obtain detailed information from the Ministry and public institutions by putting questions to the appropriate minister in the Althing.

Before making decisions, the minister consults extensively with stakeholder organisations including the Federation of Icelandic Fishing Vessel Owners (Landssamband íslenskra útvegsmanna, LÍÚ), The

⁵⁸ Additional 126.3 million ISK (0.92 m EUR) is allocated for international co-operation and research within international institutions like North Atlantic Marine Mammal Commission (NAMMCO), International Council for the Exploration of the Sea (ICES), Northwest Atlantic Fisheries Organization (NAFO), North-East Atlantic Fisheries Commission (NEAFC), International Commission for the Conservation of the Atlantic Tunas (ICCAT) and International Whaling Commission (IWC).

⁵⁹ In 2009 its remit was extended to agriculture and its name was changed to the Althing's Fisheries and Agriculture Committee.

Federation of Owners of Small Fishing Vessels (Landssamband smábátæigenda), the Federation of Captains and Mates (Farmanna- og fiskimannasamband Íslands, FFSÍ), the Icelandic Union of Marine Engineers and Metal Technicians (Félag vélstjóra og málmþæknimanna, VM) and the Federation of Seamen (Sjómannasamband Íslands) as well as organisations of those working in fish processing (in Iceland both fishing and fish processing are frequently carried out within the same company). All laws and regulations are published in real time as they come into effect on the Ministry's website. The Directorate of Fisheries (DoF) has many important roles in fisheries management in Iceland. The DoF licenses fishing vessels, fish processing plants and authorizes harbour scales which are used for weighing all landings of fish. It also monitors the operators of those facilities to ensure that they follow relevant regulations. The DoF gathers information on both catches (including logbook information) from the vessels at sea and information on catches from the authorized harbour scales. This information is sent electronically to the DoF at least once every day and published on the Directorate's website. The website makes available information on the quota positions of every vessel in Iceland, such as its quota allocations for each species and how much it has caught.⁶⁰ All trade in quotas and quota shares has to be reported to the DoF.

7.5 Monitoring and management

Each Coastal State monitors and polices its EEZ but they cooperate in monitoring and policing the fishing in the area outside their EEZs, both the fishing of vessels from the Coastal States and fishing from other vessels (Russian). NEAFC offers a framework for cooperation between the Coastal States in the monitoring and policing this fishing. It also provides framework for the coastal states to negotiate an agreement on the sharing of the TAC for mackerel.

The DoF monitors fish processing as well as fishing. All sellers of fish must report the name of the purchaser to whom they sold fish as well as the quantity and price of fish they sold to them. Similarly all purchasers of fish must report the name of their supplier, the quantity they purchased and the price paid. The DoF regularly checks if the output of fish products from a fish processing unit is consistent with the reported input of raw fish. Monitoring of the quota system in Iceland is strengthened by the traceability measures required for exports in a country where over 90% of all fish caught is eventually exported in some form

7.6 Compliance and enforcement

The level of compliance in the NE Atlantic mackerel fishery is considered very high. The Coastal States have quite effective systems for monitoring and policing fisheries and they cooperate to monitor landings when a vessel from one country lands its catch in a harbour in another country.

There is no illegal, unreported and unregulated (IUU) fishing in Icelandic waters. All landing of fish from vessels that engage in IUU fishing and the servicing of such vessels is forbidden in Iceland.

In summary, the institutions, their roles and interactions are clearly defined within the three core areas of resource management: (1) The development of the knowledge base, (2) preparation and implementation of regulations, and (3) the enforcing of the regulations. The interactions between the MII, the DoF, the Coast Guard and the MRI function well. The role of each institution is well defined, with the Ministry taking political responsibility for decisions, and the Directorate performing the technical work at the behest of the Ministry. Decision-making procedures are well established and allow for expeditious and effective interactions. There is an established, tested and proven annual decision-making process, which ultimately results in the setting of regulations for the

⁶⁰ See DoF's website www.fiskistofa.is. Some of the information on this website is also available in English.

following year. The compliance with regulations is subject to a rigorous and efficient enforcement system.

Subsidies were abolished in the Icelandic fishing industry in the early 1990s and since 2004 the industry has been paying an annual fee based on estimated profitability of the sector and on the weighted volume of landings.⁶¹ The fishing industry is expected to pay 5.53 b.ISK (46.4 m.EUR) in fees during 2017.⁶² This amount is equal to 3.7% of the value of all landings in 2015. The figure for 2016 was 5.7%.

The Directorate of Fisheries (DoF) is entrusted with the day-to-day administration of fisheries. The DoF is responsible for implementing legislation on fisheries management and it collects and publishes numerical data and other information on fisheries. The DoF issues fishing permits to vessels and licenses scales for weighing landings. It keeps records of quota shares and quotas, including all transfers of quotas and quota shares between vessels. It also checks that vessels do not fish in excess of their quotas.

The DoF is responsible for ensuring that fishers follow regulations on gears, fishing locations and discarding. It also ensures that vessels, provided they are in the quota system, have quotas for the probable catch before leaving harbour. The DoF gets some assistance in monitoring of gear, discarding and fishing locations from the Coast Guard, which also monitors fishing activities of foreign vessels near the Icelandic fisheries zone.

The DoF collects data on fishing and fish catches landed by the Icelandic fleet and monitors compliance with rules on the weighting and recording of catches. Other duties include imposing penalties for illegal catches.

The DoF provides supervision on board fishing vessels and in ports of landing, which involves inspecting the composition of catches, fishing equipment and handling methods. The DoF also issues licenses to processing plants and supervises their production. Processors have to meet specific requirements concerning hygiene, equipment and quality control. Approved inspection bodies are responsible for inspection of hygiene, facilities and in-plant monitoring of production, both in processing establishments on land and on board vessels. Accreditation of inspection bodies is required.

The DoF has the right to demand that inspectors are allowed on board fishing vessels as observers. These observers can demand that the vessel goes to a certain fishing location and that certain gear should be used. Requiring repetition of the fishing procedures of the last fishing trip enables inspectors to compare the catches from the two trips. Comparing the catches of different vessels fishing in the same location and using the same gear is also used for monitoring.

A vessel owner which is found to have acted in breach of regulations gets a warning and a fine. Repeated offenses lead to heavy fines, revocation of the vessel's license to fish and possibly to prison sentences. In 2015 the DoF meted out fines to the sum of 15.8 million ISK (116,000 EUR).⁶³

⁶¹ The weights are average landing prices during a recent 12-month period before the start of the fishing year.

⁶² See the state budget for 2017 available at <https://www.fjarmalaraduneyti.is/verkefni/fjarlog/>.

⁶³ Directorate of Fisheries' Annual Report 2015
(http://www.fiskistofa.is/media/arsskyrslur/Fiskistofa_arsskyrsla_2015.pdf) p. 22.

The DoF co-operates with a number of other institutions, including the Icelandic Coast Guard and the Harbour Authorities regarding daily recording of landed catches throughout the country. The Icelandic Coast Guard monitors fishing activities in Icelandic waters, including surveillance of areas closed for fishing and inspection of mesh sizes and other gear related practices.

The DoF and the Coast Guard survey and police the fishing of foreign fishing vessels in the Icelandic EEZ and in those cases where landings of catches take place abroad the DoF cooperates with counterparties in the relevant countries for proper weighing of the catch.

All discarding is explicitly banned by Icelandic laws. However, some discarding is known to take place. Discarding in Icelandic fisheries has been estimated on several occasions through co-operative studies by the Marine Research Institute and the DF. Data collection is mainly related to cod, haddock, saithe (*Pollachius virens*) and golden redfish (*Sebastes marinus*) in demersal trawl fisheries, and plaice (*Pleuronectes platessa*) in the Danish seine fishery. Sampling for other species, such as wolffish, was not sufficient to warrant a satisfactory estimation of discarding. For each species, the discard was estimated by comparing data on length distributions of fish measured at sea and landed catch from the same fishing ground.⁶⁴ In the most recent report on discarding, published in September 2016⁶⁵, it is noted that discarding of cod has been increasing. The discarding in bottom trawl fishing for cod is estimated to 2.4% of the total catch in 2015, while discarding in long-line fishing for cod is estimated 1.8%.

The monitoring and policing of Icelandic fishing is enhanced and strengthened by the traceability measures required for exports, since over 90% of all catches and practically 100% of mackerel catches end up being exported in some form.

There have been several external reviews of the methods that the Marine Research Institute uses in its stock assessments and of the recommendations and advice it gives. The ICES reviews most of the advice annually, including the advice on saithe. There have also been special reviews made by internationally respected experts. There has not been comparable external review of the work of the Directorate of Fisheries or of the Ministry of Industries and Innovation. However, these institutions are subject to regular reviews by the Althingi's committees, especially the permanent committee on fisheries issues. Like other public bodies, these institutions are subjected to scrutiny by The Icelandic National Audit Office (Ríkisendurskoðun). The performance of the institutions involved in fisheries management is scrutinized and intensively debated in Iceland, especially in the many fishing communities.

The MFRI/MRI staff publishes its research in peer-reviewed scientific journals. The system of fisheries management is under regular review by the Althingi as well as by local authorities, the

In 2015 14 offences were sent to the police. Of 1370 warnings of withdrawals of fishing licences because of fishing in excess of quotas only 8 lead to actual withdrawals as the offenders were able to acquire the quotas that were required within the given time frame. In one case weighting licence was withdrawn. 77 fishing licences were withdrawn because of violations of logbook regulations and 15 licences were withdrawn because the owners didn't pay the resource (catch) tax. In 2015 42 fishing licences were withdrawn because the owners hadn't paid a fine for some offences.

⁶⁴ Pálsson *et al.* (2012), Mælingar á brottkasti þorsks og ýsu 2001-2010, Hafrannsóknir No. 160 and Pálsson *et al.* (2013), Mælingar á brottkasti þorsks og ýsu 2011, Hafrannsóknir no. 167, both published by the Marine Research Institute. Both are accessible at <http://www.hafro.is/Bokasafn/Timarit/fjolr.htm>.

⁶⁵ Sigurdsson *et al.* (2016), Mælingar á brottkasti þorsks og ýsu 2014-2015, Marine and Freshwater Research, September 2016, <http://www.hafro.is/~siborg/utgafa/hafogvatn2016-003.pdf>.

fisheries sector and the general public. The management of the Icelandic fisheries and the level of fees paid for fishing rights (quotas) are presently important issues in Icelandic politics. The external review processes have been beneficial to the work of the MRI. It seems probable that other parts of the fisheries management system in Iceland would also benefit from more external reviews.

7.7 Long-term objectives

The long term objectives of the Coastal States is codified in their legislation and in the international treaties on fisheries management that they have signed. These include the precautionary approach and taking due account of the impact of the fishery on other stocks and the environment. The management plan for mackerel, which is devised by ICES and agreed by the Coastal States, is precautionary. The Coastal States also plan to continue their research on the mackerel stock and cooperate in that.

MRI's long term research plan for 2012-2016⁶⁶ expired last year. The plan emphasized the importance of biological, ecological and environmental research. The need to evaluate long term exploitation of important species is recognised as well as the formulation of harvest rules for as many species as possible. The plan stresses research on the effects of neighbouring waters (Greenland and Faroese) on the fish stocks in Iceland and on the stock structure. It is to be expected that the new institution, MFRI, will produce a new long term research plan. The MFRI continues the work of the MRI on harvest control rules.

⁶⁶ Rannsókná- og starfsáætlun árin 2012-2016, <http://www.hafro.is/images/langtima12-16.pdf>.

8 Evaluation Procedure

8.1 Harmonised Fishery Assessment

Certification Assessment Bodies (CABs) assessing fisheries that have areas of overlap are required to ensure consistency of outcomes so as not to undermine the integrity of MSC fishery assessments. The FCR requirements (V2.0) section Annex PB provides guidance for harmonisation where a fishery in assessment overlaps with an already certified fishery.

The ISF Iceland Mackerel fishery overlaps with several other NEA mackerel fisheries that are already MSC Fisheries certified. The Mackerel fisheries certified are: MINSA North East Atlantic Mackerel Fishery V1.3, MINSA North East Atlantic Mackerel Fishery (Norway) V1.3, Faroese Pelagic Organisation North East Atlantic Mackerel (DNV-GL) V1.3. These fisheries overlap in regards to Principle 1 and Principle 3, because their activities take place in the same stock.

Mackerel stock is a straddling species and therefore the species is migration over the years, due to this fact there are international agreements and regulations under P3 that overlap with the different Mackerel fisheries. At the same time, there are also several other fisheries such as ISF Capelin fishery, ISF Iceland Cod, ISF Iceland Golden Redfish, ISF Iceland Haddock and ISF Iceland Saithe and ling which overlap in regards to Principle 2.

The history of the harmonisation process go back to 2012 when the fishery was suspended. Previous certifications of the NE Atlantic mackerel fisheries were all subject to a harmonised condition regarding 'Coastal States Agreement' to control total catches of mackerel. A harmonised condition was raised because of rising concern that the fishing nations exploiting this particular stock were unable to reach agreement on the apportioning of TAC at a time when the stock was perceived to be declining in SSB. This new condition was raised for all NEA fisheries. All fisheries were suspended until this condition was closed, up to a time limit of 30 April 2014. As suspended certificates can be re-instated on completion of the harmonised condition with no need for a new full reassessment.

The harmonised conditions are still set up and for that reason ISF Mackerel has focused on Harmonisation meeting to get the same conditions and similar milestone than previous NEA Mackerel Fisheries already certified.

Fisheries which directly or partially overlap with the units of assessment are presented in Table 17.

In order to ensure consistency of outcomes in assessments of overlapping fisheries, the following activities were undertaken:

- Sharing of fishery information
- Harmonisation of conclusions, scoring and conditions
- Contact with the other CABs to make sure they are aware of the certification and the scores are harmonised.

Therefore, in order to harmonise the fishery the Assessment Team has taken into account reports of previous completed assessments, listed above. The lead assessor has contacted the lead assessors of the other fisheries, before the site visit and the CDR, in terms of being aware of the intention of ISF Iceland Mackerel Fishery certification and the stage in which the fishery is and to harmonise the scoring tables with the other fisheries.

The final outcome of ISF Iceland Mackerel is resulted in a proposal to set up the same conditions that the other fisheries have raised in P1 and P3.

On the other hand, in terms of harmonisation process regarding P2 the Assessment Team has set up two conditions in bottom trawl UoA.

The table below shows the different scoring in each fishery.

Table 17. Harmonisation process with overlapping fisheries

Harmonisation process	MINSA mackerel Fishery (Acoura)/Europe V1.3	MINSA mackerel Fishery (Acoura)/Norway V1.3	Faroese Pelagic Organisation North East Atlantic Mackerel (DNV-GL) V1.3	ISF Iceland Mackerel (SAI Global) V2.0-Pelagic UoAs	ISF Iceland Mackerel (SAI Global) V2.0-UoAs Bottom Trawl	ISF Iceland Haddock Fishery (Tun Ehf. V1.3) Bottom trawl UoA	ISF Iceland Saithe and ling Fishery (Tun Ehf V1.3) Bottom trawl UoA	ISF Iceland Cod Fishery (Tun Ehf. V1.3)	ISF Iceland Capelin Fishery (SAI Global V2.0)	Reason for any difference between scores	SAI Global Rationale to difference score in some issue and /or Pi
Certification Status	Full-Asses. April 2016//Surveillance 1, May 19th 2017	Full-Asses. April 2016//Surveillance 1, May 19th 2017	PCR on June 16th, 2016	CDR on May 4th, 2017	CDR on May 4th, 2017	Re-assessment, April 2017	Surveillance 2, Nov 2016	Re-assessment, April 2017	PCR on April 18th 2017		
1.1.1	80	80	100	100	100	NA	NA	NA	NA		At the moment of ISF Mackerel assessment the stock can meet 100, is still harmonised with DNV-GL CAB and last ICES report has shown that SSB is above MSY Btrigger.
1.1.2	80	80	80	NA	NA	NA	NA	NA	NA	NA in the ISF Mackerel , there isn't this table-reference points in FCR V2.0	

1.2.1	90	85	95	90	90	NA	NA	NA	NA	Harmonised with the other NEA Mackerel fisheries. However, different rationales have been met because the version 2.0 has different scoring issues than v1.3 therefore the fisheries cannot meet identical score but common issues are harmonised.	
1.2.2	Overall= 65 a-60 b-80 c-60	Overall= 65 a-60 b-80 c-60	Overall= 65 a-60 b-80 c-60	Overall= 65 a-60 b-80 c-60	Overall= 65 a-60 b-80 c-60	NA	NA	NA	NA	DNV-GL has explained in the report that they agreed in 75 in this PI. But any CABs has evaluated 75. Different intermediate score are given with the same scoring tables, it should be checked it.	After several conversation during the harmonization process and MSC gave an advice on how interpret the SI c the three CABs have harmonised and now the NEA Mackerel fisheries score 65. SI a and SI c have reached SG 60 and the condition has been set up to comply at SG 80 in both SI in four year time.
2.1.1	95	95	90	100	100	NA	NA	NA	NA	No harmonisation needed in default tree-Cumulative impacts has been taken into account in the scoring of Pis	

2.2.1	100	100	100	100	100	NA	NA	NA	NA	No harmonisation needed in default tree-Cumulative impacts has been taken into account in the scoring of Pis	
2.3.1	100	100	85	100	100	NA	NA	NA	100	Cumulative impacts has been taken into account in the scoring of Pis but identical score is not needed in that case.	
2.4.1	100	80	80	100	70	75	75	70	100	Harmonised with fisheries using bottom trawl in the targeted fishery	
2.4.2	80	80	80	80	75	75	75	75	90	Harmonised with fisheries using bottom trawl in targeted fishery	Capelin fishery; No bottom otter trawl used in this fishery, therefore just pelagic gear types are used and they do not have conditions in habitats

3.1.1	Overall= 65 a-60 b-60 c-80	Overall= 65 a-60 b-60 c-80	Overall = 65 a-60 b- 60 c-80	Overall= 65 a-60 b- 60 c-80	Overall= 65 a-60 b- 60 c-80	NA	NA	NA	NA	During the Harmonisation meeting carried out by the CABs involved in the previous Mackerel assessment, It was agreed that PI 3.1.1 could be scored consistently across all stocks, as even though the P1 considerations are different, the key issues are very similar and the higher-level policy framework (as scored in P3.1.) is 'overlapping' across all stocks. Therefore, all CABs agreed that SI A and B does not meet 80 thereby triggering a condition. The same condition will apply to all Mackerel fisheries	ISF Mackerel fisheries, has evaluated a and b with the same scoring as MINSA and Faroes. Even though, the management system in Iceland is comprehensive and encompasses all fishing in Icelandic waters and those participating in it. Management is considered to be consistent with the cultural context, scale and intensity of the fishery. The access rights of different fishers are clearly codified in the legislation. Therefore, the management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2 and SG 80 is met. SG 100 cannot be met and it's explained din the rationale. So, after the harmonisation
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											process, ISF Mackerel has reviewed the rationale in issue c and the three fisheries have reached the same score. The condition set up is in the line with the others fisheries and similar milestones are stated.
3.1.3	90	90	100	100	100	NA	NA	NA	NA		National regulations in Icelandic laws allow to reach SG 1t 100 for that reason the fishery has different scoring than in MINSA fisheries.
3.2.1	90	90	100	100	100	NA	NA	NA	NA	ISF fishery harmonised with Faroes Fisheries. Different score was met by MINSA due to partial score regarding P2 but in recent years the fishery has raised well define objectives regarding P1 and P2.	

8.2 Previous assessments

The fishery has not been previously assessed against MSC Principles and Criteria. There are other Mackerel fisheries certified and the information is given the section 8.1. Harmonisation process above.

8.3 Assessment Methodologies

The MSC Principle and Criteria for Sustainable Fishing Standard sets out the requirements for a certified fishery. The Certification Methodology adopted by the MSC involves the interpretation of these Principles and Criteria into specific Performance Indicators against which the performances of the fishery can be measured according to pre-specified guideposts. A fishery is assessed against three Principles. The default assessment tree developed by the MSC includes 28 Performance Indicators. Principle 1 addresses the need to maintain the target stock at a sustainable level; Principle 2 addresses the need to maintain the ecosystem in which the target stock belongs to; and Principle 3 addresses the need for an effective fishery management system to fulfil Principles 1 and 2 and ensure compliance with national and international regulations.

PRINCIPLE 1: Sustainable fish stock

A fishery must be conducted in a manner that does not lead to overfishing or depletion of the exploited populations, and for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.

The intent of this principle is to ensure that the productive capacities of resources are maintained at high levels of abundance designed to retain their productivity, provide margins of safety for error and uncertainty, and restore and retain their capacities for yields over the long term.

PRINCIPLE 2: Minimizing environment impact

Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

The intent of this principle is to encourage the management of fisheries from an ecosystem perspective under a system designed to assess and restrain the impacts of the fishery on the ecosystem.

PRINCIPLE 3: Effective management

The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

The intent of this principle is to ensure that there is an institutional and operational framework for implementing Principle 1 and 2, appropriate to the size and scale of the fishery.

Regarding the Operational Criteria that affects direct and indirectly the three principles, the fishing operations shall:

1. make use of fishing gear and practices designed to avoid the capture of non-target species (and non-target size, age, and/or sex of the target species); minimize mortality of this catch where it cannot be avoided, and reduce discards of what cannot be released alive.
2. implement appropriate fishing methods designed to minimize adverse impacts on habitat, especially in critical and sensitive zones such as spawning and nursery areas.
3. not use destructive fishing practices such as fishing with poisons or explosives.
4. minimize operational waste such as lost fishing gear, oil spills, on-board spoilage of catch, etc.
5. be conducted in compliance with the fishery management system and all legal and administrative requirements.
6. Assist and co-operate with management authorities in the collection of catch, discard, and other information of importance to effective management of the resources and the fishery

8.4 Evaluation Processes and Techniques

8.4.1 Site Visits

Initial consultation meetings were held in Reykjavik, Iceland, in February 2017. The objectives of the consultation meetings were to collect information and explain the fishery. The consultation meetings were designed to be inclusive of all organizations and representatives of the fishery. However, the consultation plan was designed to strategically capture sufficient information to ensure understanding and confidence with respect to full assessment scoring.

The on-site consultation also served other important functions. These included:

- Responding to questions and comments raised by participants in the fishery at this initial stage in the assessment.
- The client group provided information, documents, and a list of stakeholders as required by SAI Global. This served to allow the assessment team to collect general information on the fisheries, identify information gaps and identify key stakeholders for the information gathering exercise.
- Following the collation of general information on the fishery, a number of meetings with key stakeholders who expressed an interest to meet were scheduled by the team to fill in information gaps and to explore and discuss areas of concern.

Meetings were held in Reykjavik are recorded in the Table 18 below with the key areas discussed during each meeting.

Table 18. Agenda followed during the ISF Iceland Mackerel Fishery during the site visit in February 2017

Organization	Attendees	Location	Date	Key areas
Client group: ISF	Kristinn Hjálmarsson Erla Kristinsdóttir	Reykjavik, Iceland	February 20 th 2017	Catches, fleet, ISF client group characteristics, attained species, traceability, CoC
NASBO	Axel Helgason	Reykjavik, Iceland	February 20 th 2017	TAC and fishing grounds overlapping with small fleet
Ministry of Industries and Innovation	Jóhann Guðmundsson	Reykjavik, Iceland	February 20 th 2017	Enforcement, TAC, Governance and policy
The Coast Guard	Bjorgolfur Ingason	Reykjavik, Iceland	February 21 st 2017	Monitoring and control-Surveillance programme

Marine and Freshwater Research Institute (MFRI)	Anna Olafsdottir	Reykjavik, Iceland	February 21 st 2017	Stock Assessment, TAC, models, estimation of predation, changes in spatial distribution
Icelandic Whale Association (IWA) and Husavik Centre	María Björk Gunnardóttir Marianne Rasmussen Charla Barsna Megan Whittaker Sigurlay Sigurdardóttir	Reykjavik, Iceland	February 22 nd 2017	ETP species, interactions with whales and seabirds, possible predation on Mackerel, distribution pattern of Mackerel stock
Vessels Visit	Kristinn Hjálmarsson Erla Kristinsdóttir Helgi S. Vald.	Reykjavik, Iceland	February 22 nd 2017	Fishing operations, interactions with whales, retained species
Directorate of Fisheries	Thorsteinn Hilmarsson	Reykjavik, Iceland	February 23 th 2017	Surveillance programme, catches report, obligation of landing, ITQs and monitoring

8.4.2 Consultations

Summary of the Stakeholder consultation involved in the site visit (February)					
Stakeholder / Key points during the meetings	P1	P2	P3	General part	Off site/ On Site
ISF (Iceland Sustainable Fisheries)- Client	<p>Vessels included in the certification can land in other countries by previous authorization from DoF. All the catches, even landed in other countries are against the TAC.</p> <p>In the next meeting of coastal state the TAC must be decreased at 6% in each country contracting.</p>	<p>Mackerel has changed the behaviour of other fisheries because preys on sandeels same like capelin and therefore is a new competitor for other species, just fishes.</p> <p>Slippage in seine is not happening, everything is caught- 8% human consumption the rest of the fish for different products. The enforcement is well defined and the client believes no illegal activities take place in the fishery. The client believes the main species retained, non target species is Herring (to check with DoF data). The whales can be a problem for the fishery, they prefer lose the catch because they are not allowed to whaling and tyre damage can be very expensive,. Post mortality post catch is not possible because slippage is not permitted. All the catch must be landed. The catches of non target species can be evaluated because the client will share with the team the data from the DoF from 2013-2016. The e-logbook makes possible to report all the catches. E-logbook for bottom trawl and gillnets is in developing to get better data. The industry is growing in Norway and Mackerel is used to feed salmon, one of the market options.</p>	VMS mandatory for all the vessels under certification	<p>Type of gears to include in the certification and % of catches coming from each one.</p> <p>Eligible fishers- no sharing with vessels from other countries.</p> <p>130 vessels included, there are small vessels (<15 meters) not included in the certification.</p> <p>CoC is starting at the first point of landing, all the ports in Icelandic are included. Some vessels are whole frozen, most of them processing at factory, if processing at sea due to the discard ban, they are forced to bring all the part of the fishes, bones, heads, etc.</p> <p>Traceability system scheme detailed</p>	On site visit
The Ministry of Fisheries and Agriculture	Iceland is part of the Coastal agreement since 2010, but officially did not participate in agreements. Norway blocked the access due to the allocation. Iceland wants to be part in the whole process and in setting the	<p>The management plan, or the general strategy is good for Iceland government.</p> <p>The only disagreement is the exceeded TAC. Faroes is flexible enough, EU mediation on that but Norway wants the higher % of allocation.</p>	<p>The minister concluded that there is no disagreement in the management plan (overall) but not totally agree on 2016/2017 advice.</p> <p>About Russia they think that NEAFC did not advise on that since at least 10 years ago, so no</p>	<p>Claimed: Quota or allocation is a kind of payment for feeding of mackerel in Icelandic waters. During the summer migration, they feed around the 80 % of feeding</p>	On site visit

Summary of the Stakeholder consultation involved in the site visit (February)					
Stakeholder / Key points during the meetings	P1	P2	P3	General part	Off site/ On Site
	long term management. Same like blue whiting and herring. Regarding the management plan of the three parties, Iceland is not allowed to take into account of this plan. Iceland wants high level of assessing. Highly migrations involves needs of high level of scientific advice.	The minister does to solve this issue in Oslo during this year 2017.	new data about that. There is no agreement on quotas, there is advice from MFRI but all of them have responsibilities on that (all the countries. Norway has increased its quota on 10 % of allocation. To get the condition closed on 3.1.1 the minister believes that MSC certification makes pressure in all the parties because is important for the market and can be a way to get an agreement. The minister thinks that the catch from NASBO is not too high, it seems that even NASBO could be a part of the process (decision making) the small vessels have not a "big role" in the fishery.	capacity. For that reason Iceland wants around the 50.6% of the allocation of the TAC. There are no minutes of the meetings carried out by the Coastal States countries.	
Directorate of Fisheries	Every catch is treated as target species, they don't make difference between target or non-target, all the species are evaluated with the same techniques. They must have quota to land the catch of each species. However, mackerel is handled a little bit differently because technically is operated as other fisheries because it wasn't a common fishery in Iceland. Since 2010 became a new target species with a fishery defined. Carry over quota is permitted for eg. 20% in 2016.	There is a specific closed area for mackerel, normally the areas are outside where trawling is not permitted and there are areas closed to the fisheries in general due to vulnerability of the region. The mackerel fishery is a pelagic fishery but due to the migration of mackerel to the south makes this fishery as mixed one and normally the catches are not completely clean, are mixed with herring and blue whiting and in some cases with cod. Mixed fisheries are monitored by sampling- 30 kilos sorted by species to determine the % of catch in mixed fisheries. Bigger species as could be cod are segregated before landing. Even in mixed fisheries all the catch must be landed and the vessels need quota. Modifications in gears are done to make the fishery clearer and clearer.	DoF makes an effort to set up a well defined surveillance program, in 2016, 677 landings of pelagic fisheries were registered. There is a surveillance map where the fishing areas can be identified. There is a formal warning when illegal activities happen, enforcement is applied in these cases. Vessels need license to fish. In mackerel fishery the incidents reported was underestimation in the catches reported or the data were sent to late. No fishing activities in closed areas or VMEs. Even these activities are controlled by Coast guard in the surveillance program, aimed at safety and enforcement. Regarding the CS agreement, the DoF has people working closely with NEAFC as well as with other countries where Icelandic vessels	Processing at sea are permitted but all the fish must be landed. If they process part of the fish on board, the rest must be landed and it must be corrected with the estimation of the total catch landed-discard ban MFRI provides with maps of fishing activities, closed areas, MPAs, etc.	On site visit

Summary of the Stakeholder consultation involved in the site visit (February)					
Stakeholder / Key points during the meetings	P1	P2	P3	General part	Off site/ On Site
		<p>No concerns about ETPs species, the fishery does not use bait, therefore the interactions with birds are not common. No mammals neither.</p> <p>If the catch outside the quota system an authorization to land the catch is needed (other fisheries regulated by MFRI) When MFRI marks that an species has been taken in %, MFRI makes a request to DoF to evaluate the "new" species.</p>	<p>have activities. INCS part of the monitoring and surveillance are done between different countries, Norway, EU, Faroes, Iceland and Russia. When any problem is detected they organize a working group to solve the misunderstanding. Iceland was included in that in 2009 (MSC) It's a technical group.</p>		
The Icelandic Coast Guard	<p>NEAFC- to control the TACs- All the catches land with flag of other countries (even Iceland) must be noted and reported to NEAFC. The Coast Guard believes that there is no conflict in its work due to the CSS agreement. The Coast Guard carries out the same work that for Blue whiting.</p>	<p>Closed areas are defined by the Ministry of Fisheries. They are aware of the closed areas and they control and monitor the access in the surveillance program. Any change in the areas is notified to the vessels by the DoF. The shorter time to close an area is 2 weeks. At the moment is not automatic, and there is no a warning of illegal activities but they are working on that, and it should be set up in short time. Regarding unreported catches or slippage the Coast Guard believes that there is no this kind of activities in Icelandic waters. In 2016 there was just a discard incident in the fishery and the vessel was identified and the information was reported to DoF who is in charge to prosecute it. The direct inspections at port are realized by the people of the DoF. Iceland is easy to control, the decision to patrol one vessel or another is made by the master of the Coast guard and sometimes is based on doubts of the fishing activities or any concern from the DoF.</p>	<p>The surveillance program is for safety and also for enforcement. For closing areas there is no a system of warning but should be developed. The small vessels are controlled as well, with the same methodology. All the vessels with Icelandic flag must follow the procedure. In 2016 there were 260 onboard inspections, the % in large vessels was higher. Faster vessels were not available for the last summer. The Coast Guard representative believes that the system of monitoring and surveillance program in general has issues that could be better and better, but illegal activities are so far very difficult to hide, the control is hard, transparent and well-established. The system is the same for all the fisheries in Icelandic waters,</p>	<p>There are a well defined surveillance program, with 3 helicopters, airplane, control centre and inspections on board. The Surveillance Program is developed with the DoF. Sea areas are patrolled mandatory, all the vessels need the VMS and have to report the data of fishing activities. Must to report, ID, position, every 15 min or 1 h depends on length. The Coast Guard can do inspection by helicopter patrol, navigation and discarding. Small vessels have not logbook, and then the gear is reported at the point of landing and is also controlled and monitored by Coast Guard. Bigger vessel with logbook, report automatically and the process is easier. They send all the information</p>	On site visit

Summary of the Stakeholder consultation involved in the site visit (February)					
Stakeholder / Key points during the meetings	P1	P2	P3	General part	Off site/ On Site
			nothing different for Mackerel fishery. The surveillance program is proactive and is improving every year.	detailed in the elogbook. There should be another vessel for controlling and monitoring in the surveillance program.	
AWI					On site visit
ONGs and Husavik centre	No data about predation of mammals or seabirds on Mackerel, the main observations they have, is that mackerel is coming early every summer, they think Mackerel prey on Capelin and Sandeels and could be a rival for mammals or seabirds. Then, could be an interactions with puffin populations. Mackerel is migrating into shore waters.	The species they identified more in the area, are minke whales and humpback whales, in the small boats the observations are more frequent and in the large boats the entanglement. The observations suggest them that the populations or the sightings of minke whales are less than recent years and however, the sightings of humpback are increasing. Charsna from Husavik University is studying the effect of Capelin purse seine on whales. No data from Mackerel are available. Purse seine in Mackerel fishery is used recently. However, she is trying to get data from all the pelagic fisheries in Icelandic waters.	The obligation to report interactions is just if the ETP died, otherwise, there is no quantitative data from the DoF. When the whale is able to release the incident is not reported (E.g. Netty). Although the vessels are not allowed to kill and keep whales on board. Some NGOs make notes but they are not published or even documented in formal report.	They propose that we send them a template to gather information, because they do not have a formal report . At the moment of the CDR the table is not send back to us. No more information from the NGO	On site visit
MFRI	Every 3 years they carried out an egg surveys, the last report is not ready yet. Probably by August 2017. WKEA has changed the report. TRPs are not calculated yet. Last estimations were two years ago. The new model is working better? many questions to answer, but the recruitment is good in recent years, but it cannot be predicted if it will be good for the next years, they are no clear patterns in the shifts, the stocks is jumping everywhere. The stock	Ecosystems uncertainties are taken into account with the INSS surveys. MFRI does not work on mammals and seabirds and they do not have any concerns or they are not aware, at least. This is an issue to ask to the University researcher or NGOs. During the meeting Axel noted that when mackerel is caught close to the shore the stomach is empty. Anna noted that even she is working on pelagic fisheries she is not aware of habitat concerns but it should be checked for bottom trawl gear type. The sonda for pelagic is 40-50 meters,			On site visit

Summary of the Stakeholder consultation involved in the site visit (February)					
Stakeholder / Key points during the meetings	P1	P2	P3	General part	Off site/ On Site
	is changing so quickly so it's difficult to determinate a long plan.	no concerns in there. Herring , mackerel and capelin overlap in some areas and could be competitors each other.			
NASBO	Axel explains that there are 120 small boats targeting mackerel, 60% of the quota in 2014. In 2015 around 40 vessels, due to less quota to share and no agreement with Russian market. The catches can be up to 310 thousand tones in 6 weeks. The allocated of the quota is well defined, and when vessels do not want to fish the allocation of the total catch is split into te vessels that are operating. It was the situation in 2014. They can lease quota for others vessels targeting mackerel (small vessels). NASBO would like to be split of big fishery.	No bait used, it's a plastic, no needed to evaluate that. In the last ten years they don't rememeber interactions with birds, just one and could be relieved.	They are not part of the decission making process but they tried to get involved. There are no formal meetings in the process, it has been suggested to ask why NASBO is not included in the process and to receive a formal justification of that.	The depth of operation is around 19 meters. No sonar used, fishermen skills used to fish. Hook size used is 7, with 6 lines working at the same time. Around 300 hooks in each operation. Around 600 meters of line of the shore. The season is July to September, normally the vessels have elogbook or manually and use chilled ice to storage the catch.	On site visit
Helgi Vessel of the client group	The vessels provide data to MFRI, in each trip they sample 15 boxes of fishes. These data are used of MFRI to evaluated the stock among others. The % of catch is carried out by pelagic trawlers. In the bottom trawl the catches are as bycatch, is not target species because mackerel is aware to avoid the gear. The captain has explained that he does not appreciate changes in the distribution of mackerel but there is an increase in the abundance of the species arounda Iceland. Therefore, in some way the stock is changing	Interactions with ETPs are unusual. They've ever caught whales or birds. The captain remembers one tuna caught. If they catches sharks or halibut thet have the same regulation as other catches, do they have to reported the catch in the elogbook and then, apply for a permission to land this kind of species. Regarding habitat, the captain confirms that, pelagic gears, in the manner to operate they dont touch the bottom surface, it would be very expensive for the fleet and does not happen. They have enough skills to avoid these incidents. No slippage happens, when they have the capacity full, more than 500 th.tones they might	In each trip they are allowed to use several gears in different hauls but always must be identified in the elogbook. But they can bring different gears on board. The landing is mixed, the segregation of the species is realized in the factories. CoC controlled.	The fleet is preparing the boats to use purse seine, at the moment the catches come from pelagic trawl. They want to use purse seine during the season between august /september that is the time when mackerel has the perfect size beucase it was feeding there. Sometimes, they use a kind of lights to fish mackerel.	On site visit

Summary of the Stakeholder consultation involved in the site visit (February)					
Stakeholder / Key points during the meetings	P1	P2	P3	General part	Off site/ On Site
	its patterns of distribution. The mesh is around 42 IT (check the size in mm) but it will be bigger for that fishery. Targeting species at the moment with pelagic trawl and hand-line, for 2017 will be the first year to use purse seine.	call another vessel to take the catch.			
NEAFC	NEAFC is in charge of the long term management and conservation of the stock.	The data of mackerel catches are posted in the website and further the main issues of the meetings. Bottom trawl is forbidden in some areas, and a lot of information regarding high seas is reported in the website.	NEAFC has responsibility in the high seas areas. No IUU fishing activities from vessels with Icelandic flag has been detected. The areas where NEAFC realized inspections are not Icelandic EEZ, in this area is the Coast Guard who is in charge of the inspections. NEAFC monitors the high areas and all the countries with fisheries in the areas must be included in the scheme of control and enforcement established by NEAFC. The entry and exit in the areas must be reported to NEAFC. They do not have part of internal discussion, so they are not part in the Coastal State agreement.	Check the information of NEAFC roles in the website. Check regarding P3 panel report 33rd annual report. No always are disagreement, there are two working groups to control the allocation and the stock status but is not simply explain how is working. The meetings regarding the CS, are carried out in NEAFC offices but each country is who decides people/representative who will attend the meetings. Further the meetings with all the parties, some countries have private/smaller meetings.	On site visit

8.4.3 Evaluation Techniques

Each PI under each Principle is weighted so that each of the three Principles is equal to one other.

At the Level of the Performance Indicator, the performance of the fishery is assessed as a “score”. In order for the fishery to achieve certification, an overall weighted average score of 80 is necessary for each of the three Principles and no Indicator should score less than 60. Accordingly, 100 represents a theoretically ideal level of performance and 60 a measureable shortfall.

The Scoring Guideposts (SGs) identify the level of performance necessary to achieve 100, 80 (a pass score), and 60 scores for each Performance Indicator.

The scoring methodology is fully explained in the MSC Fisheries Assessment Methodology. It can be summarized as follow:

- Scoring is a qualitative process, involving discussion between team members and arrival at a joint agreed score. Scores should be normally assigned in divisions of 5 points following the 7.10 sections on MSC FCR V2.0
- The only narrative guidance that is available is at 60, 80 and 100 SGs. Intermediate scores must therefore reflect;
 - A failure to meet all the scoring issues specified in a SG.
- The following system should then be used to determine the overall score for the PI from the scores of the different scoring issues, combining elements scores.
- This system combines a primary approach based on the combination of scores achieved by the individual scoring issues (the a) to i) list below):
 - a) Score = 60: all issues meet SG60, and only SG60. Any scoring issues within a PI which fails to reach SG60, represents a failure against the MSC standard and no score shall be assigned.
 - b) 65: all issues meet SG60; a few achieve higher performance, at or exceeding SG80, but most do not meet SG80.
 - c) 70: all issues meet SG60; some achieve higher performance, at or exceeding SG80, but some do not meet SG80 and require intervention action to ensure they get there.
 - d) 75: all issues meet SG60; most achieve higher performance, at or exceeding SG80; only a few fail to achieve SG80 and require intervention action.
 - e) 80: all issues meet SG80.
 - f) 85: all issues meet SG80; a few achieve higher performance, but most do not meet SG100.
 - g) 90: all issues meet SG80; some achieve higher performance at SG100 but some do not.
 - h) 95: all issues meet SG80; most achieve higher performance, at SG100; only a few fail to achieve SG100.
 - i) 100: all issues meet SG100

9 Traceability

9.1 Eligibility Date

The CAB shall nominate a date from which product from a certified fishery is sold with the label. The eligibility date should be defined following the MSC requirements and could be:

- c. The date of the certification of the fishery; or
- d. The date when the first Public Comment Draft Report is published.

The eligibility date for this fishery following the MSC FCR 7.6.1.2 was the date of “The publication date of the first Public Comment draft Report”.

The eligibility date was **August 1st 2017** when the PCDR was posted on the MSC website. The assessment team has chosen this date according to the FCR v2.0 requirement and as agreed with the client after evaluating the fishery in line with the certification requirements and with the other fisheries certified during the harmonisation process.

There is no risk of loss in the traceability, segregation and identification systems. The logbooks contain the date of catch, the fishery and trade system can differentiate product from that sold prior to the August 1st, 2017 and that sold from that date onwards. The client has informed all the shareholders and they are aware of the requirements and the product under-assessment has been followed the requirements state in the COC standard.

9.2 Traceability within the Fishery

All commercial operations are subject to a permit from the Directorate of Fisheries (DoF), and all vessels are required to carry a VMS system, which is monitored 24 hours per day by the Coast guard. Therefore, the track record of every set can be consulted. The DoF collects data on fishing and catches landed by the Icelandic fleet and monitors compliance with rules on weighing and recording of catches. All vessels are required to fill out log books to record details of fishing practices such as location, dates, gear and catch quantity. It is not likely to mix catches from areas certified and un-certified because every haul is documented and reported. There are some vessels from the client group fishing in Greenland but this area is included in the geographic definition of the UoAs and further vessels fishing in this area can be included as eligible fishers if they are not included in the client group at this stage.

Vessels that process catch at sea fill out log books electronically and send them directly to the DoF. In Iceland, there is an obligation to land all the catches by every fleet. These catches are weighed and reported in Iceland to Port Authorities who are responsible for verify the catches and certified them by licensed operators or processing plants approved for this purpose.

The DoF monitors fish processing as well as fishing. All sellers of fish must report the name of the purchaser to whom they sold fish as well as the quantity and price of fish they sold to them. Similarly all purchasers of fish must report the name of their supplier, the quantity they purchased and the price paid. The DoF regularly checks if the output of fish products from a fish processing unit is consistent with the reported input of raw fish. Monitoring of the quota system in Iceland is strengthened by the traceability measures required for exports in a country where over 90% of all fish caught is eventually exported in some form.

All these information are collected and published in the DoF website and can be consulted, it is public information available for all the stakeholders in the fishery. Fishing by vessels with on-board processing facilities is monitored by weighing landed products in a similar way and converting to catch weight by means yield indices, estimated several time a day by sampling catch and processed products on board. Basic handling of the catch, such as gutting and possibly heading, is commonly conducted by most types of vessels at sea, while further processing and freezing (whole, headed/gutted, fillets) is typically done by the large vessels (trawlers).

The DoF monitors, via the VMS, that trans-shipment of fish is not conducted. Some Icelandic fishery practices export fish direct from vessels, without involvement of domestic processing operations, and typically after being transferred to containers. However, recent law stipulates that any unprocessed fish must be landed and weighed in Icelandic ports prior to export. Un- or semi-processed catch may thus be exported, after landing and weighing, for storing in cold storages and/or processing in facilities in a Third Country, some of which may be subsidiaries of ISF's shareholders. Given the tight monitoring system operated by DoF, partly via the VMS, the fishing by vessels outside the unit of certification and, thereby, the opportunity of substituting certified fish with non-certified fish, are unlikely. Several member companies of the ISF ehf. have already obtained CoC certification for the processing or trading in MSC certified fish. Figure 42 shows the scheme in the traceability of this ISF fishery.

In the table below, the key information regarding each main traceability factor is detailed.

Table 19. Traceability Factors within the Fishery

Traceability Factor	ISF Iceland Mackerel Fishery
Potential for non-certified gear/s to be used within the fishery	<i>No, there are 4 types of gears used, pelagic trawl, purse seine, handline and bottom trawl and all of them are included in the certification</i>
Potential for vessels from the UoC to fish outside the UoC or in different geographical areas (on the same trips or different trips)	The Icelandic vessel are allowed to fish in the area Va, FAO major area 27. If some of them want to land in a different country they need DoF authorization before landing
Potential for vessels outside of the UoC or client group fishing the same stock	There are other fisheries with the same target species but all of them are MSC certified. Mackerel is a straddling stocks and therefore is targeted in other areas
Risks of mixing between certified and non-certified catch during storage, transport, or handling activities (including transport at sea and on land, points of landing, and sales at auction)	Unlikely, all the catches from Mackerel will be certified fish
Risks of mixing between certified and non-certified catch during processing activities (at-sea and/or before subsequent Chain of Custody)	Unlikely, all the catches from Mackerel will be certified fish
Risks of mixing between certified and non-certified catch during transshipment	Unlikely, all the catches from Mackerel will be certified fish
Any other risks of substitution between fish from the UoC (certified catch) and fish from outside this unit (non-certified catch) before subsequent Chain of Custody is required	Unlikely, all the catches from Mackerel will be certified fish. Vessels of the client group do not have fishing activities in non certified areas. On the other hand the CoC scheme in the fishery is very clear and is reported in the figure below of the report.

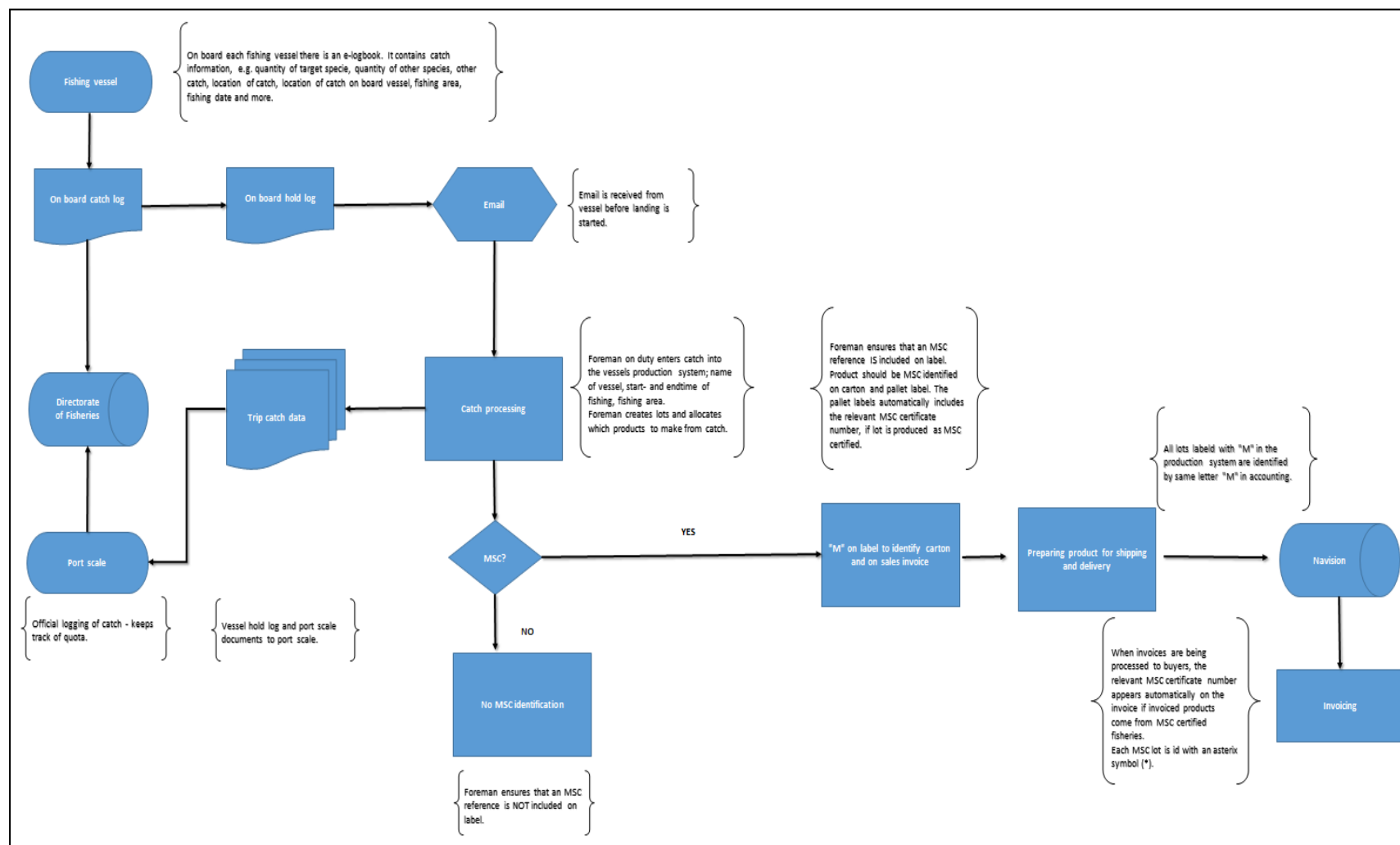


Figure 42. ISF Scheme of CoC for pelagic fisheries. Source: Client Iceland Sustainable Fisheries (ISF)

9.3 Designated ports

The designated port in Iceland are defined to follow the FAO 2005 model scheme on port state measures to combat illegal, unreported and unregulated fishing. The vessels which want to land in Iceland ports must follow the minimum period of notification as detailed in the table below.

Table 20. Designated ports in Iceland. Source: [www. Fisheries.is](http://www.fisheries.is)

<p>Iceland (ISL)</p> <p>Designated Contacts:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Control LHG / Maritime Traffic Service Eml: sar@lhg.is Tel: 00354 545 2100 Fax: 00354 545 2001</p> </div> <p>Designated Ports:</p> <p>[*Akranes]; Akureyri; [*Bolungarvík]; [*Dalvík]; [*Eskifjörður]; [*Fáskrúðsfjörður]; [*Grindavík]; [*Grundarfjörður]; Hafnarfjörður; [*Helgavík]; [*Hornafjörður]; [*Húsavík]; Ísafjörður; [*Keflavík]; [*Neskaupstaður]; [*Njarðvík]; [*Ólafsfjörður]; [*Ólafsvík]; [*Patreksfjörður]; Reykjavík; [*Reykjafjörður]; [*Rif]; [*Sandgerði]; [*Sauðárkrúkur]; [*Seyðisfjörður]; [*Siglufjörður]; [*Stykkishólmur]; [*Vestmannaeyjar]; [*Vopnafjörður]; Þorlákshöfn; [*Þórshöfn];</p> <p>Minimum Periods:</p> <p>Minimum Notification Period (FRZ): 24 hours Minimum Cancellation Period (FRZ): 24 hours</p> <p>Minimum Notification Period (FRE): 6 hours Minimum Cancellation Period (FRE): 3 hours</p> <p>Notes:</p> <p>* Not an EU Border Inspection Post (BIP). Landings may only be authorised for vessels flagged in the Member States of the European Union, Norway, the Faroe Islands and Greenland.</p>
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9.4 Eligibility to Enter Further Chains of Custody

The certification cover all the vessels included in the client group which is composed of 55 shareholders and 138 vessels approximately. Also, potential certification could include all registered Icelandic vessels, as well as officially licenced fish auctions, provided these auctions do not take ownership of the catch and/or are not involved in the processing of the catch either as owners of the fish or sub-contractors, defined in the UoAs as other eligible fishers.

List of vessels with valid licence included in the certification and list of client group which are owners of these vessels are shown in the appendix 6 section 19 of this report. All of are covered under the certificate and they will sell the fish or product with the MSC label. All the member of ISf can be consulted in their website (<http://www.icelandsustainable.is/>).

Fish from eligible fishing vessels (and included in the client group) whole and/or semi-processed, landed at any officially approved landing site (harbour) and/or sold via (first sale) fish auction and/or kept in cold store facilities in Iceland or in a Third Country, may therefore enter into further certified chain of custody and be eligible to carry the MSC ecolabel, provided these are sold through a

registered sharing partner of the fishery certificate, i.e. shareholder of the Iceland Sustainable Fisheries Ltd. Therefore all the shareholders are included in the fishery certificate and the CoC scheme.

Following the explanation above, point of intended change of ownership of product will be when the product is handled outside the client grouping list and the propriety is not of any shareholder.

Chain of custody will commence as of the first point of sale, change of ownership and/or processing after landing. Auctions that may or may not take possession of the fish and merely serve as facilitators of trade do not need chain of custody certification.

Operators who do not share the certificate but who take ownership of the fish before it is sold to certificate sharers are required to hold MSC Chain of Custody certification. Subcontractors, who do not take ownership of the catch but are involved in the handling of the fish after landing, are required either to be holders of MSC Chain of Custody certification or to be listed as subcontractors on the scope of another MSC Chain of Custody certificate holder.

The Iceland Sustainable Fisheries Ltd. (ISF) has issued a statement outlining the general terms of a potential extension of the client group for wider sharing of a potential certificate. The vessels included in the client group have CoC scheme and they can sell the product as MSC certified or with the MSC ecolabel. Other possible eligible fishers should ensure they are under CoC certificate to use the ecolabel.

9.5 Eligibility of Inseparable or Practicably Inseparable (IPI) stock(s) to Enter Further Chains of Custody

Not applicable in this fishery.

10 Evaluation Results

10.1 Principle Level Scores

The overall scoring in the three principals has met more than 80. Table 21 shows the results for each principle. As it is required in the FCR level scores are reported with one decimal to accurate the score. The four UoAs defined in the fishery, one for every type of gears, have obtained the similar scoring however the UoA bottom trawl has less scoring in P2. The Assessment team has fulfilled one table with the overall score for the four UoAs, one column for pelagic trawl, purse seine and hangline and another for bottom trawl which has 2 more conditions as detailed below in the section 10.3.

Table 21. Final Principle Scores in the 4 UoAs

Principle	Score UoA 1 (Pelagic trawl)	Score UoA 2 (Purse seine)	Score UoA 3 (Handline)	Score UoA 4 (Bottom otter trawl)	PASS/FAIL
Principle 1 – Target Species	90.8	90.8	90.8	90.8	PASS
Principle 2 – Ecosystem	92.3	87.3	93.7	91.3	PASS
Principle 3 – Management System	87.1	87.1	87.1	87.1	PASS

10.2 Summary of PI Level Scores

The summary of each scoring that the CAB has decided to evaluate the fishery against the FCR V2.0 are shown in the table below (Table 22). The PIs scores were identical for both UoAs.

Table 22. Summary of Pis scores in the all UoAs

Principle	Component	Performance Indicator (PI)		Score UoA 1 (Pelagic trawl)	Score UoAs 2 (Purse Seine)	Score UoA 3 (Handline)	Score UoA 4 (Bottom otter trawl)
One	Outcome	1.1.1	Stock status	100	100	100	100
		1.1.2	Stock rebuilding				
	Management	1.2.1	Harvest strategy	85	85	85	85
		1.2.2	Harvest control rules & tools	65	65	65	65
		1.2.3	Information & monitoring	100	100	100	100
		1.2.4	Assessment of stock status	95	95	95	95
Two	Primary species	2.1.1	Outcome	100	80	90	100
		2.1.2	Management strategy	95	80	95	95
		2.1.3	Information/Monitoring	100	85	100	100
	Secondary species	2.2.1	Outcome	85	80	100	100
		2.2.2	Management strategy	100	80	100	100
		2.2.3	Information/Monitoring	100	85	100	100
	ETP species	2.3.1	Outcome	85	100	100	100
		2.3.2	Management strategy	80	80	80	80
		2.3.3	Information strategy	80	80	80	80
	Habitats	2.4.1	Outcome	100	100	100	70
		2.4.2	Management strategy	80	80	80	75
		2.4.3	Information	85	85	85	85
	Ecosystem	2.5.1	Outcome	100	100	100	100
		2.5.2	Management	100	100	100	100
		2.5.3	Information	95	95	95	95
Three	Governance and policy	3.1.1	Legal &/or customary framework	65	65	65	65
		3.1.2	Consultation, roles & responsibilities	95	95	95	95
		3.1.3	Long term objectives	100	100	100	100
	Fishery specific management system	3.2.1	Fishery specific objectives	100	100	100	100
		3.2.2	Decision making processes	80	80	80	80
		3.2.3	Compliance & enforcement	90	90	90	90
		3.2.4	Monitoring & management performance evaluation	80	80	80	80

10.3 Summary of Conditions

Condition number	Condition	Performance Indicator	Related to previously raised condition? (Y/N/NA)
1	The aim is to establish a Well-defined HCR agreed to by all relevant Parties and including a quota sharing arrangement inside sustainable limits. Recognising that this is at the level of sovereign states, the Client should approach relevant authorities and express his wish for the establishment of such a HCR. The Client should also explore with colleagues in other industries routes for establishing such an agreed HCR.	1.2.2	Y – Harmonised MINSAs NEA Mackerel Fishery (Europe). MINSAs NEA Mackerel Fishery (Norway). Faroeese Pelagic Organisation NEA Mackerel (DNV-GL).
2 (UoA Bottom trawl)	By the fourth surveillance audit, it must be highly likely that the scope of necessary conservation and management measures for all vulnerable marine habitats shall be in implemented with some monitoring, indicating that the bottom trawl fishery does not cause serious or irreversible harm to habitat structure and function, on a regional or bioregional basis.	2.4.1	Y – Harmonised ISF Iceland golden redfish, cod, saithe, Haddock & ling fisheries.
3 (UoA Bottom trawl)	By the fourth surveillance audit there must be at minimum a partial strategy implemented with scope for the necessary conservation and management measures and outcomes for deep-sea sponge aggregation and coral gardens habitats, which specifically ensures that the bottom trawl fisheries do not cause serious or irreversible harm to habitat structure and function in Icelandic waters.	2.4.2	Y – Harmonised ISF Iceland golden redfish, cod, saithe, Haddock & ling fisheries.
4	The SG80 requirements for SI a) above in the table must be met. There should be evidence of organised and effective cooperation between all affected parties which delivers outcomes consistent with meeting Principle 1 (as detailed in Condition 1). There should also be evidence of an effective and transparent mechanism for dispute resolution between the parties. UNFSA Article 10 paragraphs a), h) and j) are particularly relevant to the meeting of this condition.	3.1.1	Y – Harmonised MINSAs NEA Mackerel Fishery (Europe). MINSAs NEA Mackerel Fishery (Norway). Faroeese Pelagic Organisation NEA Mackerel (DNV-GL).

10.4 Recommendations

After the revision of the peer reviewer report some Pis scores has been reviewed and re-scored. The Assessment Team has raised 3 recommendations in the fishery:

– **Recommendation 1 (2.3.1. Sa1)**

ISF is encouraged to lead or cooperate with relevant authorities in order better understand post capture mortality of viable released Atlantic Halibut in Iceland EEZ, thereby facilitating improved understanding of the combined effects of the MSC UoAs on the population/stock.

– **Recommendation 2 (ETP information in general for all UoAs)**

Skippers of all vessels in the client fleet should be encouraged to record all bycatch and ETP species (i.e. birds and marine mammals) caught, irrespective of whether they are landed or viable individuals returned back to sea.

– **Recommendation 3 (Purse seine UoA)**

It is recommended for ISF to encouraged and support skippers and relevant authorities to ensure verifiable commercial catch information from the mackerel purse seine fishery is available during the surveillance periods for reviewing changes in the fishery.

10.5 Changes in the fishery prior to and since Pre-Assessment

Icelandic mackerel fisheries were a part of a multi-fishery pre-assessment by Vottunarstofan Tún, released in August 2016.

10.6 Determination, Formal Conclusion and Agreement

On completion of the Final Report and after the objection period with no submission received, the Certification Committee of SAI Global has determined that in the Public Certification report (PCR):

- ~ **ISF Iceland Mackerel Fishery** is to be awarded certification to the Marine Stewardship Council Sustainable Fishing Standard (MSC)

SAI Global hereby publicly announces the certification of the Fishery Unit and upon issue of a certificate, the client shall have the right to claim the fisheries as a “well managed and sustainable fishery” in accordance with the MSC Principles and Criteria for Sustainable Fishing. Fisheries material thereof is deemed eligible for entry the MSC Chain of Custody according to requirements.

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12 Appendix 1 Scoring and Rationales

12.1 Principle 1 – Sustainable Target Fish Stocks – Evaluation Tables

12.1.1 PI 1.1.1 – Stock Status

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guidepost	It is likely that the stock is above the point where recruitment would be impaired (PRI).	It is highly likely that the stock is above the PRI.	There is a high degree of certainty that the stock is above the PRI.
	Met?	Y	Y	Y
	Justification	The ICES summary are reproduced as Figure 7, Figure 8, Figure 9, Figure 10 and Figure 11. The spawning-stock biomass (SSB) is estimated to have increased since the early 2000s and has been above $MSY B_{trigger}$ since 2009. The fishing mortality (F) has been declining from high levels in the mid-2000s but remains above F_{MSY} . There has been a succession of large year classes since the early 2000s (2002, 2006, 2011, and 2014) and all year classes since 2005 (except for the 2013 year class) are estimated to be above average. The stock is well above PRI reference points, confidence intervals of 95 % are included in the results of recruitment, fishing mortality and SSB. Therefore there is a high degree of certainty that the stock is above PRI (B_{lim} and $MSY B_{trigger}$) and SG 100 is met.		
B	Stock status in relation to achievement of MSY			
	Guidepost		The stock is at or fluctuating around a level consistent with MSY.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		Y	Y
	Justification	The stock is above the MSY level (B_{MSY}) but is exploited above F_{MSY} . SSB has been above $B_{pa}(3mt)$ since 2009 and in 2014-2016 above 4mt. The lower 5% confidence limit of SSB in 2015 is 3.8 mill tons well above B_{pa} . There is a high degree of certainty that the stock has been above the MSY level over recent years and SG 100 is met.		
References		ICES 2017- ICES advice section 9.3.39 ICES 2015 Reference points		
Stock Status relative to Reference Points				
	Type of reference point	Value of reference point		Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (Sia)	B_{lim}	1.84 million t		4.587 million t (2016)
	F_{lim}	0.36		0.289
Reference point used in scoring stock relative	$MSY B_{trigger}$	3 million t		
	B_{pa}	0.22		4.587 million t (2016)
	F_{pa}	0.25		0.289

PI 1.1.1	The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue	SG 60	SG 80	SG 100
to MSY (Sib)			
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			NA

12.1.2 PI 1.1.2 – Stock rebuilding

PI 1.1.2		Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe		
Scoring Issue		SG 60	SG 80	SG 100
a	Rebuilding timeframes			
	Guidepost	A rebuilding timeframe is specified for the stock that is the shorter of 20 years or 2 times its generation time . For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified which does not exceed one generation time for the stock.
	Met?	Not applicable		Not applicable
	Justification	Not to score in the fishery		
b	Rebuilding evaluation			
	Guidepost	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is evidence that the rebuilding strategies are rebuilding stocks, or it is likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.	There is strong evidence that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.
	Met?	Not applicable	Not applicable	Not applicable
	Justification	Not to score in the fishery		
References		ICES 9.3.39 September 2016		
OVERALL PERFORMANCE INDICATOR SCORE:				NA
CONDITION NUMBER (if relevant):				

12.1.3 PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a	Harvest strategy design			
	Guidepost	The harvest strategy is expected to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in PI 1.1.1 SG80.
	Met?	Y	Y	N
	Justification	<p>The harvest strategy for mackerel is agreed by all involved parties including the Icelandic government to maintain the stock at a high level. However, there is disagreement between the Parties on the sharing of the total TAC.</p> <p>The harvest strategy is strongly supported by a set of technical measures. These include minimum landing size of 30cm in the North Sea and 20cm elsewhere, closed areas and closed seasons in the North Sea to protect the severely depleted North Sea spawning component, a restricted fishing area (SW Mackerel Box) off the SW coast of the UK where juvenile mackerel are abundant, a ban on high grading and a discarding ban for all Norwegian, Faroese and Icelandic vessels (soon to be extended to all EU vessels).</p> <p>The three ‘old’ coastal states (EU, Faroe Islands and Norway) reached an agreement on sharing leaving 15.6 % of the Total TAC (as advised by ICES) to other parties (Greenland, Iceland and Russia). This ‘allocation’ is found to be unsatisfactory by Iceland. The Icelandic TAC is set, based on the TAC agreed by the ‘old’ coastal states, as 16.3 % of the Total TAC indicating a partial breakdown of the general strategy. However, the overshoot is limited and is not expected to bring the stock below PRI reference points and particularly not in the shorter term as the stock currently is at a high level. The overshoot is 200-300,000 tons while the stock provides a buffer of at 2 mill tons in 2017. The mean fishing mortality has during the last decade been well below Flim (0.36), and above 10-15% of Fpa. The upper 5% limit of the estimated fishing mortality is also below Flim except for 2015 (0.371) when the estimate is above Flim. The strategy is therefore expected to achieve stock management objectives reflected in the target and limit reference points therefore SG60 is met.</p> <p>The ‘old’ coastal states has agreed a long-term management plan firmly based on the Precautionary Approach and MSY reference points and this plan was evaluated and endorsed by ICES. ICES plans a benchmark of the mackerel assessment in 2017 and this management plan is expected to be revised based on the outcome. For the 2017 fishery ICES continued to provide advice on the basis of the existing proposed plan as well as based on the ICES MSY approach. That advice formed the basis on which to set the total TAC by the ‘old’ coastal states. Hence the strategy is responsive to the state of the stock and the elements of the strategy, (TAC setting) work together to achieve PI 1.1.1 management objectives and therefore SG 80 is met.</p> <p>The harvest strategy is lacking allocation of the quotas among all participants in the fishery and is therefore not designed to fully achieve stock management objectives therefore SG 100 is not met.</p>		
B	Harvest strategy evaluation			
	Guidepost	The harvest strategy is likely	The harvest strategy may	The performance of the

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
	ost	to work based on prior experience or plausible argument.	not have been fully tested but evidence exists that it is achieving its objectives.	harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
	Met?	Y	Y	N
	Justification	<p>The harvest strategy as implemented by the 2008 HCR has worked well as evidence by the constant high level of the stock size over the recent decade and therefore SG 60 is met. The plan included the following main features (From Agreed record of negotiations between Norway, Faroe Islands, and EU in 2008 main points regarding this PI):</p> <ol style="list-style-type: none">1. When the SSB is above 2 200 000 tonnes, the TAC shall be fixed according to the expected landings, as advised by ICES, on fishing the stock consistent with a fishing mortality rate in the range of 0.20 to 0.22 for appropriate age groups as defined by ICES.2. When the SSB is lower than 2 200 000 tonnes, the TAC shall be fixed according to the expected landings as advised by ICES, on fishing the stock at a fishing mortality rate determined by the following: Fishing mortality $F=0.22 * SSB / 2\ 200\ 000$3. Notwithstanding paragraph 2, the TAC shall not be changed by more than 20% from one year to the next, including from 2009 to 2010.4. In the event that the ICES estimate of SSB is less than 1 670 000 tonnes, the Parties shall decide on a TAC which is less than that arising from the application of paragraphs 2 to ICES considers the agreement to be consistent with the precautionary approach. However, the management plan does not specify measures that would apply under poor stock conditions that preclude further evaluation. <p>The stock has been fished under the general strategy of maintaining the stock at a high level. SSB steadily increased from around 2 million tones in 2003 to over 4 million tonnes in 2016. With good recruitment over recent years the SSB has been maintained at above the MSY B trigger level and is predicted to remain above that level in the next years. Even after Iceland and later Greenland joined the mackerel fishery and in spite of recent catch levels in excess of the ICES advised levels, fishing mortality has been maintained below $F\ 0.3$ since 2009 which is below $F\ lim$ but not in keeping with $Fmsy\ (0.22)$ or $Fpa\ (0.25)$. The evidence satisfies the requirements at SG80.</p> <p>However, the performance of the current strategy and the new Coastal States interim strategy has not been fully evaluated in terms of whether or not it will be able to continue to maintain the stock at target levels if the current situation of catches in excess of the advised level continues. Therefore the requirements at SG 100 are not met.</p>		
	C	Harvest strategy monitoring		
	Guidepost	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	Met?	Y		
	Justification	There is extensive monitoring of the status of the stock (egg surveys, Ecosystem Surveys, North Sea bottom trawl sur and tagging programmes). The fisheries are well documented and there are data describing the landings/catch (landings, age compositions, effort		

PI 1.2.1		There is a robust and precautionary harvest strategy in place			
		fishing grounds (VMS)). There is an international assessment of the status of the stock. This package allows determination of whether the strategy is working therefore SG 60 is met.			
D	Harvest strategy review				
	Guidepost			The harvest strategy is periodically reviewed and improved as necessary.	
	Met?			Y	
	Justification	The harvest strategy is under constant review both at the management level – requests for evaluation of proposed management plans – and at the scientific level – e.g. the planned benchmark in 2017 and the recent benchmark in 2015. Therefore, the harvest strategy is periodically reviewed and improved as necessary and SG 100 is met.			
E	Shark finning				
	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.	
	Met?	Not relevant	Not relevant	Not relevant	
	Justification	Mackerel is not a shark-Not relevant			
f	Review of alternative measures				
	Guidepost	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.	
	Met?	Y	Y	Y	
	Justification	The entire fishery operates under a discard ban (EU, Faroe Islands, Norway, Iceland). There is no unwanted catch.			
References		ICES 2017 ICES advice section 9.3.39			
OVERALL PERFORMANCE INDICATOR SCORE:					85
CONDITION NUMBER (if relevant):					NA

12.1.4 PI 1.2.2 – Harvest control rules and tools

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
Scoring Issue		SG 60	SG 80	SG 100
a	HCRs design and application			
	Guided post	Generally understood HCRs are in place or available that are expected to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock fluctuating at or above a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, most of the time.
	Met?	Y	N	N
	Justification	<p>The overarching harvest control rule is setting an annual TAC based on the annual advice from ICES taking all aspects of stock status in account. The involved Parties have a general understanding that they will implement this advice. The advice is currently based on the ICES MSY framework which reduces fishing mortality should the stock fall below PRI reference points, therefore SG 60 is met.</p> <p>There is a an agreed HCR among the ‘old’ coastal states and this plan includes the required standard elements of a precautionary plan just as did the previous (2008) plan. The harvest strategy is also strongly supported by the strict rules appertaining to a raft of technical measures. These include minimum landing size of 30cm in the North Sea and 20cm elsewhere, closed areas and closed seasons in the North Sea to protect the severely depleted North Sea spawning component, a restricted fishing area (SW Mackerel Box) off the SW coast of the UK where juvenile mackerel are abundant, a ban on high grading and a discarding ban for all Norwegian, Faroese and Icelandic vessels (soon to be extended to all EU vessels). These additional rules are all well-defined.</p> <p>The TAC rules, and the technical measures and general basis on which they are established, do have a commonality throughout the ICES area and those rules are well defined and are generally understood by both managers and fishers. The rules governing the subsequent allocation of the TAC in this fishery, both nationally and by area, through the Coastal States Agreement, are also well defined and generally understood. Similarly the rules allocating shares in the quota to individual fishing enterprises at the national level are generally understood. As a consequence the management of the fishery does meet the requirements at both SG 60 and SG 80 in having well defined harvest control rules which are consistent with the harvest strategy and ensure that the exploitation rate is reduced in stages from an upper trigger level to effectively zero if the biomass limit level is reached.</p> <p>The sharing part of this plan is however not accepted by Greenland and Iceland and there is this not a plan that ensures that the exploitation rate will keep the stock fluctuating at or above the MSY level as the disagreement may lead to overshooting of sustainable fishing. Currently, the disagreement is leading to only limited overshooting and the stock can be hoped to be fluctuating around MSY. Therefore due to this disagreement, the Assessment Team cannot conclude that well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY and SG 80 is not met.</p> <p>In recent years there has been a problem of catches in excess of the annual scientific</p>		

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
		advice. The reasons for this and the implications for the sustainable exploitation of the stock are specifically addressed in detail at scoring issue c) below. In the context of this scoring issue the problem has generated a major source of uncertainty for the future sustainable exploitation of this stock. It is not clear how the design of the existing harvest control rules can possibly continue to deliver sustainable exploitation if the annual TAC is regularly exceeded. As a consequence the rigorous requirement, at SG 100 , that the design of the rules satisfactorily address this major source of uncertainty are not met .		
B	HCRs robustness to uncertainty			
	Guided post	The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a wide range of uncertainties including the ecological role of the stock, and there is evidence that the HCRs are robust to the main uncertainties.	
	Met?	Y	N	
	Justification	The main uncertainties in advice that underpin the HCR are the reliability of the catch data and the representativeness of the survey data (International Ecosystem Survey and Egg-survey). Another uncertainty is the possible differences in dynamics of the various mackerel component (Southern, North Sea, Northern). The accuracy of the catch data has previously been a problem but this is now considered resolved. The stock assessment model, first used in 2014, age based, fully statistical, state space (SAM) model. The model was set up so that it does take into account the large uncertainty in historical catches prior to 2000. The new model presents the SSB, Fishing mortality and Recruitment estimates with 95% confidence intervals which reflect the level of uncertainty in those estimates. This provides the opportunity for managers to take a more cautious approach to the management of the stock taking the main uncertainties into account. The requirements at SG 80 are met . The HCR does not include considerations of changes in distribution (as evidences in the last decade) nor are the ecological interaction properly accounted for. Furthermore, the possible differences in population dynamics between the mackerel components are not included in HCR therefore SG100 is not met .		
C	HCRs evaluation			
	Guided post	There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation.	Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	Met?	Y	N	N
	Justification	Under PI 1.2.2a the HCR was scored as not meeting SG80 because of the HCR did not provide for the appropriate ‘fluctuation around’ MSY (or similar). The tools that are implemented in the HCR include bilateral and multilateral platforms for reaching management decisions, TACs (Total and national), technical measures, discard ban and are appropriate for its effective implementation but because of the lack of an allocation agreement they are not guaranteed to achieve the exploitation levels required (MSY or similar). There is a strong commitment across the disagreements on the quota allocation that the stock should be maintained at a high level (on site visit interview with Icelandic ministry). Effective measures are expected to be taken should the stock fall below PRI. Such a situation is not likely in the time period expected to reach an agreement on the quota allocation given current stock status. SG 80 is not met .		

PI 1.2.2	There are well defined and effective harvest control rules (HCRs) in place	
References	ICES 2017 section 9.3.39	
OVERALL PERFORMANCE INDICATOR SCORE:		65
CONDITION NUMBER (if relevant):		1

12.1.5 PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue		SG 60	SG 80	SG 100
a	Range of information			
	Guidepost	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
	Met?	Y	Y	Y
	Justification	<p>The stock structure of mackerel occurring in the northeast Atlantic is complex but is well described and understood. In recent years mackerel distribution has extended to the North and West and mackerel have been recorded as far north as Svalbard. There is a definable structure at spawning time, with a southern, western and North Sea component. The development of these three components can be separately followed through the triennial egg surveys. However because at certain times of the year the components mix, they are managed as a single stock unit. The triennial egg survey, begun in 1977, has provided valuable knowledge on the life history, spawning behaviour and the changes in the distribution of spawning, over that period.</p> <p>Information on stock productivity and stock abundance is routinely collected as part of the scientific sampling programmes of landings by all participating countries in the fishery. This includes length, age, weight at age and maturity data. These data are also observed and recorded during the triennial egg surveys. The record of scientific sampling of the landings in this fishery is good. These data are sufficient for the feeding of the HCR and SG 80 is met.</p> <p>A wide range of relevant supporting information, including environmental data is obtained from related scientific surveys. These surveys include the triennial egg surveys; the international bottom trawl surveys (IBTS); the international ecosystem survey of the Nordic seas (IESSNS) and the Norwegian tagging programme. These four surveys are now used as tuning indices in the new stock assessment model.</p> <p>The structure of the fleets in the directed fisheries for NEA mackerel are well described in the annual reports of the ICES assessment working group. This includes knowledge of gear types and gear configurations in use throughout the fishery and numbers of vessels. Information on national fleet size and structure is updated annually by the working group in the stock annexe to their annual assessment report. Fleets which may take mackerel as a by-catch, in for example the horse mackerel and blue whiting fisheries, are also well known and described. The data set is comprehensive and SG 100 is met.</p>		
B	Monitoring			
	Guidepost	Stock abundance and UoA removals are monitored and at least one indicator is available and monitored	Stock abundance and UoA removals are regularly monitored at a level of accuracy and coverage	All information required by the harvest control rule is monitored with high frequency and a high degree

PI 1.2.3		Relevant information is collected to support the harvest strategy		
		with sufficient frequency to support the harvest control rule.	consistent with the harvest control rule , and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.	of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.
	Met?	Y	Y	Y
	Justification	<p>The catch information for all fisheries are available and are for recent years believed to be accurate. There are annual survey (IESSNS) a tri-annual egg survey and together this database with the IBTS and tagging data, therefore SG 60 is met.</p> <p>All data series are updated annually and meet the requirements defined by the HCR. Therefore, SG 80 is met.</p> <p>The catch data combined with the four tuning series form the complete basis for the HCR and its evaluation. The inherent uncertainties are well understood as discussed above. Therefore, all information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty and SG 100 is fully met.</p>		
C	Comprehensiveness of information			
	Guidepost		There is good information on all other fishery removals from the stock.	
	Met?		Y	
	Justification	<p>The catch data are available for all involved Parties including by-catches in other fisheries, therefore, there is good information on all other fishery removals from the stock and SG 100 is met.</p>		
References		ICES 2016. Report of WGWIDE ICES 2016 Advice for 2017		
OVERALL PERFORMANCE INDICATOR SCORE:				100
CONDITION NUMBER (if relevant):				NA

12.1.6 PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an adequate assessment of the stock status		
Scoring Issue		SG 60	SG 80	SG 100
a	Appropriateness of assessment to stock under consideration			
	Guidepost		The assessment is appropriate for the stock and for the harvest control rule.	The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	Met?		Y	Y
	Justification	The assessment methodology was reviewed in 2014 and the SAM model (Nielsen and Berg 2014) was introduced. The benchmark concluded that the SAM was appropriate for the assessment and as input to the HCR. The HCR have changed since then but the basis input form the stock assessment remain unchanged and SG 80 is met . These four surveys are now used as tuning indices in the new stock assessment model. The assessment model is established to take account of the main features of the mackerel stocks including the uncertainties in the various data series that form part SG 100 is met of the input data.		
B	Assessment approach			
	Guidepost	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	
	Met?	Y	Y	
	Justification	The assessment estimates provide stock status relative to reference points (see PI 1.1.1). The estimates of the reference points are given in the justification for PI 1.1.1. Therefore, SG 80 is met.		
C	Uncertainty in the assessment			
	Guidepost	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.
	Met?	Y	Y	Y
	Justification	The assessment through the benchmark identifies the major sources of uncertainty SG 60 is met . The assessment model (SAM) is built to account for the major uncertainties and SG 80 is met . The SAM model is full statistical model providing confidence limits and therefore provide the stock status relative to reference points in a probabilistic way and therefore SG 100 is met .		
D	Evaluation of assessment			
	Guidepost			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been

PI 1.2.4		There is an adequate assessment of the stock status		
				rigorously explored.
	Met?			N
	Justification	The assessment model is widely used but have not been thoroughly tested over time for the NEA mackerel. SG 100 is not met.		
E	Peer review of assessment			
	Guided post		The assessment of stock status is subject to peer review.	The assessment has been internally and externally peer reviewed.
	Met?		Y	Y
	Justification	The ICES procedure with a internal review through the Working Group (WGWIDE) and Advice Draft Group under ACOM and the external reviewers through the benchmark provide peer review both by internal and external experts therefore, the assessment has been internally and externally peer reviewed and SG 100 is met.		
References		ICES 2016 WGWIDE ICES 2014 Benchmark (introduction of SAM)		
OVERALL PERFORMANCE INDICATOR SCORE:				95
CONDITION NUMBER (if relevant):				

12.2 Principle 2 – Environmental Impact of Fishing – Evaluation Tables

12.2.1 PI 2.1.1 – Primary species outcome- Pelagic trawl UoA 1

PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main primary species stock status			
	Guidepost	Main primary species are likely to be above the PRI OR If the species is below the PRI, the UoA has measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are highly likely to be above the PRI OR If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main , to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY.
	Met?	Y	Y	Y
	Justification	There is a high degree of certainty that the two main primary species, blue whiting and Herring, are above the PRI and are fluctuating around a level consistent with MSY. Blue whiting – stock is in a good state. Fishing mortality (F) has increased from a historical low in 2011 to above F_{MSY} in 2014. SSB increased from 2010 to 2014 and is above MSY $B_{trigger}$. Recruitment after 2010 is estimated above the long term average. Year classes 2009–2012 are estimated above average, and the survey indices for year classes 2013 and 2014 are also above average (ICES advice 2015b). From 2015 the stock is considered to be at full reproductive capacity and above MSY. There is a high degree of certainty that the stock is around MSY, SG100 is met . Herring – There are a number of stocks of herring caught around Iceland. Summer spawning herring stock is consider well above its B_{lim} and MSY $B_{trigger}$ point, so can be considered as around the MSY level. The Norwegian spring spawning herring stock has been declining and estimated to be below MSY $B_{trigger}$ in 2014. Fishing mortality in 2014 was below F_{pa} and F_{MSY} and the management plan target F, although F had been above this in recent years. The stock is still well-above its B_{lim} and at full reproductive capacity. Both herring stocks are identified with a high degree of certainty to be above the PRI and are fluctuating around a level consistent with MSY, SG 100 is meet .		
B	Minor primary species stock status			
	Guidepost			Minor primary species are highly likely to be above the PRI OR If below the PRI, there is evidence that the UoA does not

PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.		
				hinder the recovery and rebuilding of minor primary species
	Met?			Y
	Justification	<p>There are 15 primary minor species stocks identified within the catch composition for the pelagic trawl fishing gear UoA, these includes; Anglerfish, Argentine, Atlantic bluefin tuna, Atlantic wolfish, Blue ling, Cod, Golden redfish/Norway redfish, Oceanic redfish /Deepsea redfish, Greenland halibut, Haddock, Ling, Lumpfish, Plaice, Saithe, and Tusk.</p> <ul style="list-style-type: none"> - Golden redfish, fishing mortality since 2010 has been estimated to be around F_{MSY}. Spawning-stock biomass (SSB) has steadily increased for the past 20 years but SSB is estimated to decrease in 2016 and 2017. However, the team can confirm that the catch from Mackerel (0.06%) does not hinder the recovery of the species. - Greenland halibut, the stock has been above $MSY B_{trigger}$ for the majority of the time-series, and after dropping below the trigger in 2004 and 2005 it has steadily increased and is currently above $MSY B_{trigger}$. - Saithe, the 2016 ICES advise indicate the spawning-stock biomass (SSB) to be above $MSY B_{trigger}$ since 1998 and is currently close to the time-series maximum. - Ling, SSB has increased since 2004 and is at the highest level in the time-series. ICES advise that the stock is above the $MSY B_{trigger}$. - Plaice, fishing mortality has declined since 1997 and is at an all-time low, while biomass has slowly increased since 2000. - Tusk, fishing mortality has declined in recent years, but is above the F_{MSY} estimate. SSB has been increasing in recent years. Total catches reported by DoF in four years by all gear types targeting Mackerel (4 UoAs) are low being 0.18%. - Anglerfish, fishing mortality is below F_{proxy} target since 2015 and Biomass index is higher than levels of 2002. Otal catches reported by DoF in four years by all gear types targeting Mackerel (4 UoAs) are low being 0.09%. - Argentine, the F_{proxy} has decreased since 2010 and has been below the target F_{proxy} since 2014, which corresponds with a reduction in catch and stock abundance, based on the trending information, (particularly biomass index and F_{proxy}). Otal catches reported by DoF in four years by all gear types targeting Mackerel (4 UoAs) are low being 0.23%. - Atlantic bluefin tuna, F for both younger and older fish have declined during the recent years. All the runs investigated by the Committee showed a clear increase of the SSB. F2013 appears to clearly be below the reference target F0.1 (a reference point used as a proxy for F_{MSY} that is more robust to uncertainties than F_{MAX}) in both catch scenarios: F2013/F0.1= 0.4 and 0.36 for the reported and inflated catch scenarios, respectively. Total catches reported by DoF in four years by all gear types targeting Mackerel (4 UoAs) are low being 0.20%. - Atlantic wolfish, fishing mortality has declined since 2009 and is now below F_{MSY}. - Blue ling, biomass index is considered above possible biomass reference points. Fproxy has been below the target value for the last two years. - Cod, SSB has increased in recent years and has not been larger in 40 years. - Haddock, SSB has decreased in recent years but is above $MGTB_{trigger}$. - Lumpfish, current biomass index indicates stock increase for male and female of the species. - and Deepsea redfish, relative biomass index is stable for stock at depths greater than 500m, and declining in stocks <500m. The July 2018 survey will update stock information. In addition catch by mackerel UoA is negligible (0.01%) and Total 		

PI 2.1.1	The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.	
		<p>catches reported by DoF in four years by all gear types targeting Mackerel (4 UoAs) are low being 0.11%, therefore not expected to hinder the recovery and rebuilding of this species.</p> <p>All are determined from current information (see Section: Primary species) that all minor primary species are highly likely to be above the PRI and SG 100 is met.</p>
References	<p>See Section: Primary species</p> <p>ICES Latest Advice 2016 – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p> <p>ICCAT Atlantic Bluefin tuna advice 2014/17 – https://www.iccat.int/Documents/SCRS/ExecSum/BFT_ENG.pdf</p>	
Score element 1 (Blue whiting)		100
Score element 2 (Herring)		100
Score element 3 (Anglerfish)		100
Score element 4 (Argentine)		100
Score element 5 (Atlantic Bluefin tuna)		100
Score element 6 (Atlantic wolffish)		100
Score element 7 (Blue ling)		100
Score element 8 (Cod)		100
Score element 9 (Golden redfish)		100
Score element 10 (Greenland halibut)		100
Score element 11 (Haddock)		100
Score element 12 (Ling)		100
Score element 13 (Lumpfish)		100
Score element 14 (Deepsea redfish)		100
Score element 15 (Plaice)		100
Score element 16 (Saithe)		100
Score element 17 (Tusk)		100
OVERALL PERFORMANCE INDICATOR SCORE:		100
CONDITION NUMBER (if relevant):		N/A

12.2.2 PI 2.1.1 – Primary species outcome – Purse seine UoA 2

PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main primary species stock status			
	Guidepost	Main primary species are likely to be above the PRI OR If the species is below the PRI, the UoA has measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are highly likely to be above the PRI OR If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main , to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY.
	Met?	N/A	N/A	N/A
	Justification	The purse seine fishing gear was used in an investigative fishery in 2013 for mackerel. No primary main species was identified from the DoF catch data provided, therefore this PI (Sia) is considered not applicable. This approach is based on the MSC guidance (Interpretation – Date: 14/02/2017 ID: 2845) for “P2 species outcome Pis – scoring when no main or no minor (or both)”. Therefore, if the fishery has no main species, scoring issue (a) is not applicable .		
B	Minor primary species stock status			
	Guidepost			Minor primary species are highly likely to be above the PRI OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species
	Met?			N
	Justification	The purse seine fishing gear was used in a commercial trial investigative fishery in 2013 for mackerel. No primary minor species was identified from the DoF catch data provided. It is acknowledged that future use of the Purse Seine gear in the mackerel fishery might not be as clean as indicated in the present information. It is recommended for ISF to encouraged and support skippers and relevant authorities to ensure verifiable commercial catch information from the mackerel purse seine fishery is available during the surveillance periods for reviewing changes in the fishery. There is the knowledge from other MSC certified mackerel purse seine fishery in similar latitudes (MINSA North East Atlantic Mackerel (Norway) Purse Seine fishery, and Faroese		

PI 2.1.1	The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.
	<p>Pelagic Organisation North East Atlantic Mackerel Purse Seine fishery), that the fisheries are highly targeted and selective with 95-98% mackerel catches as well as low levels of bycatch or incidental catch. It is also observed in similar latitudes that combined species which are caught in mackerel purse seine gear are likely to include; North Sea Herring, Atlanto-scandia herring, Horse mackerel, Blue whiting, Saithe, Hake, Cod, Norway pout, Silver smelt and Redfish, as well as Salmon as primary species. In the MSC certified purse seine mackerel fisheries reports, no vulnerable species were reported and all at minor species levels;</p> <p>Herring (both) and blue whiting are fluctuating around target reference point.</p> <p>Saithe is fluctuating around target reference point.</p> <p>Silver smelt is MSC certified since 2012. The Fproxy has decreased since 2010 and has been below the target Fproxy since 2014, which corresponds with a reduction in catch and stock abundance, based on the trending information, (particularly biomass index and Fproxy).</p> <p>Horse mackerel stock status is poorly known however catch levels are low and not considered to hinder the population (recovery or rebuilding of the stock).</p> <p>Cod SSB has increased in recent years and has not been larger in 40 years.</p> <p>Norway pout fishing mortality is based on ICES advice and is now well below the long term average. The stock is above its target MSY escapement.</p> <p>Redfish, such as golden redfish and deepsea redfish stock have low catches from Mackerel fisheries, demonstrating that the precautionary managed fishery is not considered to hinder the population status or any recovery or rebuilding of the stock.</p> <p>Salmon stock status is poorly known and poor recruitment in marine environment is associated with current decline. ICES and NASCO advise on actions to improve information and management. Catch levels were considered low and not likely to hinder the population (recovery or rebuilding of the stock).</p> <p>Operational practices are typically similar for purse seine fishing and it was observed in these reports that operational practices within all of the fisheries are therefore sufficient to prevent the fisheries causing this species to be outside any appropriate biologically based limits, not to hinder recovery.</p> <p>For the ISF purse seine mackerel fishery, the precautionary approach is considered appropriate until more commercial information about the fishery is available. SG 80 awarded, however SG 100 is likely to be met when more commercial information specific to the ISF fishery becomes available.</p>
References	<p>Directorate of Fisheries data from 2013-2016</p> <p>ICES Latest advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>NAMMCO – https://nammco.no/</p> <p>NASCO – http://www.nasco.int/</p> <p>IUCN – http://www.iucnredlist.org/details/9250/0</p> <p>MSC Certified purse seine mackerel fisheries – https://fisheries.msc.org/en/fisheries/</p> <p>Personal communication – Site visit with ISF Feb. 2017</p>

PI 2.1.1	The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.	
OVERALL PERFORMANCE INDICATOR SCORE:		80
CONDITION NUMBER (if relevant):		N/A

12.2.3 PI 2.1.1 – Primary species outcome – Handline UoA 3

PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main primary species stock status			
	Guidepost	Main primary species are likely to be above the PRI OR If the species is below the PRI, the UoA has measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are highly likely to be above the PRI OR If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main , to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY.
	Met?	N/A	N/A	N/A
	Justification	No primary main species stock was identified from the 4 years (2013 -2016) DoF catch composition data for Handline fishery, therefore this PI (Sia) is considered not applicable.. This approach is based on the MSC guidance (Interpretation – Date: 14/02/2017 ID: 2845) for “P2 species outcome Pis – scoring when no main or no minor (or both)”. Therefore, if the fishery has no main species, scoring issue (a) is not applicable .		
B	Minor primary species stock status			
	Guidepost			Minor primary species are highly likely to be above the PRI OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species
	Met?			N (Common Dab) Y (Rest of them)
	Justification	There are 10 primary minor species stocks identified in the catch composition for the handline fishing gear UoA – collectively with small catch levels of less than 0.47% of totals for the periods, the species list includes: Argentine, Atlantic wolffish, Blue ling, Cod, Common Dab, Golden redfish, Haddock, Ling, Saithe, and Tusk. - <u>Golden redfish</u> , fishing mortality since 2010 has been estimated to be around F_{MSY} . Spawning-stock biomass (SSB) has steadily increased for the past 20 years but SSB is estimated to decrease in 2016 and 2017. However, the team can confirm that the cath from Mackerel (0.04 %) does not hinder the recovery of the species - Saithe, the 2016 ICES advise indicate the spawning-stock biomass (SSB) to be above		

PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.
		<p>MSY $B_{trigger}$ since 1998 and is currently close to the time-series maximum.</p> <ul style="list-style-type: none"> - <u>Ling</u>, SSB has increased since 2004 and is at the highest level in the time-series. ICES advise that the stock is above the $MSYB_{trigger}$. - <u>Tusk</u>, fishing mortality has declined in recent years, but is above the F_{MSY} estimate. SSB has been increasing in recent years. - <u>Argentine</u>, the F_{proxy} has decreased since 2010 and has been below the target F_{proxy} since 2014, which corresponds with a reduction in catch and stock abundance, based on the trending information, (particularly biomass index and F_{proxy}). Total catch reported by DoF in four years for all UoAs (4 gear types) is low (0.23%). - <u>Atlantic wolfish</u>, fishing mortality has declined since 2009 and is now below F_{MSY} - <u>Cod</u>, SSB has increased in recent years and has not been larger in 40 years. - <u>Blue ling</u>, biomass index is considered above possible biomass reference points. F_{proxy} has been below the target value for the last two years - <u>Common Dab</u>, Total reported in 4 years by DoF for all gear types in assessment (4 UoAs) catch is low (0.01%). F_{proxy} has been below the target since 2015, however, biomass index is stable and increasing, and is considered to be above biomass levels of 2008; evidencing that the fishery is not hindering the recovery or rebuilding of this stock. Being precautionary a score of 80 is met. - <u>Haddock</u>, trends of catch are decreasing, the recruitment in 2016 increased regarding the previous years, the mortality is above the sustainable limit and SSB is above $B_{trigger}$ and increasing. <p>All are determined from current information (see Section: Primary species) that all Minor primary species are highly likely to be above the PRI and SG 100 is met.</p>
References		<p>See Section: Primary species</p> <p>ICES Latest Advice 2016 – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p>
Score element 1 (Argentine)		100
Score element 2 (Atlantic wolfish)		100
Score element 3 (Blue ling)		100
Score element 4 (Cod)		100
Score element 5 (Common Dab)		80
Score element 6 (Golden redfish)		100
Score element 7 (Haddock)		100
Score element 8 (Ling)		100
Score element 9 (Saithe)		100
Score element 10 (Tusk)		100
OVERALL PERFORMANCE INDICATOR SCORE:		90
CONDITION NUMBER (if relevant):		N/A

12.2.4 PI 2.1.1 – Primary species outcome –Bottom Otter trawl UoA 4

PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main primary species stock status			
	Guidepost	Main primary species are likely to be above the PRI OR If the species is below the PRI, the UoA has measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are highly likely to be above the PRI OR If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main , to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY.
	Met?	Y	Y	Y
B	Justification	There are 5 primary main species stocks identified within the catch composition for the bottom trawl fishing gear UoA. The species list includes: Cod, Golden redfish, Greenland halibut, Haddock, and Saithe. <u>Golden redfish</u> , fishing mortality since 2010 has been estimated to be around F_{MSY} . Spawning-stock biomass (SSB) has steadily increased for the past 20 years but SSB is estimated to decrease in 2016 and 2017. However, the team can confirm that the catch from Mackerel (13 %) does not hinder the recovery of the species. <u>Greenland halibut</u> , the stock has been above $MSY B_{trigger}$ for the majority of the time-series, and after dropping below the trigger in 2004 and 2005 it has steadily increased and is currently above $MSY B_{trigger}$. <u>Saithe</u> , the 2016 ICES advise indicate the spawning-stock biomass (SSB) to be above $MSY B_{trigger}$ since 1998 and is currently close to the time-series maximum. <u>Cod</u> , SSB has increased in recent years and has not been larger in 40 years. <u>Haddock</u> , trends of catch are decreasing, the recruitment in 2016 increased regarding the previous years, the mortality is above the sustainable limit and SSB is above $B_{trigger}$ and increasing. Based on current information (see Section: Primary species) there is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY and SG 100 is met .		
	Minor primary species stock status			
	Guidepost			Minor primary species are highly likely to be above the PRI OR If below the PRI, there is evidence that the UoA does

PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.		
				not hinder the recovery and rebuilding of minor primary species
	Met?			Y
	Justification	<p>There are 11 primary minor species stocks identified within the catch composition for the bottom trawl fishing gear UoA, collectively with small catch levels of less than 3.13% for the periods. The species list includes: Anglerfish, Argentine, Atlantic wolfish, Blue ling, Deep sea redfish, Herring, Lemon sole, Ling, Plaice, Tusk, and Witch.</p> <p>Blue ling, biomass index is considered above possible biomass reference points. Fproxy has been below the target value for the last two years.</p> <p>Herring (both stocks), Summer spawning herring stock is consider well above its B_{lim} and $MSY B_{trigger}$ point, so can be considered as around the MSY level. The Norwegian spring spawning herring stock has been declining and estimated to be below $MSY B_{trigger}$ in 2014. Fishing mortality in 2014 was below F_{pa} and F_{MSY} and the management plan target F, although F had been above this in recent years. The stock is still well-above its B_{lim} and at full reproductive capacity. Both herring stocks are identified with a high degree of certainty to be above the PRI.</p> <p>Ling, SSB has increased since 2004 and is at the highest level in the time-series. ICES advise that the stock is above the $MSYB_{trigger}$.</p> <p>Plaice, fishing mortality has declined since 1997 and is at an all-time low, while biomass has slowly increased since 2000. Total catch in four years reported by DoF for all gear types (4 UoAs) is low (0.08%).</p> <p>Tusk, fishing mortality has declined in recent years, but is above the FMSY estimate. SSB has been increasing in recent years.</p> <p>Anglerfish, , fishing mortality is below Fproxy target since 2015 and Biomass index is higher than levels of 2002 but decreasing. Total catch in four years reported by DoF for all gear types (4 UoAs) is low (0.18%).</p> <p>Argentine, the Fproxy has decreased since 2010 and has been below the target Fproxy since 2014, which corresponds with a reduction in catch and stock abundance, based on the trending information, (particularly biomass index and Fproxy). Total catch in four years reported by DoF for all gear types (4 UoAs) is low (0.23%).</p> <p>Atlantic wolfish, fishing mortality has declined since 2009 and is now below FMSY.</p> <p>Deep sea redfishes, the species has not PRI and the recruitment and in the last survey the index for juveniles was low, however, the catches from Mackerel fisheries are almost negligible and do not hinder the stock status (<0.05%)</p> <p>Lemon sole, biomass index and juvenile index are stable, however there is an increased F_{proxy} which corresponding to increase fishing. Total catch in four years reported by DoF for all gear types (4 UoAs) is low (0.11%).</p> <p>Witch, biomass index has been high since 2004. The recruitment index has declined since 2009. F_{proxy} has remained relatively low over the last four years. Total catch in four years reported by DoF for all gear types (4 UoAs) is low (0.01%).</p> <p>Based on current information of the stock status of these species (see Section: Primary species) all Minor primary species are highly likely to be above the PRI and SG 100 is met.</p>		
References		<p>see Section: Primary species</p> <p>ICES Latest Advice 2016 – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p>		

PI 2.1.1	The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.	
Score element 1 (Cod)		100
Score element 2 (Golden redfish)		100
Score element 3 (Greenland halibut)		100
Score element 4 (Haddock)		100
Score element 5 (Saithe)		100
Score element 6 (Anglerfish)		100
Score element 7 (Argentine)		100
Score element 8 (Atlantic wolfish)		100
Score element 9 (Blue ling)		100
Score element 10 (Deepsea redfish)		100
Score element 11 (Herrings)		100
Score element 12 (Lemon sole)		100
Score element 13 (Ling)		100
Score element 14 (Plaice)		100
Score element 15 (Tusk)		100
Score element 16 (Witch)		100
OVERALL PERFORMANCE INDICATOR SCORE:		100
CONDITION NUMBER (if relevant):		N/A

12.2.5 PI 2.1.2 – Primary species management strategy – Pelagic trawl UoA 1

PI 2.1.2	There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
Scoring Issue	SG 60	SG 80	SG 100
a	Management strategy in place		
	Guided post	There are measures in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to above the point where recruitment would be impaired.	There is a partial strategy in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the point where recruitment would be impaired.
	Met?	Y	Y
	Justification	<p>There are 17 primary species stocks identified within the catch composition for the pelagic trawl fishing gear UoA. The management strategies implemented to ensure commercial species are exploited at sustainable levels include:</p> <ul style="list-style-type: none"> - Schedule stock and ecosystem surveys and assessment updates with information sharing among appropriate marine resources management such as ICES, ICCAT, and MFRI, to advise on commercial harvest removal levels. - Regulations banning discard, and mandatory catch weighing and weight cross-checking. - Mandatory vessel logbook and elogbook reporting of catch, - Mandatory technical fishing measures such as minimum mesh size, and in-net separator grids, - Mandatory installation of VMS or AIS for MCS of national fleet and foreign vessels permitted, with at-sea patrol and check points to all fishing within the EEZ. - Fishers self-sampling of commercial catch and data sharing with national agencies (MFRI and DoF) as well as international (ICES) to facilitate stock assessments and TAC advice. - Formal catch share and quota transfer (ITQ) system. <p>Closed areas – long and shortterm to reduce incidental catch but more to facilitate protection of vulnerable species, juvenile species, and spawning areas (dependent habitats and ecosystems).</p> <p>In practice the fishery monitoring, controlling and surveillance (MCS) measures provide important near-time data on catch and fishing operations (VMS and AIS tracking). National stock surveys and assessments are conducted at different schedules with data sharing and reviewed across regional and international organizations such as ICES and ICATT for collective agreement on catch allocations (TAC).</p> <p>There is a catch limitation system that is based on the catch share allocated to individual vessels. Each vessel is allocated a certain share of the total allowable catch (TAC) of the relevant species. The catch limit of each vessel during the fishing year is thus determined on basis of the TAC of the relevant species and the vessel's share in the total catch. Vessel are allowed to trade quota under the ITQ system.</p> <p>The Marine Research Institute (MFRI) of Iceland carries out wide-ranging and extensive</p>	

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		<p>research on the status and productivity of commercial stocks, and long-term research on the marine environment and the ecosystem in Icelandic waters. This research is the basis of the Institute’s advice on sustainable catches of the fish stocks at each time. Including scientific advice for restrictions, such as live-release to aid recovery of a stocks and nil discarding of other catch affording all fishing data to be collect and available for stock assessment, scientific advice and strategic sustainable management.</p> <p>The Ministry of Industries and Innovation bases its policy decisions on annual total allowable catch on the recommendations of the Marine Research Institute as well as consultation with stakeholders. In practice the Ministry follows almost all recommendation by the Marine Research Institute and very compelling and concrete arguments have been needed in the few instances in later years when the Ministry has allowed larger TAC than recommended by the MFRI.</p> <p>The Directorate of Fisheries (DoF) allocates annual catch quotas to each vessel by distributing the total allowable catch according to the quota shares attached to each vessel. Transferable quota shares have been distributed to individual fishing vessels on the basis of their catches in a given stock during the three years prior to the introduction of the stock into the quota system. Effective control and enforcement is an inseparable part of responsible fisheries management. The Directorate of Fisheries monitors Icelandic fisheries closely to ensure that all rules are obeyed.</p> <p>Therefore, there is a strategy in place for the UoA for managing main and minor primary species and SG 100 is met.</p>		
B		Management strategy evaluation		
	Guided post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved.
	Met?	Y	Y	Y 10 species N 7 species – Deep sea redfish, Anglerfish, Argentine, Atlantic bluefin tuna, Atlantic wolfish, Blue ling, and Lumpfish
	Justification	<p>All primary species stocks are managed in the sense of being monitored and scientifically assessed to understand their status, as well as to advice on TAC, particularly to allow landing of catch from mixed fishery. All catch are required to be landed (except restricted species) and all catch are used. The obligation of landing all catch and the control of TAC is supervised by the the Directorate of Fisheries. All the catches landed are reported and the Icelandic law has a system where the catches in port are weighted and all the species landed are checked.</p> <p>The annual (schedule) stock assessment and surveys are measures which generate species stock status information. The accuracy of this information is compared against historic advise to test effectiveness for sustainable exploitation of the fishery management strategies. These measures are currently working and are highly likely to continue working; they are established on objective scientific basis with confidence, SG 80 is met.</p>		

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		<p>As stated in PI2.1.1. Some primary stocks are managed around MSY (Herring, Blue whiting, Golden redfish, Greenland halibut, Saithe, Ling, Plaice, and Tusk), while some are managed around SSB Btrigger (Cod, and Haddock) or Precautionary Approaches (PA). Stock assessment as a means of testing identify high confidence with the strategy for stocks managed around MSY and SSB Btrigger, therefore SG 100 is met.</p> <p>However for stocks managed at PA or at levels of uncertainty (including Deep sea redfish, Anglerfish, Argentine, Atlantic bluefin tuna, Atlantic wolfish, Blue ling, and Lumpfish) will required demonstration of increase abundance or decreasing mortality in order to test and verify that the PA strategy is effective. This would represent high confidence that the partial strategy will or is working. For these 7 species SG 80 is met but SG 100 is not met.</p>		
C	Management strategy implementation			
	Guidepost	There is some evidence that the measures/partial strategy is being implemented successfully .	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a).	
	Met?	Y	Y	
	Justification	<p>All measures mentioned above are implemented and monitored. Measures in place demonstrate that scheduled fish surveys are conducted and catch data is monitored against TAC for all managed stocks (main and minor stock). There is implementation and compliance with discard ban for all catch (except restricted species) therefore all fishing mortality will be considered into stock assessment to objectively advise on levels of fishing mortality, and stock abundance including trends or rebuilding. Fishers can trade quota (ITQ) to ensure they can fish related species legally and by trading quota there is no increase of fishing effort therefore no increase in fishing pressure. Areas closures are implemented and vessels are monitored by the Coast Guard.</p> <p>Therefore, there is sufficient evidence to support that fishery management strategies are implement successfully and meeting their objective to appropriately manage primary main and minor species and SG 100 is met.</p>		
D	Shark finning			
	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	Not relevant	Not relevant	Not relevant
	Justification	No primary species are shark- Not relevant		
e	Review of alternative measures			
	Guidepost	There is a review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main primary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main primary species and they are implemented as	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all primary species, and they are implemented

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
			appropriate.	as appropriate.
	Met?	Y	Y	Y
	Justification	<p>Unwanted catches do not occur in the fishery under assessment. All catch (targeted and incidental) are required to be landed according to the national discard ban implemented since 1970s. Discarding catch overboard is prohibited and such conduct is subject to penalty according to law, also all catch are required to be recorded in vessel logbook (Regulation no 557/2007 on logbooks).</p> <p>Since 1984, fishers are allowed to trade quota in order to exploit mixed shoals of stocks and comply with their permitted fishing allocations. In addition they are allowed to fish into next season quota by a maximum of 5% without penalties. Also various technical measures such as closed areas, use of by-catch devices, and mesh size restrictions, are used to reduce incidental catch of non-target species.</p> <p>Foreign vessels such as Norwegian fishers are required to comply, and are monitored by at-sea patrol (check points) as well as port inspections. Discarding was not identified during the assessment through stakeholders' interviews and relevant literature review (MFRI and Ministry of Fisheries).</p> <p>The effectiveness of these measures to reduce incidental catch and manage exploitations at sustainable levels is considered during scheduled and annual stock assessment, scientific advise, and species harvest strategy. There is not a dedicate process for reviewing unwanted catch however this protocol represents the strategy implemented for reviewing and advising on the various measures for all species landed to ensure reduction of incidental catch and species are exploitations at sustainable levels.</p> <p>Another important point is that all catch are utilized for traditional means such as fish for human consumptions or fish and fish products for animal feed production. Industrial vessel are required to land processing by products. Also alternative and innovative products such as leather, oil, and drinks are produced from fish by-products (Regulation no 601/2003 on utilization of catch and by-products).</p> <p>On the other hand, regarding ghost fishing, Iceland as other countries fishing in ICES areas follows FAO recommendations in terms of prevent the ghost fishing with measures such as: gear marking, better reporting of gear loss, minimize the impacts in the environment using recyclable material, gear recovering programme, disposal of old gear. Icelandic Maritime Administration provide guidelines in relation to fishing vessels together with the record book on the reporting of fishing gears lost.</p> <p>For all 17 primary species, it is evident that there is an annual (rather than biennial) review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate, SG 60, 80, and 100 are met.</p>		
References		<p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p> <p>ICCAT Atlantic Bluefin tuna advice 2014/17- https://www.iccat.int/Documents/SCRS/ExecSum/BFT_ENG.pdf</p> <p>ICES 2016/17 Stock Advice– http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p>		

PI 2.1.2	There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.	
	Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/ Icelandic Ministry of Fisheries and Agriculture – http://www.fisheries.is/management/ Fisheries and Resource Monitoring System (FIRMS) – http://firms.fao.org/firms/summaries/en	
Score element 1 (Blue whiting)		100
Score element 2 (Herring)		100
Score element 3 (Anglerfish)		95
Score element 4 (Argentine)		95
Score element 5 (Atlantic Bluefin tuna)		95
Score element 6 (Atlantic wolfish)		95
Score element 7 (Blue ling)		95
Score element 8 (Cod)		100
Score element 9 (Golden redfish)		100
Score element 10 (Greenland halibut)		100
Score element 11 (Haddock)		100
Score element 12 (Ling)		100
Score element 13 (Lumpfish)		95
Score element 14 (Deepsea redfish)		95
Score element 15 (Plaice)		100
Score element 16 (Saithe)		100
Score element 17 (Tusk)		100
OVERALL PERFORMANCE INDICATOR SCORE:		95
CONDITION NUMBER (if relevant):		N/A

12.2.6 PI 2.1.2 – Primary species management strategy – Purse Seine UoA 2

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guidepost	There are measures in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to above the point where recruitment would be impaired.	There is a partial strategy in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the point where recruitment would be impaired.	There is a strategy in place for the UoA for managing main and minor primary species.
	Met?	Y	Y	N
	Justification	There were nil primary species. The purse seine fishing gear was used in an investigative trial commercial fishery in 2013 for mackerel. Nil primary main and minor species were identified from the DoF catch data provided. However, fishing operations in Iceland is recognised with appropriate management strategies. For instance; the MFRI provides scientific monitoring and advice on commercial stocks and marine environment to departments in the Icelandic Ministry of Fisheries and Agriculture: (http://www.fisheries.is/management/fisheries-management/). Regulations and Fisheries Management Acts as well as Plans are prepared and implemented taking into consideration regional and international conventions (UNCLOS) and joint nations exploiting stocks in Iceland EEZ. Monitoring, control and surveillance is supported by National Coastguard, and violations are prosecuted with sanctions considered appropriate to differ or dis-incentive offences. The discard ban and monitoring of catch is a fundamentally strong strategy allowing management of targeted and incidentally catch species. TAC and By-catch TAC or precautionary approaches are advised at scheduled such as annually. Catch share and quota (ITQ) sharing strategy is implemented which also is a component of the harvest strategy and control on fishing removals within sustainable levels. Catch reconciliation is ongoing (inter-annual and end of season). Specific to respective fisheries there are closed areas and marine protection areas where fishing is restricted seasonally or totally to avoid impact to areas or habitat considered critical to the stocks (spawning, feeding, nursery, juvenile, or migration). Various technical measures are implemented and monitored in the fisheries, such as minimum mesh size for net gear, and small fish move on protocol. Therefore management and operational strategies within this ISF fisheries are considered sufficient to prevent the fisheries causing this species to be outside any appropriate biologically based limits, not to hinder recovery. Also there are partial strategies in place for the ISF purse seine fleet to managing likely main and minor primary species. SG 60, 80, are met but SG 100 is not met.		
B	Management strategy evaluation			
	Guidepost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the fishery

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		comparison with similar fisheries/species).	about the fishery and/or species involved.	and/or species involved.
	Met?	Y	Y	N
	Justification	There were nil primary species. The purse seine fishing gear was used in an investigative trial commercial fishery in 2013 for mackerel. Nil primary main and minor species were identified from the DoF catch data provided. From the likely species caught (2.1.1) in the MSC certified mackerel purse seine fishery of similar latitudes, it cannot be said that the management strategies for all species are tested with high confidence. For example salmon and pilot whales are not managed by TAC and stock assessments. However fisheries management strategies are established with objectives in the management plans, SG 60 and 80 are met.		
C	Management strategy implementation			
	Guidepost		There is some evidence that the measures/partial strategy is being implemented successfully .	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a).
	Met?		Y	N
	Justification	The purse seine fishing gear was used in an investigative trial commercial fishery in 2013 for mackerel. Nil primary main and minor species were identified from the DoF catch data provided. From the likely species caught (2.1.1) in the MSC certified mackerel purse seine fishery of similar latitudes, it cannot be said that the management strategies for all species are implemented with clear evidence of success. A recommendation is established to ensure verifiable information specific to the commercial ISF purse seine fishery is made available during review of changes in the fishery. There some evidence that from TAC compliance and stocks operating around target reference point, on not hindered to recovery, that the management strategies are being implemented successfully. SG 80 is meet as a default.		
D	Shark finning			
	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	Not relevant	Not relevant	Not relevant
	Justification	N/A – Nil primary species are shark		
e	Review of alternative measures			
	Guidepost	There is a review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main	There is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		primary species.	of main primary species and they are implemented as appropriate.	of all primary species, and they are implemented, as appropriate.
	Met?	Y	Y	Y
	Justification	<p>The purse seine fishing gear was used in an investigative fishery in 2013 for mackerel. Nil primary species were identified from the DoF catch data provided.</p> <p>Regular review and advise on management is conducted for all likely species. On the other hand, purse seine as a gear type used in Iceland has to comply with some general Icelandic regulations with no matter which is the target species.</p> <p>Therefore, regarding ghost fishing, Iceland as other countries fishing in ICES areas follows FAO recommendations in terms of prevent the ghost fishing with measures such as: gear marking, better reporting of gear loss, minimize the impacts in the environment using recyclable material, gear recovering programme, disposal of old gear. Icelandic Maritime Administration provide guidelines in relation to fishing vessels together with the record book on the reporting of fishing gears lost. Therefore, SG 80 is met.</p> <p>A specific biennial review is not conducted for all stock and information is a proxy to the ISF purse seine fishery, therefore SG 100 is not meet.</p>		
References		<p>Directorate of Fisheries data from 2013-2016.</p> <p>Jennings et al. 2001.</p> <p>Iceland Ministry of Fisheries and Agriculture (IMFA).</p> <p>Personal communication – Site visit with ISF Feb. 2017.</p>		
OVERALL PERFORMANCE INDICATOR SCORE:				80
CONDITION NUMBER (if relevant):				N/A

12.2.7 PI 2.1.2 – Primary species management strategy – Handline UoA 3

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guided post	There are measures in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to above the point where recruitment would be impaired.	There is a partial strategy in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the point where recruitment would be impaired.	There is a strategy in place for the UoA for managing main and minor primary species.
	Met?	Y	Y	Y
	Justification	<p>There are 10 primary minor species stocks identified in the catch composition for the handline fishing gear UoA, the species list includes. The management strategies implemented to ensure commercial species are exploited at sustainable levels include:</p> <ul style="list-style-type: none"> - Schedule stock and ecosystem surveys and assessment updates with information sharing among appropriate marine resources management such as ICES, ICCAT, and MFRI, to advise on commercial harvest levels, - Regulations banning discard, and mandatory catch weighing and weight cross-checking, - Mandatory vessel logbook and elogbook reporting of catch, - Mandatory technical fishing measures such as minimum mesh size, and in-net separator grids, - Mandatory installation of VMS or AIS for MCS of national fleet and foreign vessels permitted, with at-sea patrol and check points to all fishing within the EEZ, - Fishers self-sampling of commercial catch and data sharing with national agencies (MFRI and DoF) as well as international (ICES) to facilitate stock assessments and TAC advice, - Formal catch share and quota transfer (ITQ) system - Closed areas – long and shortterm to reduce incidental catch but more to facilitate protection of vulnerable species, juvenile species, and spawning areas (dependent habitats and ecosystems) <p>In practice the fishery monitoring, controlling and surveillance (MCS) measures provide important near-time data on catch and fishing operations (VMS and AIS tracking). National stock surveys and assessments are conducted at different schedules with data sharing and reviewed across regional and international organizations such as ICES and ICATT for collective agreement on catch allocations (TAC).</p> <p>The Marine Research Institute (MFRI) of Iceland carries out wide-ranging and extensive research on the status and productivity of commercial stocks, and long-term research on the marine environment and the ecosystem in Icelandic waters. This research is the basis of the Institute's advice on sustainable catches of the fish stocks at each time. Including scientific advice for restrictions, such as live-release to aid recovery of a stocks and nil discarding of other catch affording all fishing data to be collect and available for stock assessment, scientific advice and strategic sustainable management.</p>		

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		<p>The Ministry of Industries and Innovation bases its policy decisions on annual total allowable catch on the recommendations of the Marine Research Institute as well as consultation with stakeholders. In practice the Ministry follows almost all recommendation by the Marine Research Institute and very compelling and concrete arguments have been needed in the few instances in later years when the Ministry has allowed larger TAC than recommended by the MFRI.</p> <p>The Directorate of Fisheries (DoF) allocates annual catch quotas to each vessel by distributing the total allowable catch according to the quota shares attached to each vessel. Transferable quota shares have been distributed to individual fishing vessels on the basis of their catches in a given stock during the three years prior to the introduction of the stock into the quota system. Effective control and enforcement is an inseparable part of responsible fisheries management. The Directorate of Fisheries monitors Icelandic fisheries closely to ensure that all rules are obeyed. All together these represents the strategies implemented to manage both primary main and minor species and SG 100 is met.</p>		
B	Management strategy evaluation			
	Guided post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved.
	Met?	Y	Y	Y 6 species N 4 species Argentine, Atlantic wolfish, Blue ling, and Common dab
	Justification	<p>All primary species stocks are managed in the sense of being monitored and scientifically assessed to understand their status, as well as to advice on TAC, particularly to allow landing of catch from mixed fishery. All catch are required to be landed (except restricted species) and all catch are used.</p> <p>The annual (schedule) stock assessment and surveys are measures which generate species stock status information. The accuracy of this information is compared against historic advise to test effectiveness for sustainable exploitation of the fishery management strategies. These measures are currently working and are highly likely to continue working; they are established on objective scientific basis with confidence, SG 80 is met.</p> <p>As stated in PI2.1.1. Some primary stocks are managed around MSY (Golden redfish, Saithe, Ling and Tusk), while some are managed around SSB Btrigger (Cod, and Haddock) or Precautionary Approaches (PA). Stock assessment as a means of testing identify high confidence with the strategy for stocks managed around MSY and SSB Btrigger, therefore SG 100 is met.</p> <p>However for stocks managed at PA or at levels of uncertainty (including Argentine, Atlantic wolfish, Blue ling, and Common dab) will required demonstration of increase abundance or decreasing mortality in order to test and verify that the PA strategy is effective. This would represent high confidence that the partial strategy will or is working. For these 4 species SG 80 is met but SG 100 is not met.</p>		
C	Management strategy implementation			

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
	Guidepost		There is some evidence that the measures/partial strategy is being implemented successfully .	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a).
	Met?		Y	Y
	Justification	<p>All measures mentioned above are implemented and monitored. Measures in place demonstrate that scheduled fish surveys are conducted and catch data is monitored against TAC for all managed stocks (main and minor stock). There is implementation and compliance with discard ban for all catch (except restricted species) therefore all fishing mortality will be considered into stock assessment to objectively advise on levels of fishing mortality, and stock abundance including trends or rebuilding. Areas closures are implemented and vessels are monitored by the Coast Guard.</p> <p>Therefore, there is sufficient information to support that fishery management strategies are implement successfully and meeting their objective to appropriately manage primary main and minor species and SG 100 is met.</p>		
D		Shark finning		
	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	Not relevant	Not relevant	Not relevant
	Justification	No primary species are shark		
e		Review of alternative measures		
	Guidepost	There is a review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main primary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main primary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.
	Met?	Y	Y	Y
	Justification	<p>Unwanted catches do not occur in the fishery under assessment. All catch (targeted and incidental) are required to be landed according to the national discard ban implemented since 1970s. Discarding catch overboard is prohibited and such conduct is subject to penalty according to law, also all catch are required to be recorded in vessel logbook (Regulation no 557/2007 on logbooks).</p> <p>Since 1984, fishers are allowed to trade quota in order to exploit mixed shoals of stocks and comply with their permitted fishing allocations. In addition they are allowed to fish into next season quota by a maximum of 5% without penalties. Also various technical measures such as closed areas, use of by-catch devices, and mesh size restrictions, are used to reduce incidental catch of non-target species.</p> <p>Foreign vessels such as Norwegian fishers are required to comply, and are monitored by</p>		

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.
		<p>at-sea patrol (check points) as well as port inspections. Discarding was not identified during the assessment through stakeholders’ interviews and relevant literature review (MFRI and Ministry of Fisheries).</p> <p>The effectiveness of these measures to reduce incidental catch and manage exploitations at sustainable levels is considered during scheduled and annual stock assessment, scientific advise, and species harvest strategy. There is not a dedicate process for reviewing unwanted catch however this protocol represents the strategy implemented for reviewing and advising on the various measures for all species landed to ensure reduction of incidental catch and species are exploitations at sustainable levels.</p> <p>Another important point is that all catch are utilized for traditional means such as fish for human consumptions or fish and fish products for animal feed production. Industrial vessel are required to land processing by products. Also alternative and innovative products such as leather, oil, and drinks are produced from fish by-products (Regulation no 601/2003 on utilization of catch and by-products).</p> <p>On the other hand, regarding ghost fishing, Iceland as other countries fishing in ICES areas follows FAO recommendations in terms of prevent the ghost fishing with measures such as: gear marking, better reporting of gear loss, minimize the impacts in the environment using recyclable material, gear recovering programme, disposal of old gear. Icelandic Maritime Administration provide guidelines in relation to fishing vessels together with the record book on the reporting of fishing gears lost.</p> <p>For all 17 primary species, it is evident that there is an annual (rather than biennial) review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate, SG 60, 80, and 100 are met.</p>
References		<p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p> <p>ICCAT Atlantic Bluefin tuna advice 2014/17- https://www.iccat.int/Documents/SCRS/ExecSum/BFT_ENG.pdf</p> <p>ICES 2016/17 Stock Advice– http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/</p> <p>Icelandic Ministry of Fisheries and Agriculture – http://www.fisheries.is/management/</p> <p>Fisheries and Resource Monitoring System (FIRMS) – http://firms.fao.org/firms/summaries/en</p>
Score element 1 (Argentine)		95
Score element 2 (Atlantic wolfish)		95
Score element 3 (Blue ling)		95
Score element 4 (Cod)		100
Score element 5 (Common Dab)		95
Score element 6 (Golden redfish)		100
Score element 7 (Haddock)		100

PI 2.1.2	There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.	
Score element 8 (Ling)		100
Score element 9 (Saithe)		100
Score element 10 (Tusk)		100
OVERALL PERFORMANCE INDICATOR SCORE:		95
CONDITION NUMBER (if relevant):		N/A

12.2.8 PI 2.1.2 – Primary species management strategy – Bottom trawl UoA 4

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guidepost	There are measures in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to above the point where recruitment would be impaired.	There is a partial strategy in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the point where recruitment would be impaired.	There is a strategy in place for the UoA for managing main and minor primary species.
	Met?	Y	Y	Y
	Justification	<p>There are 16 primary species stocks identified within the catch composition for the bottom trawl fishing gear UoA. The management strategies implemented to ensure commercial species are exploited at sustainable levels include:</p> <ul style="list-style-type: none"> - Schedule stock and ecosystem surveys and assessment updates with information sharing among appropriate marine resources management such as ICES, ICCAT, and MFRI, to advise on commercial harvest levels, - Regulations banning discard, and mandatory catch weighing and weight cross-checking, - Mandatory vessel logbook and elogbook reporting of catch, - Mandatory technical fishing measures such as minimum mesh size, and in-net separator grids, - Mandatory installation of VMS or AIS for MCS of national fleet and foreign vessels permitted, with at-sea patrol and check points to all fishing within the EEZ, - Fishers self-sampling of commercial catch and data sharing with national agencies (MFRI and DoF) as well as international (ICES) to facilitate stock assessments and TAC advice, - Formal catch share and quota transfer (ITQ) system - Closed areas – long and shortterm to reduce incidental catch but more to facilitate protection of vulnerable species, juvenile species, and spawning areas (dependent habitats and ecosystems) <p>In practice the fishery monitoring, controlling and surveillance (MCS) measures provide important near-time data on catch and fishing operations (VMS and AIS tracking). National stock surveys and assessments are conducted at different schedules with data sharing and reviewed across regional and international organizations such as ICES and ICATT for collective agreement on catch allocations (TAC).</p> <p>The Marine Research Institute (MFRI) of Iceland carries out wide-ranging and extensive research on the status and productivity of commercial stocks, and long-term research on the marine environment and the ecosystem in Icelandic waters. This research is the basis of the Institute's advice on sustainable catches of the fish stocks at each time. Including scientific advice for restrictions, such as live-release to aid recovery of a stocks and nil discarding of other catch affording all fishing data to be collect and available for stock assessment, scientific advice and strategic sustainable management.</p>		

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		<p>The Ministry of Industries and Innovation bases its policy decisions on annual total allowable catch on the recommendations of the Marine Research Institute as well as consultation with stakeholders. In practice the Ministry follows almost all recommendation by the Marine Research Institute and very compelling and concrete arguments have been needed in the few instances in later years when the Ministry has allowed larger TAC than recommended by the MFRI.</p> <p>The Directorate of Fisheries (DoF) allocates annual catch quotas to each vessel by distributing the total allowable catch according to the quota shares attached to each vessel. Transferable quota shares have been distributed to individual fishing vessels on the basis of their catches in a given stock during the three years prior to the introduction of the stock into the quota system. Effective control and enforcement is an inseparable part of responsible fisheries management. The Directorate of Fisheries monitors Icelandic fisheries closely to ensure that all rules are obeyed.</p> <p>Therefore, there is a strategy in place for the UoA for managing main and minor primary species and SG 100 is met.</p>		
B	Management strategy evaluation			
	Guidepost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved.
	Met?	Y	Y	Y 9 species N 7 species: Deep sea redfish, Anglerfish, Argentine, Atlantic wolfish, Lemon sole, Witch, and Blue ling
	Justification	<p>All primary species stocks are managed in the sense of being monitored and scientifically assessed to understand their status, as well as to advice on TAC, particularly to allow landing of catch from mixed fishery. All catch are required to be landed (except restricted species) and all catch are used.</p> <p>The annual (schedule) stock assessment and surveys are measures which generate species stock status information. The accuracy of this information is compared against historic advise to test effectiveness for sustainable exploitation of the fishery management strategies. These measures are currently working and are highly likely to continue working; they are established on objective scientific basis with confidence, SG 80 is met.</p> <p>As stated in PI2.1.1. Some primary stocks are managed around MSY (Herring, Golden redfish, Greenland halibut, Saithe, Ling, Plaice, and Tusk), while some are managed around SSB Btrigger (Cod, and Haddock) or Precautionary Approaches (PA). Stock assessment as a means of testing identify high confidence with the strategy for stocks managed around MSY and SSB Btrigger, therefore SG 100 is met.</p> <p>However for stocks managed at PA or at levels of uncertainty (including Deep sea redfish, Anglerfish, Argentine, Atlantic wolfish, Lemon sole, Witch, and Blue ling) will required</p>		

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		demonstration of increase abundance or decreasing mortality in order to test and verify that the PA strategy is effective. This would represent high confidence that the partial strategy will or is working. For these 7 species SG 80 is met but SG 100 is not met.		
C	Management strategy implementation			
	Guidepost	There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a).	
	Met?	Y	Y	
	Justification	All measures mentioned above are implemented and monitored. Measures in place demonstrate that scheduled fish surveys are conducted and catch data is monitored against TAC for all managed stocks (main and minor stock). There is implementation and compliance with discard ban for all catch (except restricted species) therefore all fishing mortality will be considered into stock assessment to objectively advise on levels of fishing mortality, and stock abundance including trends or rebuilding. Areas closures are implemented and vessels are monitored by the Coast Guard. Therefore, there is sufficient information to support that fishery management strategies are implement successfully and meeting their objective to appropriately manage primary main and minor species and SG 100 is met.		
D	Shark finning			
	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	Not relevant	Not relevant	Not relevant
	Justification	No primary species are shark		
e	Review of alternative measures			
	Guidepost	There is a review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main primary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main primary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.
	Met?	Y	Y	Y
	Justification	Unwanted catches do not occur in the fishery under assessment. All catch (targeted and incidental) are required to be landed according to the national discard ban implemented since 1970s. Discarding catch overboard is prohibited and such conduct is subject to penalty according to law, also all catch are required to be recorded in vessel logbook (Regulation no 557/2007 on logbooks). Since 1984, fishers are allowed to trade quota in order to exploit mixed shoals of stocks and comply with their permitted fishing allocations. In addition they are allowed to fish into next season quota by a maximum of 5% without penalties. Also various technical		

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.
		<p>measures such as closed areas, use of by-catch devices, and mesh size restrictions, are used to reduce incidental catch of non-target species. Foreign vessels such as Norwegian fishers are required to comply, and are monitored by at-sea patrol (check points) as well as port inspections. Discarding was not identified during the assessment through stakeholders’ interviews and relevant literature review (MFRI and IMFA).</p> <p>The effectiveness of these measures to reduce incidental catch and manage exploitations at sustainable levels is considered during scheduled and annual stock assessment, scientific advise, and species harvest strategy. There is not a dedicate process for reviewing unwanted catch however this protocol represents the strategy implemented for reviewing and advising on the various measures for all species landed to ensure reduction of incidental catch and species are exploitations at sustainable levels.</p> <p>Another important point is that all catch are utilized for traditional means such as fish for human consumptions or fish and fish products for animal feed production. Industrial vessel are required to land processing by products. Also alternative and innovative products such as leather, oil, and drinks are produced from fish by-products (Regulation no 601/2003 on utilization of catch and by-products).</p> <p>On the other hand, regarding ghost fishing, Iceland as other countries fishing in ICES areas follows FAO recommendations in terms of prevent the ghost fishing with measures such as: gear marking, better reporting of gear loss, minimize the impacts in the environment using recyclable material, gear recovering programme, disposal of old gear. Icelandic Maritime Administration provide guidelines in relation to fishing vessels together with the record book on the reporting of fishing gears lost.</p> <p>For all 16 primary species, it is evident that there is an annual (rather than biennial) review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate, SG 60, 80, and 100 are met.</p>
References		<p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p> <p>ICCAT Atlantic Bluefin tuna advice 2014/17- https://www.iccat.int/Documents/SCRS/ExecSum/BFT_ENG.pdf</p> <p>ICES 2016/17 Stock Advice– http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/</p> <p>Icelandic Ministry of Fisheries and Agriculture – http://www.fisheries.is/management/</p> <p>Fisheries and Resource Monitoring System (FIRMS) – http://firms.fao.org/firms/summaries/en</p>
Score element 1 (Cod)		100
Score element 2 (Golden redfish)		100
Score element 3 (Greenland halibut)		100
Score element 4 (Haddock)		100
Score element 5 (Saithe)		100
Score element 6 (Anglerfish)		95

PI 2.1.2	There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.	
Score element 7 (Argentine)		95
Score element 8 (Atlantic wolfish)		95
Score element 9 (Blue ling)		95
Score element 10 (Deepsea redfishes)		95
Score element 11 (Herrings)		100
Score element 12 (Lemon sole)		95
Score element 13 (Ling)		100
Score element 14 (Plaice)		100
Score element 15 (Tusk)		100
Score element 16 (Witch)		95
OVERALL PERFORMANCE INDICATOR SCORE:		95
CONDITION NUMBER (if relevant):		N/A

12.2.9 PI 2.1.3 – Primary species information- All 4 UoAs

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impact on main primary species			
	Guidepost	Qualitative information is adequate to estimate the impact of the UoA on the main primary species with respect to status. OR If RBF is used to score PI 2.1.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for main primary species.	Some quantitative information is available and is adequate to assess the impact of the UoA on the main primary species with respect to status. OR If RBF is used to score PI 2.1.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main primary species.	Quantitative information is available and is adequate to assess with a high degree of certainty the impact of the UoA on main primary species with respect to status.
	Met?	Y	Y	Y (Pelagic Trawl, Handline and Bottom trawl) N (Purse Seine)
	Justification	This information applies to all species in 4 gears of the UoAs. Quantitative information is available and is adequate to assess with a high degree of certainty the impact of the UoAs on primary main species with respect to status. All catch information are reported in vessel and elogbook to the DoF and MFRI and serves to measures the impact respective fishing gear might have on respective stocks. Accuracy of catch landed by weight and specie is cross-checked by certified DoF fishery staff with information reported to the MFRI and DoF. Nations with bi-lateral fishing agreements are checked by Coastguard using at-sea check-points and catch from Iceland EEZ that is landed and weight in foreign port are shared with the DoF (and MFRI). This quantitative catch information covers fishing by national and foreign fleets. Also schedule scientific multi-fishery and ecosystem surveys, as well as fishers self-sampling of commercial catch provides important data that are used by MFRI, ICES, and partnering countries when evaluating stock abundance and environmental factors that might impact the various species. Some specific quantitative information for the ISF mackerel purse seine fishery, and proxy information from other MSC certified purse seine mackerel fishery of similar area is available. SG 60 and 80 are met for ISF purse seine fleet. Considering all, there is a high degree of certainty that the available quantitative information is adequate to assess with a high degree of certainty the impact of the other UoA on main primary species with respect to status, SG 100 is met.		
B	Information adequacy for assessment of impact on minor primary species			
	Guidepost			Some quantitative information is adequate to estimate the impact of the UoA on minor primary

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
				species with respect to status.
	Met?			Y (all UoAs)
	Justification	<p>Primary minor species stocks information is available and adequate to estimate the impact of the UoAs.</p> <p>As prevuoisly mentioned, a very important source of quantitative information comes from the compulsory landing of all catch, and this information represent an accurate measure of the impact of each UoA on the respective fish stock status.</p> <p>Schedule stock surveys and stock assessments as well as daily catch data from the routine catch reporting systems (vessel logbooks) is available.</p> <p>These information are included into stock assessments that is used to monitor and indicate trend or changes in stock abundance (or indexes) for primary minor or facilitate proxy and inference into abundance for other incidental capture species, SG 100 is met.</p>		
C	Information adequacy for management strategy			
	Guidepost	Information is adequate to support measures to manage main primary species.	Information is adequate to support a partial strategy to manage main Primary species.	Information is adequate to support a strategy to manage all primary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Y	Y	Y (Pelagic Trawl, Handline and Bottom trawl) N (Purse Seine)
	Justification	<p>For all primary main and minor species in PT, HL, and BT UoA, information available is adequate to evaluate with a high degree of certainty whether the strategy is achieving its objective. It cannot be said that the future Purse seine mackerel fishery will be 100% clean. Also using present proxy information from other mackerel purse seine fishery of the area is adequate near-estimate information to support a partial strategy and precautions, SG 80 is met, but not SG100.</p> <p>As previously mentioned commercial operation information for PT, HL, and BT, where all catch are landed and recorded in vessel logbooks according to national regulations. Schedule stock assessment indicate information trends on individual target species as well as associated catch species. Fishing removal and mortality levels are quantified and use to estimate stock abundance which in itself provides indication on effectiveness of the measure to effectively or appropriately manage the stocks. In practice scientific advice and TAC advice have being to increase, decrease, suspend (ban), or no changes, based on information on stock biomass which is calculated annually as part of the harverst strategy process for primary species. In Icelandic waters all primary main and minor species are managed in this manner therefore SG 100 is met.</p>		
References		<p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p> <p>ICCAT Atlantic Bluefin tuna advice 2014/17 – https://www.iccat.int/Documents/SCRS/ExecSum/BFT_ENG.pdf</p> <p>ICES 2016/17 Stock Advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p>		

PI 2.1.3	Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species	
	Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/ Icelandic Ministry of Fisheries – http://www.fisheries.is/management/ Fisheries and Resource Monitoring System (FIRMS) – http://firms.fao.org/firms/summaries/en	
OVERALL PERFORMANCE INDICATOR SCORE:		
OVERALL UoA 1 (Pelagic Trawl)		100
OVERALL UoA 2 (Purse-Seine)		85
OVERALL UoA 3 (Handline)		100
OVERALL UoA 4 (Bottom Trawl)		100
CONDITION NUMBER (if relevant):		N/A

12.2.10 PI 2.2.1 – Secondary species outcome – Pelagic trawl UoA 1

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main secondary species stock status			
	Guidepost	<p>Main Secondary species are likely to be within biologically based limits.</p> <p>OR</p> <p>If below biologically based limits, there are measures in place expected to ensure that the UoA does not hinder recovery and rebuilding.</p>	<p>Main secondary species are highly likely to be above biologically based limits</p> <p>OR</p> <p>If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding.</p> <p>AND</p> <p>Where catches of a main secondary species outside of biological limits are considerable, there is either evidence of recovery or a, demonstrably effective strategy in place between those MSC UoAs that also have considerable catches of the species, to ensure that they collectively do not hinder recovery and rebuilding.</p>	<p>There is a high degree of certainty that main secondary species are within biologically based limits.</p>
	Met?	Y	Y	Y
	Justification	<p>There is a high degree of certainty that main secondary species are within biologically based limits.</p> <p>White-Beaked Dolphin is the only main secondary species identified in the catch composition for this UoA. Its portion of total UoA catch was significantly low (0.00003%) and is rarely captured. DoF records during 2013-16 indicated only 2 vessels had interaction with this specie and catch levels were less than 441kg over 4 year period. Cumulatively the assessment of Icelandic Gillnet fishery indicates a count of 6 or 1.4% of incidental capture of White-Beaked Dolphin during 1997-2014.</p> <p>This is the most common dolphin around Iceland. It is found in abundance all around the country, both offshore and inshore, although they rarely venture very close to land. The numbers in Icelandic waters are thought to be in the tens of thousands, based on whale surveys.</p> <p>According to updates from IUCN – The species is widespread and abundant and there have been no reported population declines or major threats identified; therefore white-beaked dolphin is currently considered to be of Least Concern.</p>		

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.	
		<p><i>Lagenorhynchus albirostris</i> is reasonably abundant. There are few actual estimates of abundance, but there may be a hundred thousand or more throughout their range (Øien 1996, Reeves et al. 1999). At least a few thousand white-beaked dolphins inhabit Icelandic waters and up to 100,000 are found in the northeastern Atlantic including the Barents Sea, the eastern part of the Norwegian Sea and the North Sea north of 56°N (Øien 1996). A survey of the North Sea and adjacent waters in 1994 provided an estimate of 7,856 (CV=0.30) white-beaked dolphins (Hammond et al. 2002). In 2005 there were an estimated 22,700 (CV=0.42) in the European Atlantic continental shelf waters, including 10,600 (CV=0.29) in the same area surveyed in 1994 (P. Hammond 2007). Kinze et al. (1997) maintained that the white-beaked dolphin is much more common in the North and Baltic Seas than its relative, the Atlantic white-sided dolphin and Northridge et al. (1997) found that white-beaked dolphins are relatively common in European waters compared with white-sided dolphins, or compared with US waters.</p> <p>Considering the above information, there is a high degree of certainty that main secondary species are within biologically based limits, SG 100 is met.</p>	
B	Minor secondary species stock status		
	Guidepost		Minor secondary species are highly likely to be above biologically based limits. OR If below biologically based limits', there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species
	Met?		Y 4 species 8 N Species (Grenadier, Ocean sunfish, Black dogfish, Porbeagle, Rock grenadier, Atlantic salmon, Common Skate, Starry ray)
	Justification	<p>There are 12 secondary minor species identified in the catch composition from pelagic trawl, (Black scabbard fish, Grenadier, Ocean sunfish, Pearlsides, Black dogfish, Porbeagle, Rock grenadier, Atlantic salmon, Common Skate, Squid, Starry ray, and Whiting),</p> <p>The status of secondary minor species stocks is uncertain because these stock are not yet monitored by abundance reference points. Collective catch level (<0.023%) are negligible, however negligible catch level on their own are not appropriate evidence to confirm a specie with regards to biological base limits. Some information with specie ecological relevance is considered that is provided by ICES, IUCN, MFRI, and NASCO.</p> <p>For Iceland all catch data and incidental capture are reported and therefore provide information which facilitates by-catch monitoring of these species, however no formal exploitation reference or management advise is provided that are based on robust stock assessment for these species.</p> <p>- Black scabbard fish is taken by pelagic trawl (0.002%) of the UoA fishery. Total cath in</p>	

PI 2.2.1	The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.
	<p>four years reported by DoF by all the gear types (4 UoAs) is 0.03%. DoF catch monitoring system indicated low levels of non-target catch (346t) for the 2016 calendar year. According to the 2010 ICES NWWG report, by-catch of Black Scabbard fish are low and rare in Icelandic waters. The stock size biomass index is estimated to be stable and increasing since 2013 with reducing fishing pressure; therefore this specie highly likely to be above biologically based limits, SG 100 is met.</p> <ul style="list-style-type: none"> - Pearlside is taken in the UoA pelagic trawl (0.002%). Total cath in four years reported by DoF by all the gear types (4 UoAs) is 0.01%. The Stock size, productivity, and importance of pearlside as food for other species is not known. MFRI advises that when the precautionary approach is applied, catches in the fishing year 2016/2017 should be no more than 30,000t, which is the level corresponding to bycatch trend. The biologically based limits for this specie is unknown, however it is known to be of high fecundity and resilience, and therefore highly likely to be above its biological based limit therefore; SG 100 is met. - Squid is taken in the UoA pelagic trawl (0.01%). Total cath in four years reported by DoF by all the gear types (4 UoAs) is 0.10 %. This is considered to be a common specie in the NE Atlantic. IUCN consider this specie as least concern globally and there is no evidence of stock decline. In the absence of catch monitoring information for this specie, it is understood to be of high resilience therefore this secondary species are highly likely to be above its biologically based limits; SG 100 is met. - Whiting is taken in the UoA pelagic (0.000002%), handline (0.003%), and demersal trawl (0.01%). Total cath in four years reported by DoF by all the gear types (4 UoAs) is 0.53%. MFRI does not provide catch advise for this species. The biomass decline in recent years however is steadily increasing to above levels seen in early 2000's. It is highly likely the stock is above the biologically based limits; SG 100 is met. - Grenadier is monitored for areas where harvesting is known, such as: division Va1 (Oceanic Northeast Atlantic and Northern Reykjanes Ridge). ICES advises that when the precautionary approach is applied, landings should be no more than 65t in each of the years 2016–2017 corresponding to bycatch levels rather than in stock abundance. Landings may include some species misidentification. Overall negligible volume of Grenadier is taken in pelagic trawl (0.0002%) and demersal trawl (0.28%) of the UoA fishery. Total cath in four years reported by DoF by all the gear types (4 UoAs) is 0.002%. IUCN evaluation indicated <i>Coryphaenoides rupestris</i> to be critically endangered globally, and endangered within Europe waters. This species is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party. Currently there is inadequate information to establish whether the stock is above or below its biological based limits, are to what degree of recovery is required, therefore SG 100 is not met. - Ocean sunfish is rarely taken in the UoA pelagic trawl (0.00003%). Icelandic water is the edge of its northern range and catches are rare to nil. Total cath in four years reported by DoF by all the gear types (4 UoAs) is 0.01%. The IUCN classify this species as data deficient in Europe and vulnerable globally because of the lack of specific bycatch information and how it impact the population. In Europe waters catch has reduce to zero in recent years. While regulations are implemented in Morocco there is a national driftnet ban in areas where this specie is common since 2007. This species is

PI 2.2.1	The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.
	<p>not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party. The biological based limit is not known for this specie, therefore SG 100 is not met.</p> <ul style="list-style-type: none"> - Black dogfish is taken in the UoA pelagic trawl (0.002%). Total catch in four years reported by DoF by all the gear types (4 UoAs) is 0.04%. This is a common species in deep waters (>1000m) West, South-West and Southern areas of Iceland, where minute quantities are taken as bycatch in deep-water fisheries. IUCN considers this species as least concern globally and within European waters. High abundance is observed in other areas, however there is uncertainty whether the species are of the same population, as well as bycatch levels in areas where deep water trawl and longline fishing is practiced. The biological based limits for this species are uncertain; therefore SG 100 is not met. - Porbeagle is taken in the UoA pelagic trawl (0.00001%). Total catch in four years reported by DoF by all the gear types (4 UoAs) is 0.01 %. ICES advises that when the precautionary approach is applied for porbeagle in the NE Atlantic, fishing mortality should be minimized (at bycatch levels) and no targeted fisheries should be permitted. This advice is valid for 2016 to 2019. ICES advises that fishing mortality should be minimized; therefore, any possible provision for bycatch to be landed should be part of a management plan which includes close monitoring of the stock. This species is taken by recreational fishers and, although often released, post-release survival is unquantified. Discarding is known to occur but has not been quantified. Discard survival has not been estimated. Exploratory stock assessments carried out in 2009 by ICCAT and ICES using a Bayesian Surplus Production (BSP) model and an age-structured production (ASP) model indicated that biomass was below biomass maximum sustainable yield (BMSY) and that recent fishing mortality was near or possibly above fishing mortality maximum sustainable yield (FMSY). ICES considered the stock to be depleted, especially in the northern parts of the ICES area. The BSP model projections indicate that sustained reductions in fishing mortality would be required if there is to be any stock recovery. Recovery of this stock to BMSY under zero fishing mortality would take ~15–34 years. IUCN considers this species vulnerable globally and critically endangered in Europe. It is listed in the Appendix II of CITES, however is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party. Although minute catch is taken by the mackerel fishery UoA, ICES considered the stock to be depleted and mortality should be minimized, therefore it is uncertain if the UoA catch could hinder recovery of this stock; SG 100 is not met. - Rock grenadier is taken in the UoA pelagic trawl (0.00002%). Total catch in four years reported by DoF by all the gear types (4 UoAs) is 0.1 %. ICES advises that for the years 2016 to 2020 there should be no directed fisheries for rock grenadier, and bycatch should be counted against the TAC for roundnose grenadier to minimize the potential for species misreporting. IUCN does not provide evaluation on this species. The biological based limit of this species is unknown, therefore SG 100 is not met.

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.
		<ul style="list-style-type: none"> - Atlantic salmon – Negligible catch is taken in the UoA pelagic trawl (0.00002%). Total catch in four years reported by DoF by all the gear types (4 UoAs) is 0.04 %. No specific advice is available for Icelandic fisheries, however ICES provide some advice for mixed stock in the NE Atlantic. No catch was stipulated for 2015-2018 based on framework of indicator measure. The stock biological based limit is unknown; SG 100 is not met. - Common Skate is taken in the UoAs pelagic (0.0001%) and demersal trawl (0.001%). Total catch in four years reported by DoF by all the gear types (4 UoAs) is 0.03%. IUCN consider this species as critically endangered globally and within Europe waters. It is most common in NE Atlantic waters and taken as bycatch in deepwaters fisheries. It is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party. In the absence of specific advice for Icelandic waters it is identified from ICES (2015) advises that when the precautionary approach is applied, there should be no landings for these stocks and measures should be taken to minimize bycatch. This advice is valid for 2016 to 2019. The stock biological based limit is unknown; SG 100 is not met. - Starry ray is taken in the UoAs pelagic (0.0002%). Total catch in four years reported by DoF by all the gear types (4 UoAs) is 0.03%. A number of species of rays are caught as a by-catch in Icelandic waters, but information on amount is incomplete, and the status of these species is not known. Some information on status and trends of non-commercial species are collected in extensive bottom trawl surveys conducted in early spring and autumn (ICES NWWG REPORT 2016) however there is no evaluation for this species. IUCN consider this species to be near-threatened globally and most common in Mediterranean waters rather than the NE Atlantic. ICES advises that when the precautionary approach is applied, there should not be a targeted fishery for this stock and measures should be taken to reduce by-catch. The biological based limit of this stock is unknown therefore SG 100 is not met.
References		<p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p> <p>MFRI – http://www.hafro.is/Astand/2016/english/megrim_2016.pdf</p> <p>IMFA – http://www.fisheries.is/main-species/cartilaginous-fishes/</p> <p>ICES 2016/17 Stock Advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>ICES 2015 – http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2015/2015/rng-oth.pdf</p> <p>Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/</p> <p>Icelandic Ministry of Fisheries – http://www.fisheries.is/management/</p> <p>IUCN – http://www.iucnredlist.org/ and http://www.iucnredlist.org/details/190422/1 and http://www.iucnredlist.org/details/11142/1</p> <p>Pálsson et al, 2015; Øien 1996; Reeves et al. 1999; Hammond et al. 2002; P. Hammond 2007; Kinze et al. 1997; Northridge et al. 1997.</p>
Score element 1 (White-Beaked Dolphin)		100
Score element 2 (Black scabbard fish)		100
Score element 3 (Pearlside)		100
Score element 4 (Squid)		100

PI 2.2.1	The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.	
Score element 5 (Whiting)		100
Score element 6 (Grenadier)		80
Score element 7 (Black dogfish)		80
Score element 8 (Porbeagle)		80
Score element 9 (Rock grenadier)		80
Score element 10 (Ocean sunfish)		80
Score element 11 (Atlantic salmon)		80
Score element 12 (Common Skate)		80
Score element 13 (Starry ray)		80
OVERALL PERFORMANCE INDICATOR SCORE:		85
CONDITION NUMBER (if relevant):		N/A

12.2.11 PI 2.2.1 – Secondary species outcome- Purse seine UoA 2

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main secondary species stock status			
	Guidepost	Main Secondary species are likely to be within biologically based limits. OR If below biologically based limits, there are measures in place expected to ensure that the UoA does not hinder recovery and rebuilding.	Main secondary species are highly likely to be above biologically based limits OR If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are considerable, there is either evidence of recovery or a, demonstrably effective strategy in place between those MSC UoAs that also have considerable catches of the species, to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main secondary species are within biologically based limits.
	Met?	N/A	N/A	N/A
	Justification	No secondary main species were identified within the catch composition (2013-16), therefore this PI (Sia) is considered not applicable. This approach is based on the MSC guidance (Interpretation – Date: 14/02/2017 ID: 2845) for “P2 species outcome Pis – scoring when no main or no minor (or both)”. Clause SA3.2.1 applies when there are no species within a component at all (“If a team determines that a UoA has no impact on a particular component, it shall receive a score of 100 under the Outcome PI”). If no main or minor primary species, for example, then the automatic 2.2.1 score is 100. Therefore, if the fishery has no main species, scoring issue (a) is not applicable , and scoring issue (b) is scored at the 100 level, If it meets it for all species, then score is 100. In scoring issue (b) each species will score either 80 or 100 depending on whether the SG100 is met or not.		
B	Minor secondary species stock status			
	Guidepost			Minor secondary species are

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
	ost			highly likely to be above biologically based limits. OR If below biologically based limits', there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species
	Met?			N/A
	Justification	<p>No secondary minor species were identified within the catch composition (2013-16).</p> <p>The purse seine fishing gear was used in a commercial trial investigative fishery in 2013 for mackerel. No primary minor species was identified from the DoF catch data provided.</p> <p>It is acknowledged that future use of the Purse Seine gear in the mackerel fishery might not be as clean as indicated in the present information. It is recommended for ISF to encourage and support skippers and relevant authorities to ensure verifiable commercial catch information from the mackerel purse seine fishery is available during the surveillance periods for reviewing changes in the fishery.</p> <p>There is the knowledge from other MSC certified mackerel purse seine fishery in similar latitudes (MINSAs North East Atlantic Mackerel (Norway) Purse Seine fishery, and Faroese Pelagic Organisation North East Atlantic Mackerel Purse Seine fishery), that the fisheries are highly targeted and selective with 95-98% mackerel catches as well as low levels of bycatch or incidental catch. It is also observed in similar latitudes that combined species which are caught in mackerel purse seine gear are likely to include; North Sea Herring, Atlantic-scandia herring, Horse mackerel, Blue whiting, Saithe, Hake, Cod, Norway pout, Silver smelt and Redfish, as well as Salmon and Pilot whales. In the MSC certified purse seine mackerel fisheries reports, no vulnerable species were reported and all at minor species levels and this case just pilot whales should be identified as secondary species.</p> <p>Pilot whales, There is little information on stocks within the species. In the north-eastern Atlantic the number of pilot whales inhabiting the area between East Greenland, Iceland, Jan Mayen, Faroe Islands and off the western coasts of the British Islands and Ireland was estimated at around 778,000 (CV=30%) by Buckland et al. (1993). The removals by drive hunting at the Faroes have therefore been considered sustainable (NAMMCO 2000, Reeves et al. 2003; http://www.iucnredlist.org/details/9250/1). Bycatch in pelagic purse seine fishery is considered as minimum additional pressure and not considered to hinder the population status or any recovery or rebuilding of the stock.</p> <p>Operational practices are typically similar for purse seine fishing and it was observed in these reports that operational practices within all of the fisheries are therefore sufficient to prevent the fisheries causing this species to be outside any appropriate biologically based limits, not to hinder recovery.</p> <p>For the ISF purse seine mackerel fishery, the precautionary approach is considered appropriate until more commercial information about the fishery is available. SG 80 awarded, however SG 100 is likely to be met when more commercial information specific</p>		

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.	
		to the ISF fishery becomes available..	
References		Directorate of Fisheries data from 2013-2016 Personal communication – Site visit with ISF Feb. 2017	
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			N/A

12.2.12 PI 2.2.1 – Secondary species outcome- Handline (Jigger) UoA 3

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main secondary species stock status			
	Guidepost	Main Secondary species are likely to be within biologically based limits. OR If below biologically based limits, there are measures in place expected to ensure that the UoA does not hinder recovery and rebuilding.	Main secondary species are highly likely to be above biologically based limits OR If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are considerable, there is either evidence of recovery or a, demonstrably effective strategy in place between those MSC UoAs that also have considerable catches of the species, to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main secondary species are within biologically based limits.
	Met?	N/A	N/A	N/A
	Justification	No secondary main species were identified within the catch composition (2013-16) therefore this PI (Sia) is considered not applicable. This approach is based on the MSC guidance (Interpretation – Date: 14/02/2017 ID: 2845) for “P2 species outcome Pis – scoring when no main or no minor (or both)”. Clause SA3.2.1 applies when there are no species within a component at all (“If a team determines that a UoA has no impact on a particular component, it shall receive a score of 100 under the Outcome PI”). Therefore, if the fishery has no main species, scoring issue (a) is <u>not applicable</u> .		
B	Minor secondary species stock status			
	Guidepost			Minor secondary species are highly likely to be above biologically based limits. OR

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
				If below biologically based limits', there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species
	Met?			Y Whiting
	Justification	<p>Whiting is the only secondary minor specie identified in the catch composition from Handline fishery UoA,.</p> <p>The status of secondary minor species stocks is uncertain because these stock are not yet monitored by abundance reference points. Some information with specie ecological relevance is considered that is provided by ICES, and MFRI.</p> <p>For Iceland all catch data and incidental capture are reported and therefore provide information which facilitates by-catch monitoring (and reduction protocol if needed) for this species, however no formal exploitation reference or management advise is provided that are based on robust stock assessment for these species.</p> <ul style="list-style-type: none"> - Whiting is taken in the UoA pelagic (0.000002%), handline (0.003%), and demersal trawl (0.01%).Total cathin four years reported by DoF by all gear tyeps (UoAs) is low (0.53%). MFRI does not provide catch advise for this species. The biomass decline in recent years however is steadily increasing to above levels seen in early 2000's. It is highly likely the stock is above the biologically based limits and SG 100 is met. 		
References		<p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf</p> <p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p> <p>ICES 2016/17 Stock Advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>Icelandic Ministry of Fisheries and Agriculture – http://www.fisheries.is/management/</p>		
Score element 1 (Whiting)				100
OVERALL PERFORMANCE INDICATOR SCORE:				100
CONDITION NUMBER (if relevant):				N/A

12.2.13 PI 2.2.1 – Secondary species outcome- Bottom trawl UoA 4

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main secondary species stock status			
	Guidepost	Main Secondary species are likely to be within biologically based limits. OR If below biologically based limits, there are measures in place expected to ensure that the UoA does not hinder recovery and rebuilding.	Main secondary species are highly likely to be above biologically based limits OR If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are considerable, there is either evidence of recovery or a, demonstrably effective strategy in place between those MSC UoAs that also have considerable catches of the species, to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main secondary species are within biologically based limits.
	Met?	N/A	N/A	N/A
	Justification	No secondary main species were identified within the catch composition (2013-16), therefore this PI (Sia) is considered not applicable. This approach is based on the MSC guidance (Interpretation – Date: 14/02/2017 ID: 2845) for “P2 species outcome Pis – scoring when no main or no minor (or both)”. Clause SA3.2.1 applies when there are no species within a component at all (‘If a team determines that a UoA has no impact on a particular component, it shall receive a score of 100 under the Outcome PI’). If no main or minor primary species, for example, then the automac 2.2.1 score is 100. Therefore, if the fishery has no main species, scoring issue (a) is not applicable .		
B	Minor secondary species stock status			
	Guidepost			Minor secondary species are highly likely to be above biologically based limits.

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
				OR If below biologically based limits', there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species
	Met?			Y (Megrim and Whiting) N (Common Skate and Grenadier)
	Justification	<p>Four secondary minor specie identified in the catch composition from Bottom (Demersal) trawl fishery UoA (Grenadier, Megrim, Common Skate, and Whiting)</p> <p>The status of secondary minor species stocks is uncertain because these stock are not yet monitored by abundance reference points. Collective catch level are negligible, however negligible catch level on their own are not appropriate evidence to confirm a specie with regards to biological based limits. Some information with specie ecological relevance is considered that is provided by ICES, IUCN, and MFRI.</p> <p>For Iceland all catch data and by-catch are reported and therefore provide information which facilitates by-catch monitoring of these species, however no formal exploitation reference or management advise is provided that are based on robust stock assessment for these species.</p> <ul style="list-style-type: none"> - Grenadier is monitored for areas where harvesting is known, such as: division Va1 (Oceanic Northeast Atlantic and Northern Reykjanes Ridge). ICES advises that when the precautionary approach is applied, landings should be no more than 65t in each of the years 2016–2017 corresponding to bycatch levels rather than in stock abundance. Landings may include some species misidentification. Overall negligible volume of Grenadier is taken in pelagic trawl (0.0002%) and demersal trawl (0.28%) of the UoA fishery. Total catch in four years reported by DoF by all gear types (UoAs) is low (0.002%). IUCN evaluation indicated <i>Coryphaenoides rupestris</i> to be critically endangered globally, and endangered within Europe waters. This species is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party. Currently there is inadequate information to establish whether the stock is above or below its biological based limits, are to what degree of recovery is required, therefore SG 100 not is met. - Common Skate is taken in the UoAs pelagic (0.0001%) and demersal trawl (0.001%). Total catch in four years reported by DoF by all gear types (UoAs) is low (0.03%). IUCN consider this specie as critically endangered globally and within Europe waters. It is most common in NE Atlantic waters and taken as bycatch in deepwaters fisheries. It is not evaluated as ETP based on the MSC definition, where it is not protected by any binding international agreements or national regulations to which the jurisdictions controlling the fishery under assessment are party. In the absence of specific advise for Icelandic waters it is identified from ICES (2015) advises that when the precautionary approach is applied, there should be no landings for these stocks and measures should be taken to minimize bycatch. This advice is valid for 2016 to 2019. The stock biological based limit is unknown; SG 100 is not met. 		

PI 2.2.1	The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit.
	<ul style="list-style-type: none"> - Megrim is only taken in the demersal trawl (0.01%) of the UoA fishery. Total catch in four years reported by DoF by all gear types (UoAs) is low (0.02%). MFRI suggest that there are fluctuations in the stock and recruitment since 2006⁶⁷. The biomass is currently twice the levels seen in 2000s, and steadily increasing. Megrim is predominantly caught as by-catch in nephrops trawl, demersal seine and bottom trawl. It is highly likely the stock is above the biologically based limits; SG 100 is met. - Whiting is taken in the UoA pelagic (0.000002%), handline (0.003%), and demersal trawl (0.01%). Total catch in four years reported by DoF by all gear types (UoAs) is low (0.53%).MFRI does not provide catch advise for this species. The biomass decline in recent years however is steadily increasing to above levels seen in early 2000's. It is highly likely the stock is above the biologically based limits; SG 100 is met.
References	<p>MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4 ICES 2016/17 Stock Advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/ Icelandic Ministry of Fisheries and Agriculture - http://www.fisheries.is/management/ IUCN – http://www.iucnredlist.org/</p>
Score element 1 (Grenadier)	80
Score element 2 (Common Skate)	80
Score element 3 (Megrim)	100
Score element 4 (Whiting)	100
OVERALL PERFORMANCE INDICATOR SCORE:	990
CONDITION NUMBER (if relevant):	N/A

⁶⁷ http://www.hafro.is/Astand/2016/english/megrim_2016.pdf

12.2.14 PI 2.2.2 – Secondary species management strategy- Pelagic trawl UoA 1

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guidepost	There are measures in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a strategy in place for the UoA for managing main and minor secondary species.
	Met?	Y	Y	Y
	Justification	As previously mentioned, White-Beaked Dolphin is the only main secondary species identified in the catch composition from pelagic trawl UoA, along with 12 minor species; (Black scabbard fish, Grenadier, Ocean sunfish, Pearlsides, Black dogfish, Porbeagle, Rock grenadier, Atlantic salmon, Common Skate, Squid, Starry ray, and Whiting). While there are no specific fishery management measures for these species; they are however generally managed within the overarching fisheries management strategies of Iceland. These management strategies includes; discard ban, except for live-release of restricted species; at-sea and port catch inspection, catch weight cross-checking for accuracy of information, mandatory catch reporting in vessel and logbook, scientific monitoring including fisheries and ecosystem surveys and advise using commercial fishing data (and fishers self-sampling of commercial catch), closed areas, as well as inshore (<12nm and <6nm) fishing restrictions to large or bottom trawl vessels, and technical elements of fishing gear and operations (such as mesh size or in-net separator grids and panels). Together these measures represents the strategies in place for the UoA for managing main and minor secondary species and SG 100 is met.		
B	Management strategy evaluation			
	Guidepost	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the UoA and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or species involved.
	Met?	Y	Y	Y
	Justification	Effectiveness of Iceland fishery management strategies are demonstrated in a number of ways. There is a mandatory landing of all permitted catch and measures to transfer quota among fishers therefore allowing fishing in mixed fisheries for stocks with a TAC. At the end of respective fishing seasons fishers catch records are compared against attributed allocation. Over catch by more than 5% in weight or landing restricted species is penalized by national laws. Objectively, the coastguard monitor in real-time closed areas to fishing through VMS, and patrols (air and sea), at-sea fishing and check-points, catches are reported in mandatory		

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		<p>logbooks to the DoF with inspection at port by certified fishers’ staff. Catch weight at port are cross-checked with elogbook to verify compliance with the system. In addition vessel identified by VMS to be in violation of such as fishing in closed areas or other restricted areas are penalized.</p> <p>Fishing Information (such as catch, fishing location, and vessel details) is provided to the MFRI are used for scientific evaluation of target species and estimating of incidental catch trends of secondary species. The MR provide technical advise to Ministry of Industries and Innovation (MII) who approve policies and annual TAC for the fisheries. As previously mentioned incidental catch levels are negligible and corresponds to typical catches in mixed shoal fisheries with no indication of any significant increase.</p> <p>The catch reports on the DoF website, fishing vessel monitoring reports from coastguard, annual review of stocks as reported from the MFRI, fishing activities records, and resulting changes to management policies or TACs represents evidence of these strategies; Therefore testing supports high confidence that the strategy implemented are will work, based on information directly about the UoA and species involved and SG 100 is met.</p>		
C	Management strategy implementation			
	Guidepost	There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).	
	Met?	Y	Y	
	Justification	<p>There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).</p> <p>Examples of management strategies that are implemented and evaluated to be achieving its objective includes: vessel logbook and elogbook catch recording and landing of all permitted catch, live-release of restricted species, and VMS records showing absence of fishing vessel from closed-areas therefore minimizing incidental by-catches.</p> <p>Catch levels of both main and minor secondary species are considered negligible. There are successful implementation and monitoring of compliance with management and technical measures such catch cross-checking with logbooks, closed areas, closed seasons, post-capture live—release, minimum mesh size restrictions, limits on fishing effort and catches of target species in mixed fisheries. The catch share and ITQ systems is considered very important to fishers in order to exploited mixed shoal fish stock and without discarding.</p> <p>Overall there is clear evidence that the strategy is being implemented successfully and is achieving its objectives and SG 100 is met.</p>		
D	Shark finning			
	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	Y	Y	Y
	Justific	There is a high degree of certainty that shark finning is not taking place. Negligible levels of elasmobranchs (Black dogfish starry ray, Common Skate, and		

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
	ation	<p>porbeagle) are taken as incidental catch in these fisheries. It is mandatory to report and land all retained catch including shark species. The discard ban makes shark finning illegal.</p> <p>Information gathered during discussions with fishers and fishery manages is that there is no developed commercial markets in Iceland which incentives targeted fishery for shark and their fins. For at-sea fish processing vessels, mass – balance system is used for checking product and by-product to verify discarding of fish or fish parts is not taking place. In general limited incidental catch or whole shark are landed and verified in catch inspection. Systems are in place for using all catch to produce in various products. During discussion with members from DoF and MFRI and well as fishers it was confirm that no targeted fishery is active for shark fins in Iceland.</p> <p>Considering the above information, there is a high degree of certainty that shark finning is not taking place, therefore SG 100 is met.</p>		
E	Review of alternative measures to minimize mortality of unwanted catch			
	Justific ation	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main secondary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all secondary species, and they are implemented, as appropriate.
	Met?	Y	Y	Y
	Guidep ost	Fishery catch management strategies such as catch share and ITQ are reviewed on an ongoing basis. In addition run-rates of catch are reviewed against specie TAC by DoF on an ongoing basis and annual by the MFRI. Areas are closed for short or longer periods with any reports notable high catch of vulnerable species. Discarding is ban and all catch levels, as well as respective species, and their usage are monitored and reviewed.		
		Together these that there is regular and biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all secondary species, and they are implemented, as appropriate, SG 100 is met.		
References		MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4 ICES 2016/17 Stock Advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx Icelandic Coastguard – http://www.lhg.is/english/legislation/ Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/ Icelandic Ministry of Fisheries and Agriculture – http://www.fisheries.is/management/ Fisheries and Resource Monitoring System (FIRMS) – http://firms.fao.org/firms/summaries/en		
Score element 1 (White-Beaked Dolphin)		100		
Score element 2 (Black scabbard fish)		100		
Score element 3 (Pearlside)		100		
Score element 4 (Squid)		100		

PI 2.2.2	There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.	
Score element 5 (Whiting)		100
Score element 6 (Grenadier)		100
Score element 7 (Black dogfish)		100
Score element 8 (Porbeagle)		100
Score element 9 (Rock grenadier)		100
Score element 10 (Moonfish – Ocean sunfish)		100
Score element 11 (Atlantic salmon)		100
Score element 12 (Common Skate)		100
Score element 13 (Starry ray)		100
OVERALL PERFORMANCE INDICATOR SCORE:		100
CONDITION NUMBER (if relevant):		N/A

12.2.15 PI 2.2.2 – Secondary species management strategy- Purse seine UoA 2

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guidepost	There are measures in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a strategy in place for the UoA for managing main and minor secondary species.
	Met?	Y	Y	Y
	Justification	<p>There were no secondary species. The purse seine fishing gear was used in an investigative trial commercial fishery in 2013 for mackerel. Nil secondary main and minor species were identified from the DoF catch data provided.</p> <p>However, fishing operations in Iceland is recognised with appropriate management strategies. For instance; the MFRI provides scientific monitoring and advice on commercial stocks and marine environment to departments in the Icelandic Ministry of Fisheries and Agriculture (http://www.fisheries.is/management/fisheries-management/). Regulations and Fisheries Management Acts as well as Plans are prepared and implemented taking into consideration regional and international conventions (UNCLOS) and joint nations exploiting stocks in Iceland EEZ. Monitoring, control and surveillance is supported by National Coastguard, and violations are prosecuted with sanctions considered appropriate to differ or dis-incentive offences. The discard ban and monitoring of catch is a fundamentally strong strategy allowing management of targeted and incidentally catch species. TAC and By-catch TAC or precautionary approaches are advised at scheduled such as annually. Catch share and quota (ITQ) sharing strategy is implemented which also is a component of the harvest strategy and control on fishing removals within sustainable levels. Catch reconciliation is ongoing (inter-annual and end of season). Specific to respective fisheries there are closed areas and marine protection areas where fishing is restricted seasonally or totally to avoid impact to areas or habitat considered critical to the stocks (spawning, feeding, nursery, juvenile, or migration). Various technical measures are implemented and monitored in the fisheries, such as minimum mesh size for net gear, and small fish move on protocol.</p> <p>Therefore management and operational strategies within this ISF fisheries are considered sufficient to prevent the fisheries causing this species to be outside any appropriate biologically based limits, not to hinder recovery. Also there are partial strategies in place for the ISF purse seine fleet to managing likely main and minor primary species. SG 60, 80, are met but SG 100 is not met.</p>		
B	Management strategy evaluation			
	Guidepost	The measures are considered likely to work, based on plausible	There is some objective basis for confidence that the measures/partial	Testing supports high confidence that the partial strategy/strategy will work.

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		argument (e.g. general experience, theory or comparison with similar UoAs/species).	strategy will work, based on some information directly about the UoA and/or species involved.	based on information directly about the UoA and/or species involved.
	Met?	Y	Y	N
	Justification	There were nil Secondary species. The purse seine fishing gear was used in an investigative trial commercial fishery in 2013 for mackerel. Nil secondary main and minor species were identified from the DoF catch data provided. From the likely species caught in the MSC certified mackerel purse seine fishery of similar latitudes, it cannot be said that the management strategies for all species are tested with high confidence. For example salmon and pilot whales are not managed by TAC and stock assessments. However fisheries management strategies are established with objectives in the management plans, SG 60 and 80 are met.		
C	Management strategy implementation			
	Guided post		There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).
	Met?		Y	N
	Justification	There were nil Secondary species. The purse seine fishing gear was used in an investigative fishery in 2013 for mackerel. Nil secondary main and minor species were identified from the DoF catch data provided. From the likely species caught in the MSC certified mackerel purse seine fishery of similar latitudes, it cannot be said that the management strategies for all species are implemented with clear evidence of success. A recommendation is established to ensure verifiable information specific to the commercial ISF purse seine fishery is made available during review of changes in the fishery. There some evidence that from TAC compliance and stocks operating around target reference point, on not hindered to recovery, that the management strategies are being implemented successfully. SG 80 is meet as a default.		
D	Shark finning			
	Guided post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	Y	Y	Y
	Justification	No secondary species are sharks was identified for this UoA		
e	Review of alternative measures to minimize mortality of unwanted catch			
	Justification	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-	There is a regular review of the potential effectiveness and practicality of alternative measures to	There is a biennial review of the potential effectiveness and practicality of alternative measures to

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		related mortality of unwanted catch of main secondary species.	minimize UoA-related mortality of unwanted catch of main secondary species and they are implemented as appropriate.	minimize UoA-related mortality of unwanted catch of all secondary species, and they are implemented, as appropriate.
	Met?	Y	Y	YN
	Guidpost	<p>There were nil Secondary species. The purse seine fishing gear was used in an investigative fishery in 2013 for mackerel. Nil secondary main and minor species were identified from the DoF catch data provided.</p> <p>Regular review and advise on management is conducted for all likely species. SG 80 is met. A specific biennial review is not conducted for all stock and information is a proxy to the ISF purse seine fishery, therefore SG 100 is not meet.</p>		
References		<p>Directorate of Fisheries data from 2013-2016.</p> <p>Jennings et al. 2001.</p> <p>Iceland Ministry of Fisheries and Agriculture (IMFA).</p> <p>Personal communication – Site visit with ISF Feb. 2017.</p>		
OVERALL PERFORMANCE INDICATOR SCORE:				80
CONDITION NUMBER (if relevant):				N/A

12.2.16 PI 2.2.2 – Secondary species management strategy- Handline UoA 3

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guided post	There are measures in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a strategy in place for the UoA for managing main and minor secondary species.
	Met?	Y	Y	Y
	Justification	Whiting is the only secondary minor species identified in the catch composition from Handline fishery UoA. The strategies from management of fisheries where Whiting is taken includes measures such as discard ban, except for live-release of restricted species; at-sea and port catch inspection, mandatory catch reporting in vessel and elogbook, scientific monitoring including surveys and advise using commercial fishing data (and fishers self-sampling data), closed areas, as well as inshore (<12mn) fishing restrictions to large or bottom trawl vessels, and technical elements of fishing gear and operations (such as mesh size or in-net separator grids and panels). Together these measures represent the strategy in place for the UoA for managing main and minor secondary species SG 100 is met.		
B	Management strategy evaluation			
	Guided post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the UoA and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or species involved.
	Met?	Y	Y	Y
	Justification	Two examples of testing the effectiveness of Iceland fishery management strategies include compliance demonstrated with mandatory landing of all permitted catch, and measures to transfer quota among fishers therefore allowing fishing in mixed fisheries for stocks with a TAC. At the end of respective fishing seasons fishers catch records are compared against attributed allocation. Over catch by more than 5% in weight or landing restricted species is penalized by national laws. Also, the coastguard monitor real-time closed areas to fishing through VMS, and patrols (air and sea), as well as conduct at-sea of fishing activities and catch recording in mandatory logbooks. Any vessel identified by VMS be in violation, such as fishing in closed areas or other restricted areas, or in appropriate reporting of catch are penalized by national laws. The catch reports on the DoF website, and fishing vessel monitoring reports from		

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		coastguard, represents evidence of working fishery management strategies; Therefore testing supports high confidence that the strategy implemented are will work, based on information directly about the UoA and species involved; SG 100 is met.		
C	Management strategy implementation			
	Guidepost		There is some evidence that the measures/partial strategy is being implemented successfully .	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).
	Met?		Y	Y
	Justification	Examples of management strategies that are implemented and evaluated to be achieving its objective includes: vessel logbook and elogbook catch recording and landing of all permitted catch, live-release of restricted species, and VMS records showing absence of fishing vessel from closed-areas therefore minimizing incidental catches. Catch levels of whiting are considered negligible. There are successful implementation and monitoring of compliance with management and technical measures such as catch cross-checking with logbooks, closed areas, closed seasons, minimum mesh size restrictions, limits on fishing effort and catches of target species in mixed fisheries. The catch share and ITQ systems is considered very important to fishers in order to exploited mixed shoal of fish stock without discarding. Overall there is clear evidence that the strategy is being implemented successfully and is achieving its objectives; SG 100 is met.		
D	Shark finning			
	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	N/A	N/A	N/A
	Justification	No shark is taken in this UoA. Therefore following the clause SA3.8.2 the team doesn't have to evaluate this issue.		
E	Review of alternative measures to minimize mortality of unwanted catch			
	Justification	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of main secondary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all secondary species, and they are implemented, as appropriate.
	Met?	Y	Y	Y
	Guidepost	Fishery catch management strategies such as catch share and ITQ are reviewed on an ongoing basis. In addition run-rates of catch are reviewed against specie TAC by DoF on an ongoing basis and annual by the MFRI. Areas are closed for short or longer periods with any reports notable high catch of vulnerable species. Discarding is ban and all catch are used.		

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.
		Together the above information represents that there is a regular and biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all secondary species, and they are implemented, as appropriate and SG 100 is met.
References		MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4 ICES 2016/17 Stock Advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/ Icelandic Ministry of Fisheries and Agriculture – http://www.fisheries.is/management/ Fisheries and Resource Monitoring System (FIRMS) – http://firms.fao.org/firms/summaries/en
OVERALL PERFORMANCE INDICATOR SCORE:		100
CONDITION NUMBER (if relevant):		N/A

12.2.17 PI 2.2.2 – Secondary species management strategy – Bottom trawl UoA 4

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guided post	There are measures in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a strategy in place for the UoA for managing main and minor secondary species.
	Met?	Y	Y	Y
	Justification	Four secondary minor species are identified in the catch composition from Bottom (Demersal) trawl fishery UoA (Grenadier, Megrim, Common Skate, and Whiting). All 4 species are managed as incidental catch in targeted fishery for demersal species, and function to reduce incidental catch of secondary species in targeted fisheries. The applicable management measures for these fisheries includes: discard ban, at-sea and port catch inspection; mandatory catch reporting in vessel and elogbook; scientific monitoring including surveys and advise using commercial fishing data (and fishers self-sampling data); closed areas, as well as inshore (<12nm) fishing restrictions to bottom trawl vessels; and technical elements of fishing gear (such as mesh size or in-net separator grids and panels). Therefore, there is a strategy in place for the UoA for managing main and minor secondary species and SG 100 is met .		
B	Management strategy evaluation			
	Guided post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the UoA and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or species involved.
	Met?	Y	Y	Y
	Justification	Two examples of testing the effectiveness of Iceland fishery management strategies include compliance demonstrated with mandatory landing of all permitted catch, and measures to transfer quota among fishers therefore allowing fishing in mixed fisheries for stocks with a TAC. At the end of respective fishing seasons fishers catch records are compared against attributed allocation. Over catch by more than 5% in weight or landing restricted species is penalized by national laws. Also closed areas restrictions are triggered where high levels of juvenile or vulnerable species are identified. The coastguard monitor real-time closed areas to fishing through VMS, and patrols (air and sea); as well as conduct at-sea checking on fishing activities and catch recording in mandatory logbooks. Any vessel identified by VMS be in violation, such as fishing in closed areas or other restricted areas, or inappropriate reporting of catch, are penalized by		

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		national laws. The catch reports on the DoF website, and fishing vessel monitoring reports from coastguard, represents evidence of working fishery management strategies to reduce incidental catch Therefore testing supports high confidence that the strategy implemented will workbased on information directly about the UoA and species involved and SG 100 is met.		
C	Management strategy implementation			
	Guidepost	There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).	
	Met?	Y	Y	
	Justification	Measures are in place to monitor incidental catch levels from vessel logbook. Any fishing areas identified with high levels of juvenile catch or catch of vulnerable species will be closed to fishing in order protect these species. In addition commercial fishing vessels are required to install VMS. The VMS tracking records are used to show absence of fishing vessel from closed-areas therefore minimizing incidental by-catches. Catch levels of both main and minor secondary species are considered negligible. There are successful implementation and monitoring of compliance with management and technical measures such catch cross-checking with logbooks, closed areas, closed seasons, post-capture live—release, minimum mesh size restrictions, limits on fishing effort and catches of target species in mixed fisheries. The catch share and ITQ systems is considered very important to fishers in order to exploited mixed shoal fish stock and without discarding. Overall there is clear evidence that the strategy is being implemented successfully and is achieving its objectives; SG 100 is met.		
D	Shark finning			
	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	Y	Y	Y
	Justification	It is mandatory to report and land all retained catch including shark species. The discard ban makes shark finning illegal. During discussion with members from DoF and MFRI as well as fishers no evidence of a targeted fishery for shark fins was identified. There is a high degree of certainty that shark finning is not taking place, therefore SG 100 is met.		
E	Review of alternative measures to minimize mortality of unwanted catch			
	Justification	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of	There is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimize the mortality of unwanted catch.		
		unwanted catch of main secondary species.	mortality of unwanted catch of main secondary species and they are implemented as appropriate.	mortality of unwanted catch of all secondary species, and they are implemented, as appropriate.
	Met?	Y	Y	Y
	Guided post	<p>Fishery catch management strategies such as catch sharing, and ITQ are reviewed on an ongoing basis. In addition run-rates of catch are reviewed against specie TAC by DoF on an ongoing basis and annually by the MFRI. Areas are closed for short or longer periods with any reports notable high catch of undersized or vulnerable species. Discarding is ban and all catch are used.</p> <p>TAC which is a component of the fishery harvest control strategy and directly control fishing mortality is reviewed annually, which is more often than biennially; there is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of all secondary species, and they are implemented, as appropriate, SG 100 is met.</p>		
References		<p>MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4</p> <p>ICES 2016/17 Stock Advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx</p> <p>Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/</p> <p>Icelandic Ministry of Fisheries and agriculture – http://www.fisheries.is/management/</p> <p>Fisheries and Resource Monitoring System (FIRMS) – http://firms.fao.org/firms/summaries/en</p>		
Score element 1 (Grenadier)				100
Score element 2 (Megrim)				100
Score element 3 (Common Skate)				100
Score element 4 (Whiting)				100
OVERALL PERFORMANCE INDICATOR SCORE:				100
CONDITION NUMBER (if relevant):				N/A

12.2.18 PI 2.2.3 – Secondary species information – All 4 UoAs

PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species.		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts on main secondary species			
	Guided post	Qualitative information is adequate to estimate the impact of the UoA on the main secondary species with respect to status. OR If RBF is used to score PI 2.2.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for main secondary species.	Some quantitative information is available and adequate to assess the impact of the UoA on main secondary species with respect to status. OR If RBF is used to score PI 2.2.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main secondary species.	Quantitative information is available and adequate to assess with a high degree of certainty the impact of the UoA on main secondary species with respect to status.
	Met?	Y	Y	Y (Pelagic trawl, Handline and Bottom Trawl) N (Purse Seine)
	Justification	White-Beaked Dolphin is the only main secondary species. Quantitative information is available and adequate to assess with a high degree of certainty the impact of the UoA on main secondary species with respect to status. In addition Iceland historic Whale surveys and catch information, there are also quantitative information from IUCN such as Hammond et al. (2002) survey of these species in the North Sea and adjacent waters during 1994 provided to estimate of 7,856 (CV=0.30) white-beaked dolphins. Furthermore, the species occurs commonly in tens of thousands and its population status is considered of least concern by the IUCN. Some specific quantitative information for the ISF mackerel purse seine fishery, and proxy information from other MSC certified purse seine mackerel fishery of similar area is available. SG 60 and 80 are met for ISF purse seine fleet. Considering the above information, there is adequate quantitative information to assess with a high degree of certainty the impact of the other gears on main secondary species with respect to status; therefore SG 100 is met.		
B	Information adequacy for assessment of impacts on minor secondary species			
	Guided post			Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.

PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species.		
	Met?			Y
	Justification	<p>For all species in all 4 gears in the UoA.</p> <p>Some quantitative information is available and adequate to estimate the impact of the UoA on minor secondary species with respect to status.</p> <p>Discarding is ban. All catch are recorded and reported in vessel logbooks and this forms a representative source of data for assessing the impact of the UoA on secondary species stocks.</p> <p>Further information (data) on secondary species is gathered during independent scientific survey (ground fish surveys, spring survey, summer survey, and acoustic surveys) that is conducted for other commercial species. Another source of quantitative information comes from fishers self-sampling of their commercial that is provided to the MFRI on a monthly basis, and included into catch monitoring.</p> <p>Some quantitative information is adequate to estimate the impact of the UoA on minorsecondary species with respect to status; therefore SG 100 is met.</p>		
C	Information adequacy for management strategy			
	Guidepost	Information is adequate to support measures to manage main secondary species.	Information is adequate to support a partial strategy to manage main secondary species.	Information is adequate to support a strategy to manage all secondary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective .
	Met?	Y	Y	Y (Pelagic trawl, Handline and Bottom Trawl) N (Purse Seine)
	Justification	<p>For all primary main and minor species in PT, HL, and BT UoA, information available is adequate to evaluate with a high degree of certainty whether the strategy is achieving its objective. It cannot be said that the future Purse seine mackerel fishery will be 100% clean. Also using present proxy information from other mackerel purse seine fishery of the area is adequate near-estimate information to support a partial strategy and precautions, SG 80 is met, but not SG100.</p> <p>As previously mentioned commercial operation information for PT, HL, and OT, where all catch are landed and recorded in vessel logbooks according to national regulations. Schedule stock assessment indicate information trends on individual target species as well as associated catch species. Fishing removal and mortality levels are quantified and use to estimate stock abundance which in itself provides indication on effectiveness of the measure to effectively or appropriately manage the stocks. In practice scientific advice and TAC advice have being to increase, decrease, suspend (ban), or no changes, based on information on stock biomass which is calculated annually as part of the harverst strategy process for primary species. In Icelandic waters all primary main and minor species are managed in this manner therefore SG 100 is met</p>		
References		MFRI Stock Advice 2014/15 – http://www.hafro.is/Astand/2015/summary_2015.pdf MFRI Stock Advice 2015/16 – http://www.hafro.is/undir_eng.php?ID=26&REF=4 ICES 2016/17 Stock Advice – http://www.ices.dk/community/advisory-process/Pages/Latest-advice.aspx		

PI 2.2.3	Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species.	
	Iceland Directorate of Fisheries – http://www.fiskistofa.is/english/fisheries-management/ Icelandic Ministry of Fisheries and Agriculture– http://www.fisheries.is/management/ Fisheries and Resource Monitoring System (FIRMS) – http://firms.fao.org/firms/summaries/en	
OVERALL PERFORMANCE INDICATOR SCORE:		
UoA 1 (Pelagic Trawl)		100
UoA 2 (Purse-Seine)		85
UoA 3 (Handline 1)		100
UoA 4 (Bottom Trawl 4)		100
CONDITION NUMBER (if relevant):		N/A

12.2.19 PI 2.3.1 – ETP species outcome – UoA 2- Purse seine and UoA 3- Handline

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	Effects of the UoA on population/stock within national or international limits, where applicable			
	Guidepost	Where national and/or international requirements set limits for ETP species, the effects of the UoA on the population/stock are known and likely to be within these limits.	Where national and/or international requirements set limits for ETP species, the combined effects of the MSC UoAs on the population/stock are known and highly likely to be within these limits.	Where national and/or international requirements set limits for ETP species, there is a high degree of certainty that the combined effects of the MSC UoAs are within these limits.
	Met?	N/A	N/A	N/A
	Justification	Not scored. No national and/or international requirements set limits for the ETP species identified in catch composition for mackerel purse seine, and handline fishery UoA.		
B	Direct effects			
	Guidepost	Known direct effects of the UoA are likely to not hinder recovery of ETP species.	Known direct effects of the UoA are highly likely to not hinder recovery of ETP species.	There is a high degree of confidence that there are no significant detrimental direct effects of the UoA on ETP species.
	Met?	Y	Y	Y
	Justification	No ETP species were identified in catch composition for mackerel purse seine, and handline fishery UoA. While there are possibilities of direct effects from purse seine fishing, such as observed around Iceland during capture of other pelagic species (ISF Iceland Capelin fishery – Polonio et. Al 2017.), there were no evidence identified where this fishery resulted in direct impacts to ETPs. In particular the data from DoF (catch data) suggest that there are no direct interaction of the UoA gear with ETPs. Handline fishing for mackerel is know to operate close to shore such as within the 3nm zone which might be frequent by resident and visiting ETPs. Following discussions with representative from the Handline fishers, independent local whale watching group, and Coast guard pratol officer, it is understood that no direct effects on ETPs is observed or recorded from this fishing operation. The score of 100 is achieved.		
C	Indirect effects			
	Guidepost		Indirect effects have been considered and are thought to be highly likely to not create unacceptable impacts.	There is a high degree of confidence that there are no significant detrimental indirect effects of the fishery on ETP species.
	Met?		Y	Y
	Justification	Indirect interactions with ETPs are certain to be insignificant based the nature of operation for the ISF handline fishery where a light weight and strength twine with multiple hooks and lures are lowered into the water and at depths above the seabed. Fishing is constantly monitored and there are no entanglements with other marine species. The light weight and strength of the fishing line does not support capture for large or small ETPs. In addition it is reported in other purse seine fishery that in the rare and infrequent event		

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species
		<p>of incidental capture of larger ETPs, these are released unharmed before hauling the gear (Hough et al. 2016). For the ISF purse seine and handline mackerel fishery there are no record of indirect effects to ETPs.</p> <p>DoF catch data from associated fishing operations and other independent information such as Coast Guard fisheries surveillance patrol and inspection of fishing activities provides evidence of the lack of interaction of these fisheries and ETPs. Independent Guard fisheries surveillance patrol in 2016 included 244 events of distant air surveillance by flights and over 200 events at-sea patrol observation and boarding inspections with reports presenting no indirect or direct harm to ETPs.</p> <p>Where indirect effects are considered such as depletion of mackerel population which might be a source of food for certain ETPs; it is also explained in section 4.2.1 (Biology of the target specie) and in section 6.6 (ecosystem) that mackerel is not a key low trophic level species or key prey specie that is identified to be required for survival of any particular ETPs.</p> <p>Therefore no indirect effects of the fishery that are paramount to the survival of ETPs is identified. The score of 100 is achieved</p>
References		Coast Guard – Stakeholder meeting (Site visit Feb 2017). DoF – mackerel catch data 2013-16 Icewhale.is Hough et al. 2016. Polonio et. Al 2017.
OVERALL PERFORMANCE INDICATOR SCORE:		
Score UoA (Purse seine)		100
Score UoA (Handline)		100
CONDITION NUMBER (if relevant):		N/A

12.2.20 PI 2.3.1 – ETP species outcome- UoA 1- Pelagic trawl UoA 4- Bottom Otter trawl

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	Effects of the UoA on population/stock within national or international limits, where applicable			
	Guided post	Where national and/or international requirements set limits for ETP species, the effects of the UoA on the population/stock are known and likely to be within these limits.	Where national and/or international requirements set limits for ETP species, the combined effects of the MSC UoAs on the population/stock are known and highly likely to be within these limits.	Where national and/or international requirements set limits for ETP species, there is a high degree of certainty that the combined effects of the MSC UoAs are within these limits.
	Met?	Y	Y	N
	Justification	<p>National limits of the fishery are known particularly from incidental capture data afforded by the discard restrictions for this species. The National catch limit understood for Atlantic Halibut is zero (Zero TAC – no targeted fishery – only non-viable specimen landed).</p> <p>Atlantic halibut is captured in pelagic and otter (bottom) trawl UoA at negligible levels of incidental catch and is the only the ETP species identified. This species is not listed in Appendix I of CITES list, however it is subjected to national restrictions of Iceland which is zero targeted fishery.</p> <p>Atlantic halibut is managed and protection by national regulations of Iceland. Proceedings from MFRI states that, in 2012, a regulation was issued to ban all targeted fishing for Atlantic halibut and stipulating that all viable halibut must be released in other fisheries, however by-catch that is non-viable must be landed.</p> <p>MFRI recommends that these regulations should be maintained until clear indications of improvement in stock are evident. Atlantic halibut is an incidental catch in bottom trawl in Iceland EEZ. Catch in 2015 was 84t; from Bottom trawl (82%), Demersal seine (11%) and other gears (7%), (MFRI StockBook 2015/16).</p> <p>While IUCN evaluation have indicated that Atlantic halibut is endangered globally, it has been found to be vulnerable within Europe waters. The effects of the fishery UoA are known because any fish caught that are already dead are landed and recorded while any live fish are released. The availability of post capture survival information would add greater certainty to effectiveness on the measure meeting its outcome objective to promote stock recovery, however this is not yet available.</p> <p>The combined effects of incidental catch in the MSC UoAs fisheries is represented in the cumulative catch from ISF Norwegian & Icelandic herring trawl and seine, ISF Iceland Cod, ISF Iceland golden redfish, ISF Iceland haddock, ISF Iceland saithe and ling, ISF Iceland mackerel, ISF Greenland halibut, and ISF Capelin fishery.</p> <p>Considering all the above information, there is no targeted fishery in Icelandic EEZ, the known incidental catch and effects of the mackerel fishery pelagic trawl and otter (bottom) trawl are within the set limits for this ETP specie, and the combined effects of the MSC UoAs on the stock are known and highly likely to be within these limits.; therefore SG 80 is met.</p> <p>However information such as post-capture survival rates of the number of viable released,</p>		

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species		
		The UoA does not hinder recovery of ETP species		
		<p>or other non-lethal interaction could add to the certainty of any further impacts but this is not known. Catch levels and impact of other MSC fisheries taking Atlantic Halibut in neighboring areas is not recorded in the current limits and might have a bearing on the stock.</p> <p>Therefore it cannot be said that there is a high degree of certainty that the combined effects of the MSC UoAs are within these limits and SG 100 is not met.</p>		
B	Direct effects			
	Guidepost	Known direct effects of the UoA are likely to not hinder recovery of ETP species.	Known direct effects of the UoA are highly likely to not hinder recovery of ETP species.	There is a high degree of confidence that there are no significant detrimental direct effects of the UoA on ETP species.
	Met?	Y	Y	Y – seabirds, cetaceans, pinnepeds, sea turtles N – Atlantic Halibut
	Justification	<p>The direct effect of both gear in the UoAs on ETPs are known.</p> <p>For Atlantic halibut, there is a total ban for the targeted fishery however by-catch of non-viable halibut must be landed and is recorded in DoF catch database. This database provide updated and known levels of incidental catch of Atlantic halibut that are taken in Icelandic fisheries – ISF Norwegian & Icelandic herring trawl and seine, ISF Iceland Cod, ISF Iceland golden redfish, ISF Iceland haddock, ISF Iceland saithe and ling, ISF Iceland mackerel, ISF Greenland halibut, and ISF Capelin fishery. According to MFRI 2015/16 stock update, juvenile and biomass index since the ban in 2012, has increased and are around levels seen in 2006. The overall reduction in Iceland fleet capacity is expected to corresponding with reduced fishing pressure for this stock. Evidence from survey index indicated that Atlantic halibut stock is currently increasing – therefore the known direct effects of the UoA mackerel fishery are highly likely to not hinder recovery of ETP species, SG 80 is met.</p> <p>The lack of post-capture survival rates of the number of viable released, or other non-lethal interaction could add to the confidence or certainty of any further impacts but this is not known. Catch levels and impact of other MSC fisheries taking Atlantic Halibut in neighboring areas is not recorded in the current system and might have a bearing on the stock; therefore, it cannot be said that there is a high degree of confidence that there are no significant detrimental direct effects of the UoA on ETP species, SG 100 is not met</p> <p>For Seabirds, Cetaceans, Pinnepeds, and Sea turtles (species in section 6.3), the direct effect of the UoAs is known to be none. This information was gathered from DoF catch data and conversation with fishers, independent groups (such as IceWhale), MFRI representatives, and Coast guard patrol officers. This evidence is consistent with other mackerel fisheries that are exploited by pelagic trawl where no direct harm or mortality were recorded to be common to the fishery (Hough et al. 2016). In the recently assessed and MSC certified ISF Cod fisheries where otter trawl is used, no significant interaction was recorded between otter trawl and this ETPs (Medley et al. 2017). By this information, it can be said that there is a high degree of confidence that there are no significant detrimental direct effects of the UoA on these ETP species, SG 100 is met.</p>		
C	Indirect effects			
	Guidepost		Indirect effects have been considered and are thought to be highly likely to not	There is a high degree of confidence that there are no significant detrimental

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species		
		The UoA does not hinder recovery of ETP species		
			create unacceptable impacts.	indirect effects of the fishery on ETP species.
	Met?		Y	N
	Justification	<p>Some indirect effects of the UoAs mackerel fisheries on the ETP species is known.</p> <p>Points relating to indirect interactions are mentioned previously in this report. There are no ETP species landed, except within the national regulations for incidental capture of Atlantic halibut and not for any CITES Appendix 1 species. Also the suggested indirect competition between mackerel fishers and ETP Species for mackerel is considered in stock assessments. It is understood that the stock assessment for NEA mackerel takes into consideration multi-conditions of mortality from fishing, predation, and other natural causes. Mackerel stocks are advice by ICES and MFRI to be at an abundance sufficient for meeting the biological needs of the ecosystem.</p> <p>While there might be certain indirect impacts from competition for less understood species which are prey for ETP species. This is uncertain, however the known incidental capture levels are considered to be insignificant and are not likely to impact the ecosystem prey-predator dynamics (Medley et al. 2017 and Hough et al. 2016).</p> <p>Mackerel is a key food source in the diet of various species such as seabirds (i.e. Gannets), however it is not considered to be a key low trophic species in this context, and there are abundant alternative pelagic species such as herring and capelin which these species also feed on, and therefore it is highly unlikely that the fishery is creating unacceptable impacts.</p> <p>The expansion of feeding range of mackerel stocks in the NEA by itself might be considered to impact plankton levels which is food for species such as capelin, and herring, which are prey for seabirds and marine mammals. In this context it could be inferred that the mackerel fishery removals are likely to reduce competitors for planktonic food and therefore might facilitate higher available food for prey species of seabirds and marine mammals.</p> <p>The indirect effect is understood to be the UoAs fisheries removal of mackerel from Iceland waters and NEA. Mackerel stocks are estimated to be sufficiently abundance to meet the prey-predator ecosystem. Considering the ISF fishing operations of pelagic trawl and otter trawl with regards to harm or indirect mortality to ETPs; the incidental catches of Atlantic halibut are recorded, and no record of interaction with large or small ETPs is established. Therefore the Indirect effects have been considered and are thought to be highly likely to not create unacceptable impacts, SG 80 is met.</p> <p>However with the lack of information such as, on survival rates of viable released or indirect impact on all ETP species; it cannot be stated with a high degree of confidence that there are no significant detrimental indirect effects of the fishery UoAs on ETP species and SG 100 is not met.</p>		
	References	<p>Birdlife International, 2012 and Email communications (Feb. 2017)</p> <p>Seabirds – https://en.wikipedia.org/wiki/Seabird</p> <p>Icewhale.is</p> <p>Medley <i>et al.</i> 2017 and Hough <i>et al.</i> 2016</p> <p>DoF – http://www.fisheries.is/main-species/marine-mammals/</p> <p>Iceland National Coast Guard – Site visit meeting information (Feb. 2017)</p> <p>Pálsson et al, (2015); Óskarsson, G.J., Gudmundsdottir, A., Sveinbjörnsson, S., & Sigurðsson Þ. (2015)</p>		

PI 2.3.1	The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species
	MFRI – http://www.hafro.is/undir_eng.php?ID=26&REF=4 Iceland Coastguard – Site visit meetings Feb. 2017 ICES Working Group on Bycatch of Protected Species (WGBYC) – http://ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2016/WGBYC/02_WGBYC%20Report%202016.pdf
OVERALL PERFORMANCE INDICATOR SCORE:	
Score UoA (Pelagic trawl)	85
Score UoA (Bottom trawl)	85
CONDITION NUMBER (if relevant):	N/A

12.2.21 PI 2.3.2 – ETP species management strategy – All 4 UoAs

PI 2.3.2		The UoA has in place precautionary management strategies designed to: <ul style="list-style-type: none">• meet national and international requirements;• ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place (national and international requirements)			
	Guidepost	There are measures in place that minimize the UoA-related mortality of ETP species, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a strategy in place for managing the UoA's impact on ETP species, including measures to minimize mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a comprehensive strategy in place for managing the UoA's impact on ETP species, including measures to minimize mortality, which is designed to achieve above national and international requirements for the protection of ETP species.
	Met?	Y	Y	N
	Justification	A national management strategy is in place for ETP species. In 2012, a regulation was issued to ban all targeted fishing for Atlantic halibut and stipulating that all viable halibut must be released in other fisheries. MFRI recommends that these regulations should be maintained until clear indications of improvement in the stock are evident. In addition, groundfish surveys are used to assessment changes in stock abundance. Steady increase in juvenile and biomass index is identified. Live release of any viable Atlantic halibut is required by regulation. Fishers are required to comply with Iceland Fisheries Management Act, to promote the conservation and efficient utilization of the marine resources. The national regulatory ban, and groundfish stock survey as well as assessments and catch monitoring represents the Strategies in place for managing the UoA's impact on ETP species. It is therefore considered that there is a strategy in place for managing the UoA's impact on ETP species, including measures to minimize mortality, which is designed to be highly likely to achieve national requirements for the protection of ETP species, SG 80 is met. With the lack of independent data on post-capture survival of the viable release, or impact of other non-lethal interactions, or dedicated research programs, as well as regular review of these measures, it cannot be said that there is a comprehensive strategy in place for managing the UoA's impact on ETP species, including measures to minimize mortality, which is designed to achieve above national and international requirements for the protection of ETP species, therefore SG 100 is not met and the fishery meets SG 80.		
B	Management strategy in place (alternative)			
	Guidepost	There are measures in place that are expected to ensure the UoA does not hinder the recovery of ETP species.	There is a strategy in place that is expected to ensure the UoA does not hinder the recovery of ETP species.	There is a comprehensive strategy in place for managing ETP species, to ensure the UoA does not hinder the recovery of ETP species
	Met?	N/A	N/A	N/A
	Justific	See justification in scoring issues a.		

PI 2.3.2		The UoA has in place precautionary management strategies designed to: <ul style="list-style-type: none">• meet national and international requirements;• ensure the UoA does not hinder recovery of ETP species. <p>Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species.</p>		
	ation			
c	Management strategy evaluation			
	Guided post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is an objective basis for confidence that the measures/strategy will work, based on information directly about the fishery and/or the species involved.	The strategy/comprehensive strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.
	Met?	Y	Y	N
	Justification	<p>The national management strategy for Atlantic halibut is evaluated; for example Direct fisheries information is generated from groundfish survey and commercial catch data. All mackerel catch in the UoA fisheries are landed; this provides a good source of data for stock assessment.</p> <p>For Bottom otter trawl fishery and Atlantic halibut, there are strategies implemented to monitor interactions included incidental catch levels and intervention such as area closure to this gear type when required.</p> <p>For the pelagic gears use in this fishery; purse seine and pelagic trawl utilize acoustic devices to identify specific shoals of fish to capture; while handline utilize lures rather than bait. All catch information are recorded and reported. These measures function to reduce interaction with ETPs where intervention is required.</p> <p>Information from MFRI surveys, coastguard observation/inspections, independent research and communication with fishers confirms negligible interaction with Atlantic halibut, as can be seen from the DoF data of all catch. Research by MFRI and Kristinsson (2003), indicated that both catch statistics and abundance indices from fishery independent surveys indicate that abundance were at historically low contemporary levels, but improving since 2015.</p> <p>The strategy in place monitor interactions of the UoA mackerel fisheries with Atlantic halibut, as well as other ETP species, and respond with interventions as appropriate.</p> <p>Based on information from DoF, MFRI, Coastguard observer data and Fishers communication, interaction is rare and negligible. These monitoring and observer data forms the objective basis for confidence that the measures will work, based on information directly about the fishery and the species involved, therefore SG 80 is met.</p> <p>While there are no recorded lethal interaction with other ETP species, it is not known what impact might arise from unreported non-lethal interactions, therefore the strategy in place is not considered comprehensive with direct information for qualitative analysis of impacts with high confidence, SG 100 is not met.</p>		
D	Management strategy implementation			
	Guided post		There is some evidence that	There is clear evidence that

PI 2.3.2		The UoA has in place precautionary management strategies designed to: <ul style="list-style-type: none">• meet national and international requirements;• ensure the UoA does not hinder recovery of ETP species. <p>Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species.</p>		
	ost		the measures/strategy is being implemented successfully.	the strategy/comprehensive strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a) or (b).
	Met?		Y	N
	Justification	Management strategy are implemented for managing the interaction of the mackerel fisheries UoA with Atlantic halibut and other ETP. <p>For the 4 UoAs defined in the assessment, there have been negligible interactions with ETPs species, as demonstrated in quantitative catch data for all fisheries and reports from MFRI, DoF, and Coastguard.</p> <p>All viable Atlantic halibut are released alive and mitigations equipment (such as separator grids) are implemented in fishing equipment. In addition all commercial fishers are required by law to record and report their catch in vessel logbook and elogbook. Most importantly, the MFRI 2015/16 stock survey for Atlantic halibut showed improvements in biomass and juvenile index, which is considered an indication that strategy to improve the stock is implemented successfully. Therefore there is some evidence that the strategy is being implemented successfully, SG 80 is met.</p> <p>In the current strategy, measures for managing impact arising from unreported non-lethal interactions or threat to populations of other ETP species in the area of the UoA mackerel fisheries is unclear. Therefore a comprehensive strategy is not fully implemented and overall conservation objectives are not achieved, as set out in scoring issue (a), SG 100 is not met.</p>		
E	Review of alternative measures to minimize mortality of ETP species			
	Guidepost	There is a review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of ETP species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of ETP species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality ETP species, and they are implemented, as appropriate.
	Met?	Y	Y	N
	Justification	There is regular review of commercial catch data to identify alternative measures to minimize mortality of Atlantic halibut and any other incidental captures species. <p>Annually, commercials stocks and species associated by incidental capture are evaluated and TAC advise given for exploiting the commercial fisheries. Individual catch quotas are reviewed and authorized at regular times within a year.</p> <p>The MFRI and DoF conduct regular review of Atlantic halibut landing data and are able to impose management decisions such as close areas (temporary in most case where high density of Atlantic halibut, or other populations of ETP or vulnerable species are</p>		

PI 2.3.2		<p>The UoA has in place precautionary management strategies designed to:</p> <ul style="list-style-type: none">• meet national and international requirements;• ensure the UoA does not hinder recovery of ETP species. <p>Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species.</p>
		<p>identified).</p> <p>Fishers catch are reporting more frequently than annually with evaluation and interpretations of any interactions with ETPs is fed into management strategies.</p> <p>Considering all; there is a regular review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of ETP species and they are implemented as appropriate, SG 80 is met.</p> <p>However a review of measures to minimizing mortality, non-lethal interactions or threat to all populations of ETP species in the area of the UoA mackerel fisheries is not conducted or reviewed regularly or bi-annually, therefore SG100 is not met.</p>
References		<p>DoF – http://www.fisheries.is/main-species/marine-mammals/ Iceland National Coast Guard – Site visit meeting information (Feb. 2017) ICES – http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/mac-neo.pdf MFRI – http://www.hafro.is/undir_eng.php?ID=26&REF=4 Kristinsson, K. (2003). Lúðan (Hippoglossus hippoglossus) við Ísland og hugmyndir um aðgerðir til verndunar hennar (The conservation of Atlantic halibut (Hippoglossus hippoglossus) in Icelandic waters.). Hafrannsóknastofnunin Fjölrit 95, 33 p.</p>
OVERALL PERFORMANCE INDICATOR SCORE:		
Score UoA 1 (Pelagic Trawl)		80
Score UoA 2 (Purse-Seine)		80
Score UoA3 (Handline)		80
Score UoA 4 (Bottom Trawl)		80
CONDITION NUMBER (if relevant):		N/A

12.2.22 PI 2.3.3 – ETP species information – All 4 UoAs

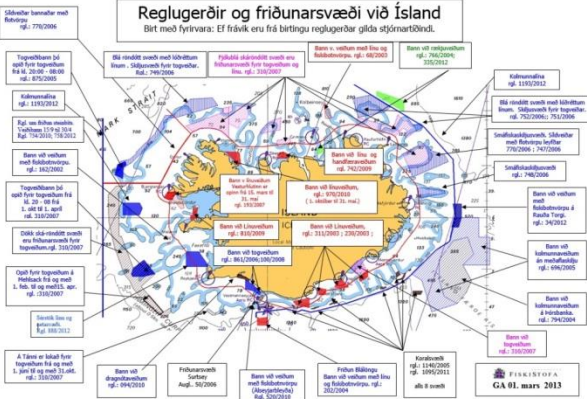
PI 2.3.3	<p>Relevant information is collected to support the management of UoA impacts on ETP species, including:</p> <ul style="list-style-type: none"> • Information for the development of the management strategy; • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species. 			
Scoring Issue	SG 60	SG 80	SG 100	
a	Information adequacy for assessment of impacts			
	<p>Guidepost</p>	<p>Qualitative information is adequate to estimate the UoA related mortality on ETP species.</p> <p>OR</p> <p>If RBF is used to score PI 2.3.1 for the UoA:</p> <p>Qualitative information is adequate to estimate productivity and susceptibility attributes for ETP species.</p>	<p>Some quantitative information is adequate to assess the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species.</p> <p>OR</p> <p>If RBF is used to score PI 2.3.1 for the UoA:</p> <p>Some quantitative information is adequate to assess productivity and susceptibility attributes for ETP species.</p>	<p>Quantitative information is available to assess with a high degree of certainty the magnitude of UoA-related impacts, mortalities and injuries and the consequences for the status of ETP species.</p>
	Met?	Y	Y	N
	Justification	<p>A great detail of information on ETP species and their interaction with fisheries in Icelandic waters and wider Northeast Atlantic can be accessed from Ministry of Fisheries and Agriculture and ICES. Atlantic halibut is the only recorded specimen identified as ETPs in the UoA catch composition.</p> <p>There is adequate information for assessing impact of the mackerel fisheries UoA on Atlantic halibut populations.</p> <p>Within the catch composition of the pelagic trawl and bottom trawl fishery one species is considered as ETP – Atlantic halibut (<i>Hippoglossus hippoglossus</i>)- with insignificant catch levels of 0.0001% and 0.00003% or 369kg and 67kg, respectively over the 4 year period (2013-2016).</p> <p>No ETP species incidental catch was identified in catch composition for purse seine, and handline.</p> <p>Quantitative information on incidental capture of Atlantic halibut is recorded in vessel logbook and therefore indicates all amounts of any landing. Viable fish are released however post-capture mortality rates are not monitored. Some quantitative information generated from multi-species surveys and spring/summer surveys. Which provide estimated abundance of mackerel and other species (i.e. Atlantic halibut) based on their corresponding presence with mackerel shoals. Other information comes from MFRI and DoF Fisheries Inspectors and Scientific Observer and surveys.</p> <p>Considering the information above; some quantitative information is adequate to assess the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species, therefore SG80 is met.</p>		

PI 2.3.3		Relevant information is collected to support the management of UoA impacts on ETP species, including: <ul style="list-style-type: none">• Information for the development of the management strategy;• Information to assess the effectiveness of the management strategy; and• Information to determine the outcome status of ETP species.		
		However quantitative information on the impact of the UoA mackerel fisheries on all populations of ETP species in the area, is not available therefore the full magnitude of impact cannot be assessed with a high degree of certainty, SG 100 is not met.		
B	Information adequacy for management strategy			
	Guided post	Information is adequate to support measures to manage the impacts on ETP species.	Information is adequate to measure trends and support a strategy to manage impacts on ETP species.	Information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.
	Met?	Y	Y	N
	Justification	<p>Information available for Atlantic halibut stock and mackerel fisheries in the UoA is adequate for measuring biological trends and supporting strategies to manage impacts on Atlantic halibut population, however not for all populations of ETP species in the area of the fishery.</p> <p>Commercial catch data and survey data, as well as VMS data are collected and used by DoF, Coastguard, and MFRI for managing impact of mackerel fisheries on Atlantic halibut populations. Landings (incidental catch) of Atlantic halibut in the UoA fisheries is negligible. Measures to manage impact might include closed area where higher than expected catch levels of Atlantic halibut is observed in landing data.</p> <p>Monitoring of fishing information from the Icelandic mackerel fishery is ongoing – as seen in the catch data from DoF – and supported by regulations. All together these fishery information are adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.</p> <p>Considering the above; information is adequate to measure trends and support a strategy to manage impacts on ETP species; SG 80 is met.</p> <p>Current information is limited to lethal interaction only (non-lethal interaction or injuries not recorded or reported) therefore a comprehensive strategy which offers minimizing mortality from this route is not yet in place all ETP species population in the area of the mackerel fishery, therefore SG 100 is not met.</p>		
References		MFRI spring survey reports – 2015/16 MFRI – http://www.hafro.is/undir_eng.php?ID=26&REF=4 DoF – http://www.fiskistofa.is/english/quotas-and-catches/catches-in-individual-species/ Iceland Coast Guard.		
OVERALL PERFORMANCE INDICATOR SCORE:				
UoA 1 (Pelagic Trawl)				80
UoA 2 (Purse-Seine)				80
UoA 3 (Handline)				80

PI 2.3.3	<p>Relevant information is collected to support the management of UoA impacts on ETP species, including:</p> <ul style="list-style-type: none"> • Information for the development of the management strategy; • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species.
UoA 4 (Bottom Trawl)	80
CONDITION NUMBER (if relevant):	N/A

12.2.23 PI 2.4.1 – Habitats outcome Pelagic gears (UoA 1, 2 & 3)

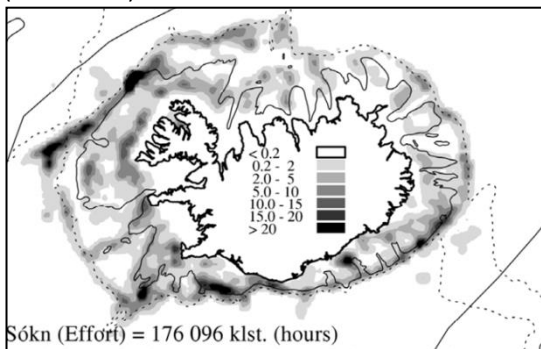
PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.		
Scoring Issue		SG 60	SG 80	SG 100
a	Commonly encountered habitat status			
	Guidepost	The UoA is unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
	Met?	Y	Y	Y
	Justification	<p>Pelagic trawl, purse seine and handline gears are not designed to contact the seabed and then they do not impact with the bottom surface being less erosive than other gears. Therefore these gear types are designed to fish in pelagic habitats an any interaction happening with the seafloor is exceptional. The commonly encountered habitat is the water colum.</p> <p>As it is explained by Vilhjálmsson et al. (2002), Mackerel has a pelagic distribution and it aggregated in shools between 0-700 meters but usually is located up to 200 m (http://www.fishbase.org/summary/252), then when the fishery targets Mackerel the fishing operation occurs in this range of depth and the interactions with the seabed is almost impossible, the fishing activity is localized at some point in the water column above the seabed.</p> <p>Due to the distribution of the species, Mackerel is most abundant in areas of open water as pelagic species, Mackerel is most efficiently caught using mid-water trawls or purse seines, which are used to fish the upper layers of the water column.</p> <p>Therefore, there is evidence that the fishery using pelagic gears is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm and SG 100 is met.</p>		
B	VME habitat status			
	Guidepost	The UoA is unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.
	Met?	Y	Y	Y
	Justification	<p>The fishery, when is targeting Mackerle with a pelagic gear types, does not have any interactions with VMEs because the fishing activities take place in the water colum.</p> <p>Furthermore, any protected area in Iceland is identified and represented in a map to make easy its localization. The Coast guard takes into account these areas in their control programme and they monitor any activity in these areas to comply with the law.</p>		

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.	
		<p>The map below represents the different areas classified in Icelandic waters. No overlapping between fishing grounds where Mackerel is caught with pelagic gears and VMEs is noted.</p> <div></div> <p>Therefore, there is evidence that the UoAs (1, 2 & 3) are highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm and SG 100 is met.</p>	
C	Minor habitat status		
	Guidepost		There is evidence that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.
	Met?		Y
	Justification	<p>As it was explained above no VMEs are found and also no minor habitats are damaged.</p> <p>The pelagic fisheries, either purse seine midwater trawl and handline, operate in the water column and many studies show how the pelagic fisheries do not hinder the habitats. Some studies, detailed in the reference list below, conclude that the impact of the gears in the habitat depends on the time of contact with the bottom surface and at the same time it might vary depends the substrate and characteristics of the sea bed.</p> <p>Therefore, there is evidence that the UoAs (1, 2 & 3) are highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm and SG 100 is met.</p>	
References		Ragnarsson & Steingrímsson, 2003 Jennings et al., 2001 ICES Advice 2008, Book 2 Vilhjálmsson et al. (2002) http://www.fishbase.org	
OVERALL PERFORMANCE INDICATOR SCORE:			
Score UoAs (Pelagic Trawl)			100
Score UoAs (Purse-Seine)			100
Score UoAs (Hangline)			100

PI 2.4.1	The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.
CONDITION NUMBER (if relevant):	NA

12.2.24 PI 2.4.1 – Habitats outcome – Bottom Otter trawl UoA 4

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.		
Scoring Issue		SG 60	SG 80	SG 100
a	Commonly encountered habitat status			
	Guided post	The UoA is unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
	Met?	Y	Y	N
	Justification	<p>Icelandic bottom trawl is consider a demersal gear operating that seems that operates above the seabed however, total non-contact with bottom habitat is uncertain. Therefore, the encountered habitat can be considered the bottom surface.</p> <p>Likely encountered habitats tend to be bottom surface varying from sandy mud to gravel and cobbled areas (Ragnarsson & Steingrímsson, 2003). Fishing operations that contact the seabed can have unwanted, and often severe, environmental effects. Some of the most commonly impacts are documented in the ICES Ecosystems overview and other researches around Iceland (Burgos et al.2014), macroinvertebrates are commumly affected by fishing activities, mostly deep sea coral reefs and sponges gardens. Therefore there is a relationship between environmental changes such as habitat quality, biodiversity or structure of coral and sponges gardens with demersal fisheries.</p> <p>However, in the areas where bottom trawl in Iceland takes place seems that there are areas with high resilience that can be more dynamic areas than others and in harmonization with other ISF Iceland demersal fisheries MSC certified (Cod, Saithe and Golden redfish), it is highly unlikely that this gear will reduce their structure and function to the point where there would be serious irreversible harm. These areas are well defined and they have been fished for many years and following the DoF cathes and MFRI studies they are still productive over the long-term.</p> <p>Therefore, the UoA 4, is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm and SG 80 is met.</p> <p>However, there is uncertain on how these fishing activities are fully and effectively controlled in terms of biodiversity loss (sponges and soft corals) therefore, the Assessment Team cannot confirm that there is an evidence that the UoA 4 is high unlikely to reduce structure and function of the commonly encountered habitat and SG 100 is not met.</p>		
B	VME habitat status			
	Guided post	The UoA is unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.			
	Met?	Y	N	N	
	Justification	<p>Bottom trawl fishing gear has been one of the most important gears in Icelandic waters over the years. The fishing activities with bottom otter trawl take place between 80 to 1500 me and this gear has an extensive use in Cod fishery where mackerel is caught is almost the same % than Cod. The areas where the trawling takes place are well known. The map below shows the location of effort with bottom trawl in 2011 (hours trawling), (MFRI 2011)</p>  <p>Sókn (Effort) = 176 096 klst. (hours)</p> <p>The dark areas indicate highest effort and normally correpsond with slope areas off the south coast of Iceland with depths descending from around 400 m to more than 1500 m, some parts of the slope areas are considered difficult for trawling.</p> <p>The used of bottom otter trawl has been reduced in several areas after MFRI has carried out different research program to locate the VMEs along with NEAFC monitoring and ICES ecosystem overview. Given that in the past, the bottom trawl fishery has reduced coral habitat structures and the present fishing patterns of bottom trawls fisheries overlap with vulnerable habitats of corals and aggregation of large sponges. Coral areas have been closed which will prevent further damage to such biogenic habitats.</p> <p>However, comparable efforts to protect other biogenic habitats, i.e. aggregation of large sponges, are not carried out and the areas are not well defined as hard coral areas are. Benthic bycatch is not recorded as other fish species are during fishing activities, this leads to a lack of information in all benthic communities around Iceland.</p> <p>A single contact by the bottom trawl has a significant impact on benthic habitats which have slow recovery rates. Therefore, bottom trawling effects are considered higher than other human activities. The physical impacts that the bottom trawl can originate in the VME can be significant and all the component of VME must to be included in controlling of possible risks.</p> <p>The Assessment Team cannot concluded that the assessed bottom otter trawl fishery (UoA 4) is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm and therefore SG 80 is not met. Therefore, however SG 60 is met for bottom otter trawl, a condition has been set up.</p> <p>Furthemore, the UoA 4 of mackerel fishery has beenharmonized with the, cod, saithe and golden redfish fisheries where there is a condition for this PI.</p>			
	C	Minor habitat status			
		Guidep			There is evidence that the

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.		
	Cost			UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.
	Met?			N
	Justification	Even though some benthic areas are preserved to bottom trawling, there is a lack of information in some VMEs. No all the move-on rules, in terms of different macroinvertebrates species considering bioindicators of VMEs defined by NEAFC or OSPAR, are taken into account and there is no specific evidence that this gear is highly unlikely to reduce the structure and function of minor habitats to a point where there would be serious or irreversible harm and therefore SG 100 is not met.		
References		Ragnarsson & Steingrímsson, 2003 Jennings et al., 2001 https://www.ospar.org/ https://www.neafc.org/ http://www.fao.org/3/a-i5952e.pdf		
OVERALL PERFORMANCE INDICATOR SCORE:				70
CONDITION NUMBER (if relevant):				2

12.2.25 PI 2.4.2 – Habitats management strategy for Pelagic gears (UoA 1, 2 & 3)

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guided post	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a strategy in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	Y	Y	Y
		<p>Mackerel lives in mid-water during its whole lifecycle. Fishing operations target the discrete shoals in mid-water, normally well above the seabed. The midwater pelagic trawl fishery seeks to actively avoid contact with the seabed in order not to damage expensive fishing gear. In fact, many measures that minimise fishing gear/seabed interaction are in place such as: the use of electronics devices depth sounders, sonar and trawl position monitoring systems to control the position of the gear and how it is operating during the set.</p> <p>There is a widely information and mapping regarding the closed areas and the kind of substrate in each grounds to allow fishing activities without damage the gears. Other measure is the prohibition on fishing with trawls within 12nm of the coast in many areas of Iceland where the most vulnerable areas of seabed (deep sea coral reefs) are.</p> <p>There are different type of closed areas to fishing activity, some of them are close to avoid the juveniles catches or because the habitat might be damaged or both. The information is review by MFRI and DoF and the updates on the mapping are shared with the fishermen and they are monitoring by the Coast Guard, then they have enough information for preventing harm on habitats.</p> <p>Therefore, there is a strategy in place for managing the impact of all MSC UoAs/non-MSC (MSC fisheries: Cod, Saithe, Capelin and Golden redfish) fisheries on habitats and SG 100 is met.</p>		
B	Management strategy evaluation			
	Guided post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats).	There is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or habitats involved.
	Met?	Y	Y	N
	Justification	<p>For pelagic trawl, purse seine, and handline large areas of Icelandic waters are closed for fishing, some of them temporarily (hours per day, days in total or seasonal) and others permanently (years). Areas are usually closed for fishing with different gear types due to the presence of juvenile fish over extended periods of time or in order to protect spawning grounds. Although area closures are aimed at protecting juvenile fish, the measures have a secondary effect, i.e. protecting seabed habitats from being damaged by fishing activities.</p> <p>This is considered to be a partial strategy for all three VME types and the Assessment Team can confirm that there is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved and SG80 is met.</p>		

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats.		
		However, it is not a full strategy with a comprehensive management plan based upon full EEZ habitat mapping, and therefore SG 100 cannot be met.		
C	Management strategy implementation			
	Guided post		There is some quantitative evidence that the measures/partial strategy is being implemented successfully.	There is clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a).
	Met?		Y	Y
	Justification	<p>The gears employed in the UoAs are well defined in terms of operation and are pelagic gears.</p> <p>The fishing gears used in these UoAs are not suitable for situations where the gears would routinely touch the seabed and then it is almost negligible that the fishery, with pelagic gears, hinder the habitats.</p> <p>Quantitative data are available with the track record of the vessels and also can be monitored in the Coast Guard centre. Every set comes from Mackerel fishery might be checked in the DoF and as the Assessment team explained above, the Coast guard is in charge in the to control the fleet is not doing any violations of the law as could be any fishing activity in a vulnerable or closed area.</p> <p>Therefore, there is clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue a and SG 100 is met.</p>		
D	Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs			
	Guided post	There is qualitative evidence that the UoA complies with its management requirements to protect VMEs.	There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.	There is clear quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
	Met?		Y	N
	Justification	<p>Mackerel fishery, carried out with pelagic gears, has no impact in VMEs because as it was explained above is a pelagic fishery with no contact with the seabed and there are measures to control the fishing grounds and the vessels activities.</p> <p>However, whilst there is full VMS coverage of all gear types under assessment, there is not clear quantitative evidence that this, or any other similar MSC UoAs (ISF Norwegian & Icelandic herring trawl and seine, ISF Iceland Cod, ISF Iceland golden redfish, ISF Iceland haddock, ISF Iceland saithe and ling, and ISF Greenland halibut, ISF Iceland Capelin), fully complies with both its management requirements and with protection measures afforded to VMEs.</p>		

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats.
		Therefore the Assessment Team cannot confirm that there is clear quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant and SG 100 is not met .
References		Medley et al, 2017; Directorate of Fisheries (Icelandic version for February 2016) http://www.fiskistofa.is/fiskveidistjorn/veidibann/reglugerðarlokanir/ ; Ministry of Fisheries 2004; Ólafsdóttir & Burgos 2012a www.fisheries.is http://www.fao.org/fishery/geartype/search/en
OVERALL PERFORMANCE INDICATOR SCORE:		
Score UoAs (Pelagic Trawl)		80
Score UoAs (Purse-Seine)		80
Score UoAs (Hangline)		80
CONDITION NUMBER (if relevant):		NA

12.2.26 PI 2.4.2 – Habitats management strategy for Bottom Otter Trawl UoA 4

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guided post	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a strategy in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	Y	N	N
		<p>The Icelandic management strategy for marine habitats in general, and VMEs in particular, is mainly implemented through a system of closed areas which effectively prevent both bottom trawl (and in some cases, other gears such as longline) from being used in known areas of cold-water coral concentrations along the edge of the continental shelf.</p> <p>This represents a partial strategy for cold water corals, but is not yet in place for soft coral or sponge concentrations, and does not meet SG80 for these two VME types. It is acknowledged that most vessels have move-on rules when fishing these areas but the Assessment Team cannot confirm that there is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above and SG 80 is not met.</p> <p>A condition has been set up and the fishery with Bottom otter trawl gear type has been harmonized with other fisheries in the area using the same gear type (MSC fisheries; Cod, Saithe and Golden redfish).</p>		
B	Management strategy evaluation			
	Guided post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats).	There is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or habitats involved.
	Met?	Y	Y	N
	Justification	<p>In Icelandic water the areas closed to trawling are well defined and monitored. This is a measure included in the partial strategy to control the fishing pressure in Vulnerable areas. Therefore, there are measures in place for cold water corals and they are well proven to be effective, providing objective evidence that the partial strategy will work.</p> <p>However as it was explained above in 2.4.1a these measures to control coral reefs are not well implemented for soft coral and sponge gardens and for that reason a condition would be put in place to ensure that studies to protect all macroinvertebrates considered bioindicators of VMEs will take place.</p> <p>Therefore, there is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved and SG 80 is met.</p> <p>However, it is not a full strategy with a comprehensive management plan, and therefore fails to reach SG100.</p>		
C	Management strategy implementation			

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats.		
	Guided post		There is some quantitative evidence that the measures/partial strategy is being implemented successfully.	There is clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a).
	Met?		Y	N
	Justification	<p>There are measures implemented in Icelandic waters to have quantitative evidence that the partial strategy is working, for example one of them is the VMS system, every vessel has to report the position of each trawling and the protected areas are well monitored. That states the evidence of having some quantitative information that this is achieving its objective, especially for hard coral areas.</p> <p>However, as mentioned above there is a lack of information regarding soft corals and sponge gardens. Due to this lack of information in other types of macrobenthic species the Assessment Team cannot say that there is clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a) and SG 100 is not met.</p> <p>Therefore, there is some quantitative evidence that the measures/partial strategy is being implemented successfully and SG 80 is met.</p>		
D		Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs		
	Guided post	There is qualitative evidence that the UoA complies with its management requirements to protect VMEs.	There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.	There is clear quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
	Met?		Y	N
	Justification	<p>Bottom otter trawlers avoid closed areas and these are not subject to disturbance. The track record of VMS and other effort distribution information confirm that there is some quantitative information that this is achieving its objective, especially for hard coral areas.</p> <p>However, there is not clear quantitative evidence for other macroinvertebrates, as mentioned in 2.4.1a, or any other similar MSC UoAs (e.g. golden redfish, saithe, ling) and therefore failed to reach SG100.</p> <p>It is considered that there is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant and SG 80 is met.</p>		
References		<p>Medley et al, 2017; Directorate of Fisheries (Icelandic version for February 2016: http://www.fiskistofa.is/fiskveidistjorn/veidibann/reglugerdarlokanir/); Ministry of Fisheries 2004; Ólafsdóttir & Burgos 2012a</p>		
OVERALL PERFORMANCE INDICATOR SCORE:				75

PI 2.4.2	There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats.	
CONDITION NUMBER (if relevant):		3

12.2.27 PI 2.4.3 – Habitats information- All UoAs

PI 2.4.3		Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat.		
Scoring Issue		SG 60	SG 80	SG 100
a	Information quality			
	Guided post	<p>The types and distribution of the main habitats are broadly understood.</p> <p>OR</p> <p>If CSA is used to score PI 2.4.1 for the UoA:</p> <p>Qualitative information is adequate to estimate the types and distribution of the main habitats.</p>	<p>The nature, distribution and vulnerability of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA.</p> <p>OR</p> <p>If CSA is used to score PI 2.4.1 for the UoA:</p> <p>Some quantitative information is available and is adequate to estimate the types and distribution of the main habitats.</p>	<p>The distribution of all habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.</p>
	Met?	Y	Y	N
	Justification	<p>In Iceland there are numerous studies to define the vulnerability of marine areas and they are included in several international projects to protect marine habitats.</p> <p>To date around 12% of the entire Iceland EEZ habitats has been mapped in detail using multi-beam echo-sounder and the intention is to map the entire EEZ by 2026. Models have been developed to predict the distribution of corals on the Icelandic shelf (Burgos et al, 2014), and the nature, distribution and vulnerability of the main habitats are well understood.</p> <p>The BIOICE program has been in operation since 1992 with the aim of producing a basic inventory of benthic fauna within Icelandic territorial waters. Benthic samples have been collected from a variety of habitats, ranging widely in depth and in relation with a wide range of temperature. The MFRI has also identified areas of vulnerable benthic habitats in Icelandic waters (cold water corals, areas with aggregation of large sponge, and maerl beds) in relation to bottom trawl fishing activities (Ministry of Fisheries 2004).</p> <p>MFRI is currently carrying out research programs in order to map benthic habitats in Icelandic waters (biology and geology, using multi-beam echo sounder), including the mapping of cold water corals (<i>Lophelia pertusa</i>).</p> <p>Therefore, the nature, distribution and vulnerability of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA and SG 80 is met.</p> <p>However, due to the lack of information in some areas therefore is not known for the whole EEZ, SG 100 is not met.</p>		
B	Information adequacy for assessment of impacts			
	Guided post	Information is adequate to broadly understand the nature of the main impacts	Information is adequate to allow for identification of the main impacts of the	The physical impacts of the gear on all habitats have been quantified fully.

PI 2.4.3		Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat.		
		of gear use on the main habitats, including spatial overlap of habitat with fishing gear. OR If CSA is used to score PI 2.4.1 for the UoA: Qualitative information is adequate to estimate the consequence and spatial attributes of the main habitats.	UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. OR If CSA is used to score PI 2.4.1 for the UoA: Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of the main habitats.	
	Met?	Y	Y	N
	Justification	In the partial strategy in place to monitor the fishery, there are different measures such as: VMS, closed areas, patrols and other tools which provide spatial and temporal information on fishing effort for all gear types, and identify the main impacts on the main habitats. Therefore, information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear and SG80 is met . However, the physical impacts of the gears on some habitats, especially the soft corals and sponges, are not fully quantified, and the Assessment Team cannot confirm that the physical impacts of all the gears on all habitats have been quantified fully and SG 100 is not met .		
		Monitoring		
	Guidpost		Adequate information continues to be collected to detect any increase in risk to the main habitats.	Changes in habitat distributions over time are measured.
	Met?		Y	Y
	Justification	Different program as BIOCE has been carried out since 1992, the results of this program have gotten a widely knowledge of the spatio-temporal effects of fishing effort in Iceland and these researches are comprehensive and continuing. MFRIs benthic survey work and the mapping of the seabed habitats and fishing grounds using multi-beam echo-sounding in cooperation with other research organism and organizations. Therefore, it means that changes in habitat distributions over time are measured and SG 100 is met .		
References		Burgos et al. 2014 Meisner et al. 2014 Ministry of Fisheries, (2004) Gudmundsson and Helgason, (2014).		
OVERALL PERFORMANCE INDICATOR SCORE:				

PI 2.4.3	Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat.	
Score UoA 1 (Pelagic Trawl)		85
Score UoA 2 (Purse-Seine)		85
Score UoA 3 (Hangline)		85
Score UoA 4 (Bottom Trawl)		85
CONDITION NUMBER (if relevant):		N/A

12.2.28 PI 2.5.1 – Ecosystem outcome- All UoAs

PI 2.5.1		The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function.		
Scoring Issue		SG 60	SG 80	SG 100
a	Ecosystem status			
	Guided post	The UoA is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is evidence that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
	Met?	Y	Y	Y
	Justification	<p>There is a good level of knowledge regarding ecosystems in Iceland. The area where the Mackerel fishery takes place is well define and many studies are in place (Palsson et al. (2012); ICES ecosystem overview, 2016;2017).</p> <p>These studies show the main environmental characteristics of the area where fishery takes place. The studies show that changes in the environmental conditions as could the increament in the temperature has generated shift in the trends of ecosystems patterns and then recent changes in migration and distribution of several species, mackerel among others are described.</p> <p>All the changes in the patterns of distribution cannot be explained by enviromental changes and could affect the distribution of other species that can be affected by food competency. Research studies have been carried out in the area to know more about this changes in the patterns of Mackerel distribution but there is no enough results yet to know the reasons. The available data suggest some warming in recent years.</p> <p>In the absence of other relevant, environmental factors, it is concluded that the large change in mackerel distribution seems to have resulted from a rather modest warming in the Iceland Sea, which displaced other stocks as capelin stock into the western and southwestern waters of the Iceland Sea, i.e. East Greenland waters and the Denmark Strait. Corresponding spatial changes in the prey species of Mackerel can neither be ruled out nor verified because of a lack of long-term zooplankton data (Palsson, O. K., et al. 2012). Then, more studies have been carried out to know how the changes in Mackerel could be affected the distribution of other Icelandic species which prey in the same species than Mackerel.</p> <p>In addition evidence from ecosystem research and models (Óskarsson, et al 2015 and Olafsdottir, et al 2016.) has indicated that there are no negative changes to the ecosystem function and structure by operation of the Icelandic Mackerel fishing, as well as when considered in connection with all nations harvesting the stock, however there are likely less significant variations with regards to prey-predator dynamics, for example where there are higher population of Mackerel there might be increased competition for food with smaller pelagic.</p> <p>Considering all current information, the Assessment Team have concluded that the above represents evidence that the Macekrel fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm and therefore SG 100 is met.</p>		

PI 2.5.1	The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function.	
References	<p>ICES 2016 & 2017- Ecosystem overview MRI 2016/17 – http://www.hafro.is/Astand/2016/english/mackerel_2016.pdf Óskarsson, et al (2015) and Olafsdottir, et al (2016).</p> <p>Astthorsson, O.S., Vilhjalmsón, H. 2002. Icelandic shelf LME: Decadal assessment and resource sustainability. Pp. 219-249 in Sherman, K. and H.R. Skjoldal. Large marine ecosystems of the North Atlantic. Elsevier Press. Amsterdam.</p> <p>Astthorsson OS, Gislason A, Jonsson, S. 2007. Climate variability and the Icelandic marine ecosystem. Deep-Sea Res Part II 54:2456–2477 .</p> <p>Palsson, O. K., Gislason, A., Guðfinnsson, H. G., Gunnarsson, B., Ólafsdóttir, S. R., Petursdóttir, H., Sveinbjörnsson, S., Thorisson, K., and Valdimarsson, H. 2012. Ecosystem structure in the Iceland Sea and recent changes to the capelin (<i>Mallotus villosus</i>) population. – ICES Journal of Marine Science, 69: 1242–1254.</p>	
OVERALL PERFORMANCE INDICATOR SCORE:		100
CONDITION NUMBER (if relevant):		N/A

12.2.29 PI 2.5.2 – Ecosystem management strategy- All UoAs

PI 2.5.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guided post	There are measures in place, if necessary which take into account the potential impacts of the fishery on key elements of the ecosystem.	There is a partial strategy in place, if necessary, which takes into account available information and is expected to restrain impacts of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	There is a strategy that consists of a plan , in place which contains measures to address all main impacts of the UoA on the ecosystem, and at least some of these measures are in place.
	Met?	Y	Y	Y
	Justification	<p>There is a strategy that consists of a plan, based on well-understood functional relationships between the Mackerel fishery and the components and elements of the ecosystem, in place which contains measures to address all main impacts of the Mackerel fishery on the ecosystem, and at least some of these measures are in place.</p> <p>In last decade, recommendations from ICES and other management bodies have championed the use of the ecosystem approach to managing fisheries. Since the early-1990s Iceland has increased focus on and consideration of the ecosystem approach to managing exploited populations of living aquatic resources. A broad range of regulatory measures in place within Iceland and which aim to limit adverse effects of fishing on the marine ecosystem. Collectively, these measures form a strategy based on well-understood functional relationships between the mackerel fishery and relevant components and elements of the ecosystem.</p> <p>This strategy includes management measures detailed throughout the report such as; ITQs systems, monitoring control and surveillance systems, landing obligations, control size, spatial and temporal closures, scientific stock assessment surveys, collaboration of the industry with research project, scientific advice, etc.</p> <p>Other measures include environmental studies, possible effects of climate changes in the distribution of Mackerel. All these measures detailed are in place and included in the fishery understanding. Indeed all these measures constitute a plan in place to control the impact of the fishery in the ecosystem. Therefore, it's well-known that the fishery has not impact in key structure or function in the Icelandic ecosystems.</p> <p>All information is public and can be consulted in the website of each body working on the management plan.</p> <p>Therefore there is a strategy that consists of a plan in place, which is based on well-understood functional relationships between the Mackerel fishery and relevant components and elements of the ecosystem, which contains measures to address all main impacts of the UoA on the ecosystem, and at least some of these measures are in place; therefore SG 100 is met.</p>		
B	Management strategy evaluation			
	Guided post	The measures are considered likely to work, based on plausible argument (e.g., general	There is some objective basis for confidence that the measures/partial strategy will work, based on	Testing supports high confidence that the partial strategy/strategy will work, based on information

PI 2.5.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function.		
		experience, theory or comparison with similar fisheries/ ecosystems).	some information directly about the UoA and/or the ecosystem involved	directly about the UoA and/or ecosystem involved
	Met?	Y	Y	Y Pelagic gears (UoAs) N Otter demersal trawl (UoA)
	Justification	<p>The strategy in place has relevant information regarding the stock status, fleet composition, catches composition, sensible areas for fishing and all these data are available and many research studies (cited above PI 2.5.1) are carried out to improve the knowledge about role of mackerel in the Icelandic ecosystems. The results of these studies have shown that the strategy works and the precautionary approach is in place to protect the ecosystem.</p> <p>Further, the strategies and plans in place covers relevant information regarding the stock status, fleet composition, catch composition, VMEs, protected areas from fishing, and protocols of bi-lateral agreements. By way of the Icelandic Ministry for fisheries and ICES, as well as independent work, comprehensive information is available from research studies where information is collated and shared on the marine as well as connecting ecosystem, that are carried out to improve the knowledge and advice about role of mackerel in the Icelandic ecosystems. Dynamics of the interactions between the UoA and the ecosystem are understood and managed.</p> <p>In addition, MFRI's work is conducted to evaluate and refine the effectiveness of these measures, and advice on management objectives. Climate variability during the 20th century has affected the marine ecosystem in Icelandic waters and variations of environmental conditions have caused changes in the abundance and distribution of mackerel and many other fish stocks as well as other components of the Icelandic marine ecosystem. This is understood and its impact on smaller pelagic, marine birds and mammals – and the consequences for fisheries are an ongoing area of research.</p> <p>Testing to ensure human activities particularly from the mackerel fishery are acceptable within managed strategies, such as benthic surveys, stock assessments, and primary productivity surveys, as well as ecosystem modelling; indicated there is a high degree of confidence in the overall strategy.</p> <p>However, there is some uncertainty over the effectiveness in protecting some VME such as soft coral and sponge communities.</p> <p>Therefore for pelagic fisheries and all the UoAs defined in the certification with no interaction with VMEs, testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or ecosystem involved and SG 100 is met.</p> <p>For Bottom Otter trawl (UoA 4) due to the interaction with the bottom surface and therefore with VMEs and the Assessment Team cannot confirm that testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or ecosystem involved therefore SG 100 is not met and this UoA 4 scores SG 80.</p>		
C	Management strategy implementation			
	Guided post		There is some evidence that the measures/partial strategy is being	There is clear evidence that the partial strategy/strategy is being implemented

PI 2.5.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function.		
			implemented successfully.	successfully and is achieving its objective as set out in scoring issue (a).
	Met?		Y	Y
	Justification	<p>The main measures and strategies, such as; closed areas, multi-species stock management, key target species management, bi-lateral agreements, and stock assessments have all been implemented though various means, such as regulation (including short and long-term closed areas), discards ban, quota trading, and real time quotas for key species. Control and enforcement of these measures is also strong, with widespread use of VMS, at sea and port surveillance and controls, and international vessel at-sea check-points, with resultant levels of high compliance.</p> <p>After the site visit and the meetings held with the stakeholders, the assessment team has clear evidence that all the measures to management the fishery described herein are complied by the fleet and as the Coast guard reported in its interviewed no violations of the law came from Mackerel fishery. These information also can be consulted and it's open access.</p> <p>The management strategy implementation has evidence and compliance levels and it is demonstrated in the form of regular stock assessments, protection of ETP species, protection to VME, MCS review, and information sharing, such as with ICES, where there are ecosystem management concerns, particularly with regards to fisheries under collective management, such as mackerel, blue whiting, and herring.</p> <p>Therefore, there is clear evidence that the partial strategy/strategy is being implemented successfully in all the UoAs under assessment and is achieving its objective as set out in scoring issue (a) and SG 100 is met.</p>		
References		<p>ICES 2016 – http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/mac-nea.pdf; MRI 2016/17 – http://www.hafro.is/Astand/2016/english/mackerel_2016.pdf MRI, 2016; Stefansson & Palsson, 1998; Thordardottir, 1994; Astthorsson et al., 2007; Valdimarsson & Jonsson, 2007; MRI, 1997; Jaworski & Ragnarsson, 2006; Umhverfisraduneytid, 2011; www.fisheries.is; www.hafro.is; www.fiskistofa.is. www.fiskistofa.is</p>		
OVERALL PERFORMANCE INDICATOR SCORE:				
Score UoA 1 (Pelagic Trawl)				100
Score UoA 2 (Purse-Seine)				100
Score UoA 3(Hangline)				100
Score UoA 4 (Bottom Trawl)				90
CONDITION NUMBER (if relevant):				N/A

12.2.30 PI 2.5.3 – Ecosystem information- All the UoAs

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem.		
Scoring Issue		SG 60	SG 80	SG 100
a	Information quality			
	Guidepost	Information is adequate to identify the key elements of the ecosystem.	Information is adequate to broadly understand the key elements of the ecosystem.	
	Met?	Y	Y	
	Justification	<p>Significant specific and collective information is available and adequate to broadly understand the key elements of the Icelandic and connected ecosystem with regards to the UoA fisheries. Information sources included; Astthorsson et.al. (2007), and Valdimarsson and Jónsson (2007) that have conducted extensive research on the marine ecosystem of Iceland as well as generating information on ecosystem relationships of the species caught by the UoA fishery. Typical and emerging ecological feeding (prey-predator) relationships among species of zooplankton, fish, birds, and mammals are also accounted in research by Óskarsson, et al (2015) and Olafsdottir, et al (2016).</p> <p>In addition the MFRI conducts scheduled ecosystems surveys which generate information for updating multi-species models, such as GADGET model used for different commercial species in Icelandic waters which provides with skills and relation ship between relevant species in the Icelandic ecosystems and is used to evaluate interaction between key ecosystem elements and commercial fisheries.</p> <p>The spatial nature of the UoAs under assessment is pelagic and semi-demersal with good understanding of ecosystem dynamics, relationships and features, such abiotic influences, primary and secondary productivity, as well as prey-predator relationships with regards to zooplankton, small pelagic, and larger predators including marine birds and mammals.</p> <p>Therefore, information is adequate to broadly understand the key elements of the ecosystem and SG 80 is met.</p>		
B	Investigation of UoA impacts			
	Guidepost	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, but have not been investigated in detail.	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail.	Main interactions between the UoA and these ecosystem elements can be inferred from existing information, and have been investigated in detail.
	Met?	Y	Y	N
	Justification	<p>Some current reports suggest there is sufficient information to conclude that the pelagic element of Mackerel fisheries’ interaction with the ecosystem is well studied with high support conclusion of no negative influences. The main impacts of the UoAs and populations of mackerel as well as other retained species are monitored and used in management decision such as to guide by-catch limits in the no-discard fishery of Iceland.</p> <p>Studies investigating stock status as well as prey-predator relationship also provide transparency as well as opportunity to infer on any ecosystem impact from the UoA fishery (MFRI/ICES 2015/16). However with regards to semi-demersal element of the UoA their main impacts are on bottom surfaces, ETP species, and non-target species, are investigated to some degree with some identification of ecosystem impacts which are considered in formulation of manage actions such as closed areas.</p> <p>Other kev ecosystem elements such as trophic structure and production dynamics</p>		

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem.	
		<p>including prey-predator interactions on spatio-temporal levels are well investigated (Óskarsson, et al. 2015 and Olafsdottir, et al. 2016), with some impacts from interaction with bottom habitats reported.</p> <p>Some, rather than all main impacts of the UoA on the key ecosystem elements can be inferred from existing information, and some have been investigated in detail therefore SG 80 is met.</p> <p>On the other hand, the Assessment Team cannot confirm that SG 100 is not met because main interactions between the UoAs and these ecosystem elements can be inferred from existing information but they have not been investigated in detail, more effort to know the status of all the VMEs are needed.</p>	
C	Understanding of component functions		
	Guidepost	The main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are known .	The impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these components in the ecosystem are understood .
	Met?	Y	Y- pelagic gears N- otter demersal trawl
	Justification	<p>A comprehensive research is available and main functions of Principle 1 and 2 components are understood in terms of providing ecosystem services and the impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats, however the lack of information in some VMEs shows that more accuracy is needed regarding these type of ecosystems. Therefore, SG is not fully met since the main functions of some of these components are not fully understood, but the main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are known and SG 80 is met.</p> <p>The national GADGET multi-species modelling program generates further information which aids understanding of the functions of each component with the marine ecosystem. In addition ICES reports from Ecopath and Ecosim models also generate information which aids understanding of the functions of each component with the connecting marine ecosystem for mackerel fisheries.</p> <p>Due to the semi-demersal nature of bottom trawl fisheries their might be unrecorded as well as unquantified impact to bottom habitats, such as with cold water corals, soft corals, and sponges which some are not studied in extensive details (Pálsson 1997, Stefánsson and Pálsson 1998, Stefánsson 2003, Barbaro et al. 2008).</p> <p>Therefore, for pelagic gears UoAs the Assessment Team can confirm that the impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these components in the ecosystem are understood and SG 100 is met.</p> <p>Otter demersal trawl needs to develop the research projects to quantified impact to bottom surface regarding soft corals and sponges which some of them are not studied in extensive details and therefore SG 100 is not met, but there is evidence that the main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are known and SG 80 is met.</p>	
D	Information relevance		
	Guidepost	Adequate information is	Adequate information is

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem.		
	Cost		available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.	available on the impacts of the UoA on the components and elements to allow the main consequences for the ecosystem to be inferred.
	Met?		Y	Y
	Justification	<p>As it mentioned above a comprehensive research of Mackerel is available, adequate information and understanding regarding retained species , ETPs and impacts of the fishery can be consulted and most of them are open access. The information and the transparency in the fishery is in place and easy to get.</p> <p>All the stakeholders interviewed during the site visit agreed that the surveillance programme works correctly and the information is reported monthly and it has been demonstrated that ecosystem consequences are low.</p> <p>The information generated from multi-species assessment models of their ecosystem functions and impacts from the UoA fishery is monitored by the MRI, who share important information with international groups such as ICES that provide collective stock advice for mackerel. Information on all retain catch, ETP species, and bottom habitats is use to guide annual stock and fishery management advice both nationally and for managing stocks through bi-lateral arrangements to ensure main impact or consequences on related marine populations are determined (understood) and wider management actions taken.</p> <p>Bottom habitats are spatially known to experience higher levels of interaction compared with pelagic areas, and in general some ecosystem impacts or consequences to soft corals are determined and managed, such as through closed areas to bottom trawl gears.</p> <p>Therefore, the Assessment team can confirm that there is adequate information on the impact of the UoAs (pelagic gears and otter demersal trawl) on the ecosystem components to understand and address the main consequences for the ecosystem. SG 100 is met for all UoAs.</p>		
	Monitoring			
E	Guidepost		Adequate data continue to be collected to detect any increase in risk level.	Information is adequate to support the development of strategies to manage ecosystem impacts.
	Met?		Y	Y
	Justification	<p>The surveillance programme reviews all the information regarding the Mackerel fishery. The fisheries management plan force the fleet to report monthly all the catches and any violations of the law is reported by the coast guard to DoF. There are several inpection programmes which controlling the obligation that the fleet targeting Mackerel has.</p> <p>Data are regularly presented, reviewed and considered in a variety of ICES working groups, as well as within more specific research projects. All the information is also available for MFRI advice. Then, the Assessment team insures that the information collected makes a good background of the fishery and it's supposed it will continue into the future.</p> <p>Information provided from national multi-species stock assessment models for fish and ETP species; as well as national research on bottom habitat interaction with the UoA fishery is known to provide important information which advice development and updating national and cross-areas bi-lateral fishery management strategies.</p>		

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem.
		<p>All nations harvesting NEA Mackerel provide some information which are used in assessment of the collective fishery and are therefore provided with scheduled stock assessment and catch advice.</p> <p>Therefore, the information is adequate to support the development of strategies to manage ecosystem impacts and SG 100 is for all UoAs.</p>
References		<p>MRI/ICES 2015/16; Report of the Working Group on Multispecies Assessment Methods (WGSAM)-2016</p> <p>Pálsson 1997</p> <p>Stefánsson and Pálsson 1998</p> <p>Stefánsson 2003</p> <p>Palsson, O´. K., et al. 2012.</p>
OVERALL PERFORMANCE INDICATOR SCORE:		
Score UoA 1 (Pelagic Trawl)		95
Score UoA 2 (Purse-Seine)		95
Score UoA 3 (Hangline)		95
Score UoA 4 (Bottom Trawl)		90
CONDITION NUMBER (if relevant):		N/A

12.3 Principle 3 – Effective Management – Evaluation Tables

12.3.1 PI 3.1.1 – Legal and/or customary framework- For all UoAs

PI 3.1.1	<p>The management system exists within an appropriate legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none"> Is capable of delivering sustainability in the UoA(s); and Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and Incorporates an appropriate dispute resolution framework. 			
Scoring Issue	SG 60	SG 80	SG 100	
a	Compatibility of laws or standards with effective management			
Guidepost	There is an effective national legal system and a framework for cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and organised and effective cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and binding procedures governing cooperation with other parties which delivers management outcomes consistent with MSC Principles 1 and 2.	
Met?	Y	N	N	
Justification	<p>All commercial fishing in Iceland is subject to a management system that is obliged by law to aim for the “sustainable utilization (of the stock) which ensures in the long run maximum benefits for the Icelandic nation.” There is no illegal, unreported and unregulated (IUU) fishing in the Icelandic EEZ. All landings of fish from vessels that engage in IUU fishing is forbidden, as is the servicing of such vessels.</p> <p>There are no controversial exemptions to international agreements.</p> <p>Fisheries in Iceland are subject to a comprehensive regulatory framework. The management system is demonstrably compliant with national legislation, and has a clear legal basis. Secondary legislation providing for regulations and enforcement provisions has been built on overarching fisheries laws.</p> <p>The Ministry of Industries and Innovation, which manages all fisheries in the Icelandic EEZ, is obliged to deal with concerns from those active in the fishery as well as other interested parties.</p> <p>The coastal states (Norway, EU, Faroe Islands, Iceland and Greenland) cooperate in the research on the mackerel stock and meet within ICES to agree on management advice. There is also extensive cooperation between these states on surveillance and policing of mackerel fishing in NE Atlantic and people from the Directorates of fisheries in these countries meet to share experience from their work, including detection of offences.</p> <p>The NEAFC offers a framework for the countries to cooperate in policing fishing in the high seas. It also provides framework for the coastal states to negotiate an agreement on the sharing of the TAC for mackerel. Therefore SG60 is met. But even if the coastal states agree on the management advice and the total TAC they have not managed to agree on the sharing of the TAC but declared quotas which have resulted in catches in excess of the management advice.</p> <p>Even if there is evidence that the coastal states involved in the fishing of mackerel in the NE Atlantic adjust their catches to some extent in response to changes in the advice on the pelagic stocks like mackerel, Atlanto-Scandic herring and blue whiting the outcome is too much fishing in excess of the advice so SG80 is not fully met.</p>			

PI 3.1.1		The management system exists within an appropriate legal and/or customary framework which ensures that it: <ul style="list-style-type: none">Is capable of delivering sustainability in the UoA(s); andObserves the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; andIncorporates an appropriate dispute resolution framework.		
B	Resolution of disputes			
	Guidepost	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective .
	Met?	Y	N	N
	Justification	<p>Disputes within the mackerel fishery in Iceland can be resolved in the first instance by negotiations within the system. Some issues can be solved with the help of the Directorate of Fisheries or the Ministry of Industries and Innovation. Further disputes can be resolved through the courts. These mechanisms are transparent, tested and proven to be effective. The proceedings of the courts in Iceland are open to the public and the rulings have to be explained and are public documents. Any Icelandic citizen or organization can take legal action to the high court in Iceland and ultimately to the Council of Europe Court. This system meets the requirement of a transparent mechanism for the resolution of legal disputes and it has been tested and proven to be effective.</p> <p>The Coastal States are signatories to the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 (UNCLOS) relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks which commits the signatories to responsible fishing of migratory species like the mackerel. There is also NEAFC where the Coastal States cooperate in policing the fishing in international waters. Therefore SG60 is met.</p> <p>In the regular meetings, the Coastal States have been reasonably transparent but they have not been effective in producing sharing of the TAC so that total fishing is in line with the advice and consistent with MSC principle 1 and 2. Therefore SG80 is not met.</p>		
C	Respect for rights			
	Guidepost	The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	Y	Y	N
	Justific	The management system in Iceland is comprehensive and encompasses all fishing in		

PI 3.1.1		<p>The management system exists within an appropriate legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none">• Is capable of delivering sustainability in the UoA(s); and• Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and• Incorporates an appropriate dispute resolution framework.
	ation	<p>Icelandic waters and those participating in it. Management is considered to be consistent with the cultural context, scale and intensity of the fishery. The access rights of different fishers are clearly codified in the legislation. As with all other legislation in Iceland, the legislation on fisheries management has been developed through a legally based, democratic process where various stakeholder groups are consulted and given ample opportunity to protect their interests and argue their points of view and interests. In most cases the management system tries to avoid legal disputes. It implements binding judicial decisions arising from legal challenges in a fairly rapid manner. This was e.g. the case when the high court ruled in 1998 that the ban on the licensing of a fishing vessel without removal from the fleet of vessels of equal capacity was unconstitutional.</p> <p>Icelandic legislation allows all citizens to fish in Icelandic waters providing that fishing is for their own consumption. Therefore, the management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2 and SG 80 is met.</p> <p>Following the FCR v2.0 clause 7.10.5.3, even though the icelandic regulation has measures to comply with MSC principle 1 and 2, the fishery cannot meet SG 100.</p>
References		<p>Anonymous 1996. Act on the 237tilization of exploitable marine stocks, no. 57/1996, accessible in the file http://www.atvinnuvegaraduneyti.is/media/Skyrslur/Stjorn-fiskveida-2010-endanlegt.pdf.</p> <p>Anonymous 2006. Fisheries Management Act no. 116/2006, an English translation is accessible at http://www.fisheries.is/management/fisheries-management/the-fisheries-management-act/.</p> <p>Anonymous 2006. http://www.fisheries.is/main-species/pelagic-fishes/atlantic-mackerel/.</p> <p>UN Convention relating to the Conservation and Management of Straddling Fish stocks and hihghly migratory fish stocks, available at: http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm</p>
OVERALL PERFORMANCE INDICATOR SCORE:		65
CONDITION NUMBER (if relevant):		4

12.3.2 PI 3.1.2 – Consultation, roles and responsibilities

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties.		
		The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring Issue		SG 60	SG 80	SG 100
a	Roles and responsibilities			
	Guidepost	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood .	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.
	Met?	Y	Y	Y
	Justification	The legal framework for fisheries management in Iceland explicitly defines the role of organisations and individuals in the management process. The Ministry of Industry and Innovation (MII, formerly the Ministry of Fisheries and Agriculture) issues regulations that further define these roles. Some of the consultation process is organized by the MII and some comes through stakeholder initiative. Roles of stakeholders, such as fishermen’s organisations and/or research institutes have defined roles within the management system. These roles are well understood and respected for all areas of responsibility and interaction, therefore, organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction. At the international level the role of ICES and NEAFC are explicitly defined and well understood. Therefore SG 100 is met .		
B	Consultation processes			
	Guidepost	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used .
	Met?	Y	Y	Y
	Justification	The management system in Iceland includes a comprehensive consultative process where stakeholders are invited to have their say regarding regulations and the regulatory approach. The organisations of those working in the fishing sector, Icelandic. The Fisheries Federation of Icelandic. Fishing Vessel Owners (Landssamband íslenskra útvegsmannaSamtök fyrirtækja í sjávarútvegi, SFSLÍÚ), National Association of Small BoatThe Federation of Owners of Small Fishing Vessels (Landssamband , LS), the Federation of Captains and Mates (Farmanna- og fiskimannasamband Íslands, FFSÍ), the Icelandic Union of Marine Engineers and Metal		

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties.	
		The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties	
		<p>Technicians (Félag vélstjóra og málmtæknumanna, VM) and the Federation of Seamen (Sjómannasamband Íslands), as well as organisations of those working in fish processing (in Iceland fishing and fish processing are frequently conducted within the same company), organise discussions on various aspects of the fisheries management system. The leaders of those organisations meet for regular consultations with the MII, the Althing's Permanent Committee on Fisheries and Agriculture and with individual members of the Althing. A number of local authorities take a strong interest in matters related to fisheries management and regulations. Icelandic law mandates that hearings are held when new legislation is prepared for fishing management. This process allows the fishing industry and other stakeholders (including NGOs) to influence new legislation. Thus the management system regularly seeks and accepts relevant information, including local knowledge and explains to some extent how it is used or not used.</p> <p>There are many examples of the use of stakeholders' inputs, mostly from fishers. This includes logbook and catch data from the fishers to discussion with fishers in preparations for design of research fishing. Unfortunately it is also necessary to explain to fishers that claim there is much more fish in the sea than the MRI estimates are probably exaggerations, possibly based on unusually good fishing in some specific area. Therefore, The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used and SG 100 is met.</p>	
C	Participation		
	Guidepost	The consultation process provides opportunity for all interested and affected parties to be involved.	The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.
	Met?	Y	N
	Justification	The consultation process provides an opportunity for all interested parties to affect new regulation and fishing management legislation, but some stakeholders will claim that they do not get much encouragement from the authorities and SG 100 is not reach. In some cases this claim is justified and therefore the consultation process provides opportunity for all interested and affected parties to be involved and SG 80 is met .	
References		Information on Parliament Standing Committees procedures (applies to the Fisheries and Agriculture Committee): http://www.althingi.is/pdf/Althingi2010_english.pdf . Statement by the minister of fisheries 15. April 2009: http://www.fiskifrettir.is/frett/6857/?q=samr%C3%A1%C3%B0 . Annual consultation meeting on the status of the cod stock (MRI and fisheries stakeholders): http://www.hafro.is/undir.php?ID=19&REF=3&fID=11886&nana=1	
OVERALL PERFORMANCE INDICATOR SCORE:			95
CONDITION NUMBER (if relevant):			NA

12.3.3 PI 3.1.3 – Long term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC fisheries standard, and incorporates the precautionary approach.		
Scoring Issue		SG 60	SG 80	SG 100
a	Objectives			
	Guided post	Long-term objectives to guide decision-making, consistent with the MSC fisheries standard and the precautionary approach, are implicit within management policy.	Clear long-term objectives that guide decision-making, consistent with MSC fisheries standard and the precautionary approach are explicit within management policy.	Clear long-term objectives that guide decision-making, consistent with MSC fisheries standard and the precautionary approach, are explicit within and required by management policy.
	Met?	Y	Y	Y
	Justification	<p>Clear long-term overall goals for fisheries management are set out in legislation. These objectives include sustainable management, maximizing benefits to the nation and efficiency. Environmental objectives are in place and observed, e.g. in relation to protection of coral reefs and geographically defined sea-based management plans. Ecological quality objectives are also developed through the OSPAR cooperation, to which Iceland is a contracting party, but fully developed plans to measure environmental performance are not yet in place.</p> <p>The precautionary approach is not explicitly mentioned in the legislation on fisheries management in Iceland nor has it been introduced in a general form in Icelandic law but it is stated in a number of international agreements that Iceland has signed. The precautionary principle is explicitly referred to by the MRI, ICES and the MII in relation to the catch rules that have been adopted and to the fisheries management in general. Then, Clear long-term objectives that guide decision-making, consistent with MSC fisheries standard and the precautionary approach, are explicit within and required by management policy.</p> <p>At the international level all coastal states agree on the management plan which is consistent with MSC Principle 1 and 2, and cooperate in the production of the management advice within ICES. They also cooperate on surveillance and policing of fishing for mackerel in international waters. The framework is explicit and applies the precautionary approach. Therefore, clear long-term objectives that guide decision-making, consistent with MSC fisheries standard and the precautionary approach, are explicit within and required by management policy and SG 100 is met.</p>		
References		On the status of the precautionary principle in Icelandi see http://www.ust.is/umhverfisstofnun/umraedan/grein/2012/03/30/Varudarreglan		
OVERALL PERFORMANCE INDICATOR SCORE:				100
CONDITION NUMBER (if relevant):				NA

12.3.4 PI 3.2.1 Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2.		
Scoring Issue		SG 60	SG 80	SG 100
a	Objectives			
	Guided post	Objectives , which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery-specific management system.	Short and long-term objectives , which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system.	Well defined and measurable short and long-term objectives , which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system.
	Met?	Y	Y	Y
	Justification	<p>The first article of the Act on Fisheries Management states that "The exploitable marine stocks of the Icelandic fishing banks are the common property of the Icelandic nation. The objective of this Act is to promote their conservation and efficient utilization, thereby ensuring stable employment and settlement throughout Iceland.</p> <p>The objective of the management plan for mackerel to maintain the exploitation rate at the rate which is consistent with the precautionary approach. This objective is defined in a measurable way by the reference points against which the stock is assessed on an annual basis.</p> <p>Iceland has ratified a number of conventions on species protection and management, such as the Convention on Biological Diversity, the OSPAR Convention and the CITES Convention. These conventions have established objectives for conserving endangered, threatened or protected species and habitats, and if issues are identified relating to ETP species, a number of mechanisms have been developed to detect and reduce impacts. These objectives are attained through various restrictions on gear and area closures to protect vulnerable habitats and juvenile fish. The management of mackerel fisheries includes measures relevant to the effects the fishery has on the ecosystem.</p> <p>The biological reference points used in the setting of the TAC for mackerel are explicit and consistent with the outcomes expressed by MSC Principle 1 and 2. In relation to Principle 2 specifically, most of the main retained species have management plans, and for species of low commercial importance, a key objective is to eliminate discarding in order to ensure that catches and stocks can be monitored and that incentives are in place to fish selectively. Therefore, well defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system and SG 100 is met.</p>		
References		<p>Statement by the Minister published on the government sponsored website www.fisheries.is, http://www.fisheries.is/management/government-policy/responsible-fisheries/nr/62</p> <p>Anonymous 1996. Act on the utilization of exploitable marine stocks, no. 57/1996, accessible in the file http://www.atvinnuvegaraduneyti.is/media/Skyrslur/Stjorn-fiskveida-2010-endanlegt.pdf.</p> <p>Anonymous 2006. Fisheries Management Act no. 116/2006, an English translation is accessible at http://www.fisheries.is/management/fisheries-management/the-fisheries-management-act/.</p> <p>Anonymous. The section on mackerel on MII's website (information Centre) at</p>		

PI 3.2.1	<p>The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2.</p>	
	<p>http://www.fisheries.is/main-species/pelagic-fishes/atlantic-mackerel/. Anonymous 2010. Reply of the Minister for Fisheries and Agriculture to a question about catches outside the catch quota system, the Althing 2009-2010, document no. 638 – issue no. 323, accessible in Icelandic at http://www.althingi.is/-altext/138/s/0638.html. Anonymous 2012. Regulations on the management of fisheries during the 2012/2013 quota year, accessible in the file: http://www.stjornartidindi.is/DocumentActions.aspx?ActionType=Open&documentID=18c25ccf-e993-4c1e-b868-696cb675bf78. Anonymous 2012. State of Marine Stocks in Icelandic Waters 2015/2016 – Prospects for the Quota Year 2016/2017, MRI's publication no. 163, accessible on MRI's website at: http://www.hafro.is/Astand/2016/fjolrit_185.pdf.</p>	
OVERALL PERFORMANCE INDICATOR SCORE:		100
CONDITION NUMBER (if relevant):		NA

12.3.5 PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery.		
Scoring Issue		SG 60	SG 80	SG 100
a	Decision-making processes			
	Guidepost	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	Y	Y	
	Justification	There exists established decision-making procedures at national level in Iceland, codified in legislation and regulations that ensure that strategies are produced and measures taken to achieve the fishery-specific objectives. The MII decides on policy and regulatory schemes, and the Directorate of Fisheries informs the fishers and the public about them and polices the compliance with the regulations with some assistance from the Coast Guard. The Coastal States meet to discuss fishing of NEA mackerel. They have agreed on the management plan and cooperate within ICES on the advice each year. They also cooperate in the surveillance and policing of the fishery, including the cooperation within NEAFC. These decision-making processes are now well-established, therefore, there are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives and SG 80 is met.		
B	Responsiveness of decision-making processes			
	Guidepost	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
	Met?	Y	Y	N
	Justification	The decision-making processes respond in a transparent, timely and adaptive manner to serious and other important issues identified via relevant research, monitoring, evaluation and consultation. Management plans have been developed in working groups where the industry and unions of the crew have their representatives. These plans are partly reviewed each year through the stock assessments and the advice provided by MRI and ICES each year. In those cases where a management plan has been found to be faulty, like the original management plan for cod from 1995 they have been reviewed (cod in 2004) and subsequently the minister has adopted a new management plan (for cod in 2007). Decision-making processes respond to all issues of major importance which have been identified in relevant research, but it is difficult to contend that it has responded to all issues in a timely manner therefore it responds to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions and SG 80 is met.		

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery.		
		The Coastal States have responded to developments in the fishery, e.g. by inviting states where mackerel wasn't fished before to their meetings (Iceland, Russia, and Greenland). SG100 is not met.		
C	Use of precautionary approach			
	Guidepost		Decision-making processes use the precautionary approach and are based on best available information.	
	Met?		Y	
	Justification	The management rule for NEA mackerel agreed by the Coastal States and used for advising on TAC by ICES is base on the precautionary approach. It is also based on the best available information obtained jointly by researchers from the Coastal states. Therefore SG80 is met.		
D	Accountability and transparency of management system and decision-making process			
	Guidepost	Some information on the fishery's performance and management action is generally available on request to stakeholders.	Information on the fishery's performance and management action is available on request , and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on the fishery's performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
	Met?	Y	Y	N
	Justification	The management system will respond to findings and recommendations emerging from research, monitoring, evaluation and review activity. It will explain their decisions to fishermen's organizations, individual fishermen and the general public and scientists will note if important findings or recommendations are ignored. There is legislation (upplýsingalög, Freedom of Information Act) in Iceland requiring ministers and public institutions to reveal existing information or reasons for certain decisions being taken. Members of the Althing can obtain detailed information from the Ministry and public institutions by putting questions to the appropriate minister in the Althing. Both the public and fishers have access to such information through the political process and local parliamentarians. This would apply to NGOs, which, however, have not been active in fisheries issues in Iceland. There is formal reporting on MRI advice and fishery performance. However, there is no formal reporting on the response of the management system to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. Therefore, information on the fishery's performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. At the international level, information on fishery performance is available from ICES and		

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery.		
		NEAFC, but formal reporting is not available to all interested stakeholders. Therefore SG80 is met but not SG100.		
E	Approach to disputes			
	Guided post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	Y	Y	N
	Justification	There are several examples where authorities have attempted to comply in a timely fashion with binding judicial decisions arising from legal challenges. The most noteworthy and important is the case when the Supreme Court in 1998 found special licensing of fishing vessels that were allowed to fish in the Icelandic EEZ to be unconstitutional. Perhaps the management system does not always act proactively enough to avoid legal disputes. The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges and SG80 is met.		
References		NEAFC's website at http://www.neafc.org/coastalstatemeetings . Iceland's High Court's rule in at http://www.haestirettur.is/domar?nr=767		
OVERALL PERFORMANCE INDICATOR SCORE:				80
CONDITION NUMBER (if relevant):				NA

12.3.6 PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.		
Scoring Issue		SG 60	SG 80	SG 100
a	MCS implementation			
	Guided post	Monitoring, control and surveillance mechanisms exist, and are implemented in the fishery and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance system has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A comprehensive monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.
	Met?	Y	Y	Y
	Justification	<p>For the fishing of mackerel by Icelandic vessels there exists a comprehensive monitoring, control and surveillance system. This system has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.</p> <p>A comprehensive monitoring, control and surveillance system is in place, with inspections at sea and at landing sites. Also post-landing checks of reported landings against quotas are performed for each vessel. A satellite based vessel monitoring system applies to all vessels.</p> <p>The Directorate of Fisheries receives logbook data and data on landings which are weighed on specially authorized and closely monitored scales. Data is transmitted electronically to the Directorate, in real time. Data on each vessel's catch and quota allowance (including all transfers of quota) is posted on the Directorate's website. This information is updated daily. The Directorate of Fisheries has observers present at roughly 20% of all landings and during 2016 there were observers' onboard vessels fishing for pelagic during 169 days at sea.</p> <p>The main management measure that the Directorate of Fisheries monitors is the quotas of individual fishers, catches and processing. The Directorate of Fisheries together with the Coast Guard monitors gear regulations and area closures. The extensive monitoring and the low number of violations observed do indicate that these rules are respected.</p> <p>All landings by Icelandic vessels in foreign ports are subject to strict rules and reporting procedures and there is a well-established and coordinated mechanism to enable port-of-landing authorities to report the landing to the relevant authorities in a timely fashion. The same is true for foreign vessels that land in Icelandic ports. The directorates of fisheries in the coastal states co-operate both directly and through NEAFC to police landings and the accuracy in the reporting on the landings. Therefore, a comprehensive monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules and SG100 is met.</p>		
B	Sanctions			
	Guided post	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.
	Met?	Y	Y	Y

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.		
	Justification	Violations of regulations are subject to sanctions which have been demonstrated to provide an effective deterrence against violations. Misreporting is subject to strict penalties. The relatively few cases of illegal landings, small estimated discarding and the number of violations of gear regulations and area closures do demonstrate that the sanctions that are in place and the high probability of being apprehended if engaging in illegal activities do form an effective deterrence.		
		The relatively few cases of illegal landings, small estimated discarding and the number of violations of gear regulations and area closures do demonstrate that the sanctions that are in place and the high probability of being apprehended if engaging in illegal activities do form an effective deterrence.		
		Sanctions to deal with non-compliance also exist in the other Coastal States, and may lead to fines or evocation of fishing licenses. NEAFC has also ability to sanction non-compliance. Therefore there is a system of sanctions consistently applied and demonstrably provide effective deterrence and SG100 is met.		
C	Compliance			
	Guidepost	Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.	There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.
	Met?	Y	Y	N
	Justification	There is generally a high degree of compliance with regulations. There is no significant evidence of systematic non-compliance. In cases of non-compliance, a range of penalties can be applied. A minor infringement leads to a warning and a second offence leads to temporary withdrawal of fishing licenses. Serious offenses are brought to the courts and can lead to prison sentences. Corrective actions are well established, codified, understood and tested. Amongst the information provided to management by fishers is essential logbook and VMS data, provided to the Directorate of Fisheries and to the MFRI. This information is checked through weighing of the catch (including all bycatch) in the harbour and review of VMS records. Other information in relation to the species mix/catch composition gained through sampling is further evidence of data that is provide to the management system. However,the reporting of bycatches of marine mammals has improving very much but it is likely that it is still far from complete. Especially in small vessels which are likely to discard and not report on marine mammals they have caught. Therefore, there isn't a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery and SG 100 is not met but the fishery meets SG 80.		
D	Systematic non-compliance			
	Guidepost		There is no evidence of systematic non-compliance.	
	Met?		Y	
	Justification	The level of compliance is relatively high. Data from inspections at sea and those carried out at landings indicate that the number of serious infractions is relatively low. The		

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.
		<p>management system in general has a high level of legitimacy among fishers, probably because the need to manage resources through restrictions on fishing access is well understood.</p> <p>Some foreign vessels land mackerel in Icelandic harbours and some Icelandic vessels land in foreign harbours. The catches that the Icelandic vessels land in foreign countries have to be landed in special authorized harbours where the catches are weighted and reported to the Directorate of Fisheries in Iceland.</p> <p>There is no common monitoring of the surveillance and monitoring system in individual states engaged in the fishery therefore There is no evidence of systematic non-compliance with the gears and SG 80 is met.</p>
References		Anonymous 2016. Directorate of Fisheries’ annual fishing statistics: Yfirlit yfir fiskveiðiárið 2015/2016 (http://www.fiskistofa.is/veidar/aflaupplysingar/yfirlit-sidasta-fiskveidiars/)
OVERALL PERFORMANCE INDICATOR SCORE:		90
CONDITION NUMBER (if relevant):		NA

12.3.7 PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives. There is effective and timely review of the fishery-specific management system.		
Scoring Issue		SG 60	SG 80	SG 100
a	Evaluation coverage			
	Guidepost	There are mechanisms in place to evaluate some parts of the fishery-specific management system.	There are mechanisms in place to evaluate key parts of the fishery-specific management system	There are mechanisms in place to evaluate all parts of the fishery-specific management system.
	Met?	Y	Y	N
	Justification	There have been several external reviews made by international experts on the methods that the Marine Research Institute uses to assess fish stocks and on the advice it gives to government. There has not been a comparable external review of the work of the Directorate of Fisheries or of the Ministry of Fisheries and Agriculture. However these institutions are subject to regular reviews by the Althing's committees, especially the permanent committee on fisheries issues. As with other public institutions in Iceland these institutions are subjected to scrutiny by The Icelandic National Audit Office (Ríkisendurskodun). The performance of these institutions is also intensively debated in Iceland, especially in the many fishing communities. The ICES stock assessment process shows that a comprehensive research plan exists with a strategic approach to P1 aspects (e.g. exploring weight and maturity at age). ICES also has WG WIDE exploring ecosystem aspects such as changes to mackerel distribution. Further research on P2 does exist at member state level, for example the Pelagic Advisory Council identifies research needs. These mechanisms illustrate that P1 & P2 aspects are addressed in a strategic manner in what equates to a research plan. That plan does provide the management system with timely information in order to achieve P1 & 2 objectives. However, the research plan may not be considered comprehensive with a coherent approach to research as it is delivered via several mechanisms. Further, P3 issues are not covered, and hence SG 100 is not met.		
B	Internal and/or external review			
	Guidepost	The fishery-specific management system is subject to occasional internal review.	The fishery-specific management system is subject to regular internal and occasional external review.	The fishery-specific management system is subject to regular internal and external review.
	Met?	Y	Y	N
	Justification	Research plans and results are published on websites of ICES and the Marine and Freshwater Research Institute, including publicly available research reports and journal articles. They are also actively disseminated to all interested parties, primarily through emailing lists. Elements of a research plan exists in the form of NEAFC requests to ICES, additional ICES, coastal state or Pelagic AC research planning, but these elements do not amount to a research plan. Therefore SG 100 is not met.		
References		Anon (2010) Skýrsla starfshóps um endurskoðun á lögum um stjórn fiskveiða (Report of a working group on revision of the laws on fisheries management, MII, September 2010 (Icelandic)) https://www.atvinnuvegaraduneyti.is/media/Skyrslur/meginskyrsla_oppsett_lokaeintak.pdf		

PI 3.2.4	<p>There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives.</p> <p>There is effective and timely review of the fishery-specific management system.</p>
OVERALL PERFORMANCE INDICATOR SCORE:	80
CONDITION NUMBER (if relevant):	NA

13 Appendix 1. Risk Based Framework (RBF) Outputs

NA in the assessment .

14 Appendix 2. Conditions

Following are the stated conditions which the Assessment Team had provided in the client draft report. The client drafted the Client Action Plan (CAP) and agreed the milestones established by the Assessment team.

In addition to the general requirements, the Client Group (client) also agreed in a written contract with SAIG, an accredited MSC certification assessment body (CAB) to meet the specific conditions as described below within the timelines that were agreed in the “Action Plan for Meeting the Condition for Continued Certification” that was approved by SAI Global.

Further, the conditions have been harmonised with other CABs which have NEA Mackerel fisheries certified. The timing for the condition on P1 and P3 are not lined up with the other fisheries following the MSC interpretation on that issue and the FCR requirements. FCR v2.0 guidance section GPB3 confirmed that harmonisation is not required for the action plans proposed by clients for meeting conditions or for the actual timing assigned to the delivery of conditions, if a fishery is certified one year later the condition may be closed one year later. However, regarding that this the conditions have been set up due to an international issue with the CS agreement, both conditions and timelines will be carefully reviewed during the first surveillance audit and if any progress is done during the year, SAIG will try to line up the timing of the conditions.

In total, there are 4 conditions in the fishery for the UoA- Bottom trawl and two conditions for the UoA purse seine, pelagic trawl and handline.

14.1 Condition 1- All UoAs

Performance Indicator	<p>PI 1.2.2 (a) SG80- Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.</p> <p>PI 1.2.2 I SG80- Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.</p>
Score	65
Rationale	<p>PI 1.2.2a: Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs. Currently, the disagreement between parties is leading to only limited overshooting and the stock can be hoped to be fluctuating around MSY. Therefore due to this disagreement, the Assessment Team cannot conclude that well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY and SG 80 is not met.</p> <p>PI 1.2.2c: Under PI 1.2.2a the HCR was scored as not meeting SG80 because of the HCR did not provide for the appropriate ‘fluctuation around’ MSY (or similar). The tools that are implemented in the HCR include bilateral and multilateral platforms for reaching management decisions, TACs (Total and national), technical measures, discard ban and are appropriate for its effective implementation but because of the lack of an allocation agreement they are not guaranteed to achieve the exploitation levels required (MSY or similar). SG 80 is not met.</p>
Condition	The aim is to establish a Well-defined HCR agreed to by all relevant Parties and including a quota sharing arrangement inside sustainable limits. Recognising that this is

	at the level of sovereign states, the Client should approach relevant authorities and express his wish for the establishment of such a HCR. The Client should also explore with colleagues in other industries routes for establishing such an agreed HCR.
Milestones	<p>Year 1: The Client shall present evidence that they have approached relevant authorities and colleague industries and urged them to promote an agreed HCR covering all relevant Parties. Resulting score: 65</p> <p>Year 2: The Client shall present evidence that the process on agreeing an appropriate HCR is progressing at the relevant level and involving the competent authorities. If possible the Client shall present a HCR proposal. Resulting score: 65</p> <p>Year 3: The Client shall present a HCR proposal and evidence that this proposal is discussed at the appropriate level. Resulting score: 65</p> <p>Year 4: The Client shall present the outcome of the HCR development process. If the outcome is a HCR this HCR will be rescored and the fishery will meet SG 80 or more.</p>
Client action plan	<p><u>Year 1: Establishing Harvest Control Rules (HCR's):</u> ISF will meet with Ministry of Industry and Innovation (MII), to explain the condition and seek ways to fulfil the condition as the milestones suggest. The resolution of the condition is not up to ISF to solve, as it is an issue dealt with between governments. In 2015 a coastal agreement was reached regarding capelin and ISF will approach the MII to push for the same action to be taken regarding blue whiting fisheries. ISF will, as a client group of 49 fishing companies, exporters and producers emphasize the importance of resolution.</p> <p>Improvements expected: ISF expects to have communicated with the MII regarding the condition, and that MII will engage the Marine Research Institute to carry out relevant analyses, to address the condition and provide information needed to for the continuance of the work, to achieve a harvest control rule among the coastal states fishing the NEA Mackerel stock. At ISF, the hope is that the issue will be agreed upon by the relevant authorities, the importance of resolving it and closing the condition will be understood by all stakeholders. However, providing the actions to close this condition, are in the hands of governments of the respective coastal states.</p> <p>Auditing: At the Year 2 audit, ISF will present a log of actions, initiatives and meetings taken during the timeframe. The log will show the interactions between the governments of the states fishing from the NEA Mackerel stock to provide an overview of the progress.</p> <p><u>Year 2: Establishing Harvest Control Rules (HCR's):</u> In year 2, ISF continues to present evidence on the progress among the coastal states to reach an agreement on a harvest control rule.</p> <p>Improvements expected: Continued talks and communication on an HCR's, hoping to have the issue closed, but planning for continued work into year 3.</p> <p>Auditing: At the Year 2 audit, ISF will present the progress.</p> <p><u>Year 3: Establishing Harvest Control Rules (HCR's):</u> In year 3, ISF continues to present evidence on the progress among the coastal states to reach an agreement on a harvest control rule.</p> <p>Improvements expected: Continued talks and communication on an HCR's, expecting to have the issue closed, but planning for continued work into year 4.</p> <p>Auditing: At the Year 3 audit, ISF will present the progress.</p> <p><u>Year 4: Establishing Harvest Control Rules (HCR's):</u> In year 4, if the coastal states have not reached an agreement by this time, ISF will continue to ask for the resolution before end of the certification period.</p>

	<p>Improvements expected: It is expected that the HCR condition will be met during or before year 4.</p> <p>Auditing: Evidence will be a signed agreement among the coastal states. However, this is in the hands of the governments of the respective coastal states.</p>
Consultation on condition	Ministry of Industry and Innovation (MII), NEAFC, ISF Client group and Marine and Freshwater Research Institute (MFRI)

14.2 Condition 2- Only for UoA Bottom trawl

Performance Indicator	<p>PI 2.4.1: The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.</p> <ul style="list-style-type: none"> - b. The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.
Score	70
Rationale	<p>In Icelandic waters, most fishing with bottom trawls (around 70%) takes place at depths between 100 and 500m (Ragnarsson & Steingrímsson 2003). The slope areas off the south coast of Iceland are very steep, with depths descending from around 400m to more than 1500m within few nautical miles, and parts of the slope areas are considered difficult for trawling (Ragnarsson & Steingrímsson 2003). Therefore, vulnerable habitats have some depth refuge from fisheries impacts in Icelandic waters. In the past, the bottom trawl fishery has reduced coral habitat structure and the present fishing patterns of the fishery overlap with vulnerable habitats of corals and aggregation of large sponges. Coral areas have been closed which will prevent further damage to such biogenic habitats. However, comparable efforts to protect other biogenic habitats, i.e. aggregation of large sponges, are not planned. In addition, no recording of benthic bycatch is in place. A single contact by the bottom trawl has a significant impact on corals and sponges, both of which have slow recovery rates. Therefore, adverse impacts by bottom trawling could be significant. It cannot be concluded that the assessed bottom trawl fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. Therefore, a score of 80 is not met for bottom trawl. This has been harmonised with the ISF Iceland Golden redfish, ISF Iceland Cod and the ISF Ling and saithe fisheries where there is a condition for this PI.</p>
Condition	<p>By the fourth surveillance audit, it must be highly likely that the scope of necessary conservation and management measures for all vulnerable marine habitats shall be in implemented with some monitoring, indicating that the bottom trawl fishery does not cause serious or irreversible harm to habitat structure and function, on a regional or bioregional basis.</p>
Milestones	<p>Year 1: There shall be evidence of the Client's plan with scope to evaluate potential damage to deep-sea sponge aggregations and corals appropriate to this UoA. There shall be evidence of engagement with the Marine Research Institute (MRI) with the goal of evaluating potential damage to all vulnerable habitats by fishing activities. If MRI is unable to provide support for the implementation of the plan, the fishery shall prepare the plan on the basis of other means (e.g. independent consultants or scientists or other means as appropriate). The plan may include an Environmental Impact Assessment or other similar analysis. Resulting score 75.</p> <p>Year 2: By the end of Year 2 there shall be evidence of ongoing work towards the implementation of the plan; i.e. developing options for conservation and management measures to all vulnerable habitats, such that the fishery does not cause serious or irreversible harm to habitat structure and function on a regional or bioregional basis. These options may be developed with the support of MRI, or may be developed within the client group, as appropriate. Options may include closed areas, move on thresholds or other actions as appropriate, but should be sufficient to ensure that there serious and irreversible harm to sponges and coral gardens is highly unlikely. Resulting score: 75.</p> <p>Year 3: This stage requires evaluation of the options developed in year 2. Consider suggested modifications, if needed and finalise and agree on conservation and management measures. By the end of the year 3 a partial strategy for the protection of</p>

	<p>deep-sea sponge aggregations and coral gardens from bottom trawling shall be agreed upon, either at client group level or at a higher level. Resulting score: 75.</p> <p>Year 4: Implementation of the agreed upon partial strategy should be evident. Condition is expected to be fully met.</p> <p>Resulting re-score: 80.</p> <p>NB. A formal commitment to the agreed upon conservation and management measures shall remain in place for the duration of the certification period</p>
Client action plan	<p><u>Year 1:</u> ISF will engage MRI for data and information on potential damages caused by bottom trawling on all vulnerable habitats. In the event that MRI cannot provide the information and data, ISF will commit to work with an outside researcher. ISF has engaged members to implement methods to log and monitor bycatch of benthic species by ISF member vessels.</p> <p>Improvements expected: All available information on coral gardens and deep-sea sponge habitats' interaction with this fishery will be brought together. Data gaps will be clearly identified. Direct monitoring of the impacts of this fishery will be in preparation.</p> <p>Auditing: At the Year 1 audit, ISF will present i) evidence of engagement with MRI on habitat mapping and trawl impacts (e.g. meeting agendas and summaries or similar); ii) the data available from previous mapping (e.g. MRI reports or similar); iii) information on mapping projects underway or planned by MRI; iv) evidence of engagement with ISF members on benthic bycatch monitoring (e.g. meeting agendas etc.).</p> <p><u>Year 2:</u> Based on findings in year 1, ISF will meet with MRI and request an engagement by MRI to conserve vulnerable habitats and ask for options and plans to prevent serious or irreversible harm to habitat structures, if necessary. ISF will meet with members of the client group to discuss the condition and ask for feedback on actions made by each member to address the condition. The actions will be formalized into a plan, intended for engagement by members of the client group to meet the condition. To purpose is to ensure that serious or irreversible harm to cold water corals, sponge aggregations and seapens becomes a highly unlikely cause of bottom trawling.</p> <p>Improvements expected: Implementation of a monitoring plan will have begun to monitor impacts on coral gardens, sea pens and sponges and reduce them to acceptable levels as required.</p> <p>Auditing: At the Year 2 audit, ISF will present the action plan, along with evidence from the monitoring efforts</p> <p><u>Year 3:</u> ISF will meet with MRI to discuss findings from annual research on cold water corals, sponge aggregations and seapens incidents. The meeting is intended to review statistics and discuss alternative actions, if needed. ISF will meet with members from the client group to discuss effects of actions taken in year 2 and adjust for improved efficiency, as needed. The goal is to protect deep sea sponge aggregations, sea pens and coral gardens from impacts of trawling and seek an agreement among the members of the client group to this type of conservation. The actions of Year 3 are contingent on the outcome of findings showing whether and how conservation actions are required.</p> <p>Improvements expected: The plan, if required, is updated according to the results of ongoing monitoring, and agreed by ISF and all relevant parties.</p> <p>Auditing: At the Year 3 audit, ISF will present an updated plan, with evidence that it has been agreed by all participating parties (e.g. a signed agreement, meeting minutes, letters of support etc.)</p>

	<p>Year 4: The agreement reached in year 3 is based on a contingent that there is actually a need for it. If a plan has been proven necessary and agreed upon in year three, ISF will monitor the implementation of the plan (a partial strategy) in year 4 in cooperation with the members of the client group.</p> <p>Improvements expected: If required, the plan is implemented; it is updated as new information is available.</p> <p>Auditing: At the Year 4 audit, implementation of the agreed upon partial strategy should be evident. Condition is expected to be fully met</p>
Consultation condition	on Engagement with the Marine and Freshwater Research Institute (MFRI) or independent consultants or scientists or other means as appropriate is encouraged for this matter.

14.3 Condition 3- Only for UoA Bottom trawl

Performance Indicator	<p>PI 2.4.2: There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats.</p> <ul style="list-style-type: none"> - There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.
Score	75
Rationale	<p>The Icelandic management strategy for marine habitats in general, and VMEs in particular, is mainly implemented through a system of closed areas which effectively prevent bottom trawl from being used in known areas of cold-water coral concentrations along the edge of the continental shelf. This represents a partial strategy for protecting cold water corals, but is not yet in place for soft coral or sponge concentrations, and does not meet SG 80 for these two VME types. It is acknowledged that most vessels have move-on rules when fishing these areas.</p> <p>This condition is harmonised with that for ISF Iceland golden redfish, cod, saithe & ling fisheries. It should be noted that the redfish assessment includes a condition (the same as for PI 2.4.1) that addresses this weakness, although it should specifically include soft corals and sponges.</p>
Condition	<p>By the fourth surveillance audit there must be at minimum a partial strategy implemented with scope for the necessary conservation and management measures and outcomes for deep-sea sponge aggregation and coral gardens habitats, which specifically ensures that the bottom trawl fisheries do not cause serious or irreversible harm to habitat structure and function in Icelandic waters.</p>
Milestones	<p>Year 1: There shall be evidence of the Client's plan to evaluate potential damage to deep-sea sponge aggregations and corals appropriate to this UoA. There shall be evidence of engagement with the Marine Research Institute (MFRI) with the goal of evaluating potential damage to all vulnerable habitats by fishing activities. If MFRI is unable to provide support for the implementation of the plan, the fishery shall prepare the plan on the basis of other means (e.g. independent consultants or scientists or other means as appropriate). The plan may include an Environmental Impact Assessment or other similar analysis. Resulting score 75.</p> <p>Year 2: By the end of Year 2 there shall be evidence of ongoing work towards the implementation of the plan; i.e. developing options for conservation and management measures to all vulnerable habitats, such that the fishery does not cause serious or irreversible harm to habitat structure, on a regional or bioregional basis, and function. These options may be developed with the support of MFRI, or may be developed within the client group, as appropriate. Options may include closed areas, move on thresholds or other actions as appropriate, but should be sufficient to ensure that there serious and irreversible harm to sponges and coral gardens is highly unlikely. Resulting score 75</p> <p>Year 3: Evaluate the options developed in year 2. Consider suggested modifications, if needed and finalise and agree on conservation and management measures. By the end of the year a partial strategy for the protection of deep-sea sponge aggregations and coral gardens from trawling shall be agreed upon, either at client group level or at a higher level. Resulting score 75</p> <p>Year 4: Implementation of the agreed upon partial strategy should be evident. Condition is expected to be fully met.</p> <p>Resulting re-score: 80</p> <p>NB. A formal commitment to the agreed upon conservation and management</p>

	measures shall remain in place for the duration of the certification period.
Client action plan	<p>Year 1: Based on work done pilot project with HB Grandi, ISF will meet with MRI and request an engagement by MRI to conserve vulnerable habitats and ask for options and plans to prevent serious or irreversible harm to habitat structures, if necessary. ISF will engage their members to agree upon and implement methods of benthic bycatch monitoring by ISF member vessels.</p> <p>Improvements expected: Implementation of a monitoring plan will have begun to monitor impacts on coral gardens sponges and other VMEs and reduce them to acceptable levels as required.</p> <p>Auditing: At the Year 1 audit, ISF will present evidence from the monitoring efforts. ISF will form a stakeholder panel to mitigate information on progress and to channel tasks regarding the condition to representative stakeholders within or outside of ISF. The panel will convene twice a year during the lifetime of the certificate, or as needed, and be comprised of ISF representatives and from other stakeholders as fitting for each condition.</p> <p>Year 2: ISF will meet with MRI to discuss findings from annual research on all VMEs incidents. The meeting is intended to review statistics and discuss alternative actions, if needed. ISF will meet with members of the client group to discuss the condition and ask for feedback on actions made by each member to address the condition. The actions will be formalized into a plan, intended for engagement by members of the client group to meet the condition. The purpose is to ensure that bottom trawling is highly unlikely to cause serious or irreversible harm to all VMEs. ISF has launched a research & education program in cooperation with selected client group members, to log benthic catches. The program is being executed with MRI, who provides the scientific guidance of the research project and receive all data collected to further analyse.</p> <p>Improvements expected: The plan, if required, is updated according to the results of ongoing monitoring, and agreed by ISF and all relevant parties.</p> <p>Auditing: At the Year 2 audit, ISF will present an action plan, with evidence that it has been agreed by all participating parties (e.g. a signed agreement, meeting minutes, letters of support etc.)</p> <p>Year 3: ISF will meet with members from the client group to discuss effects of actions taken in year 2 and adjust for improved efficiency, as needed. The goal is to protect deep sea sponge aggregations, coral gardens and other VMEs from impacts of trawling and seek an agreement among the members of the client group for this type of conservation. The actions of Year 3 are contingent on the outcome of findings showing whether and how conservation actions are required. If a plan has been proven necessary and agreed upon in year three, ISF will monitor the implementation of the plan in year 4 in cooperation with the members of the client group.</p> <p>Improvements expected: If required, the plan is implemented; it is updated as new information is available.</p> <p>Auditing: At the Year 3 audit, ISF will present the updated plan if necessary, with evidence of implementation (e.g. benthic logbook data, MRI report or other similar).</p> <p>Year 4: The agreement reached in year 3 is based on a contingent that there is need for it. If a plan has been proven necessary and agreed upon in year three, ISF will monitor the implementation of the plan in year 4 in cooperation with the members of the client group.</p> <p>Improvements expected: If required, the plan is implemented; it is updated as new information is available.</p>
Consultation on condition	Engagement with the Marine and Freshwater Research Institute (MFRI) or independent consultants or scientists or other means as appropriate is encouraged for this matter.

14.4 Condition 4- All UoAs

Performance Indicator	PI 3.1.1- The management system exists within an appropriate legal and/or customary framework which ensures that it: Is capable of delivering sustainability in the UoA(s); Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and Incorporates an appropriate dispute resolution framework.
Score	65
Rationale	<p>SI 3.1.1 a) scored 60. SG 80 requires that there is an effective national legal system and organised and effective cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2. The current cooperation between the countries does not extend to the important sharing of the TAC which has led to catches in excess of ICES advice. Due to this fact, the cooperation cannot be consistent with MSC Principle 1. For that reason SG 80 is not met.</p> <p>SI 3.1.1 b) scored 60. SG 80 requires that the management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery. Even if the Coastal States have been successful in the past to agree on appropriate levels of catches (the cases include mackerel and AS herring in quite recent past, and is still valid for capelin shared by Iceland, Norway and Greenland) the ongoing disputes in relation to AS herring, NEA mackerel and blue whiting are a clear indication that the mechanism available to address disputes have not been “effective in dealing with most issues” and therefore SG80 is not met.</p>
Condition	<p>The SG80 requirements for SI a) above must be met. There should be evidence of organised and effective cooperation between all affected parties which delivers outcomes consistent with meeting Principle 1 (as detailed in Condition 1).</p> <p>There should also be evidence of an effective and transparent mechanism for dispute resolution between the parties. UNFSA Article 10 paragraphs a), h) and j) are particularly relevant to the meeting of this condition.</p>
Milestones	<p>Year 1: Communication should be begun or continued with relevant parties to promote cooperation on delivery of outcomes consistent with meeting the requirements of Principle 1 and achieving a suitable means of dispute resolution. Resulting score: 65</p> <p>Year 2 and Year 3: It is understood that the condition could be closed at any time. Therefore, during Year 2 and 3 should provide information on all relevant correspondence, meetings, representations undertaken and the prevailing situation regarding cooperation between parties and dispute resolution. Resulting score: 65</p> <p>Year 4: The SG80 requirements should be met. At the time this is achieved, this PI will be rescored at SG 80 or more.</p>
Client action plan	<p>Year 1: The management system for mackerel fisheries. ISF will meet with Ministry of Industry and Innovation (MII), to explain the condition and seek ways to fulfil the condition as milestones suggest and begin/continue discussions with representatives from other coastal states. The condition is new to the local environment but the issue is known. In 2015 a coastal agreement was reached regarding capelin and ISF will work with MII to push for the same action to be taken regarding blue whiting fisheries. ISF will, as a client group of 49 fishing companies, exporters and producers emphasize the importance of resolution.</p> <p>Improvements expected: Initial approach to other coastal states in reaching a harvest control rule. ISF expects to have communicated with MII regarding the condition, and that MII will engage the Marine Research Institute to carry out relevant analyses, to address the condition and provide information needed to for the continuance of the work, to achieve a harvest control rule. At ISF, the hope is that the issue will be agreed upon by the authorities, the importance of resolving it and closing the condition will be understood by all stakeholders. However, providing the actions to close this condition,</p>

	<p>are in the hands of governments of the respective coastal states.</p> <p>Auditing: At the Year 1 audit, ISF will present i) the most recent MFRI advice for blue whiting and harmonization actions; ii) an analysis of available data from MFRI iii) a log of actions and meetings during the timeframe to next scheduled surveillance.</p> <p><u>Year 2 and Year 3:</u> The management system for mackerel fisheries. In years 2 and 3, ISF continues to provide information on the progress of the possible coastal state agreement on a harvest control rule.</p> <p>Improvements expected: Continued talks and communication on harmonisation, expecting to have the issue closed, but planning for continued work into year 4.</p> <p>Auditing: At the Year 2 and 3 audits, ISF will present the progress.</p> <p><u>Year 4:</u> The management system for mackerel fisheries. In year 4, if the coastal states have not reached an agreement by this time, ISF will continue to ask for the resolution before end of the certification period.</p> <p>Improvements expected: It is expected that the management system condition will be met during or before year 4.</p> <p>Auditing: Evidence will be a signed agreement among the coastal states. However, this is in the hands of the governments of the respective coastal states</p>
Consultation on condition	Minister of Fisheries, NEAFC, Coastal State agreements, ISF Client group and Marine and Freshwater research Institute

15 Appendix 3. Peer Review Reports

15.1 Peer Reviewer 1

Summary of Peer Reviewer Opinion

<i>Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?</i>	No	CAB Response
<p><u>Justification:</u></p> <p><i>I would say that this is a comprehensive report, well structured, easy to read and correctly referenced. Scores are well addressed, based on the available literature and they are adequately justified and easy to understand. It seems that the assessment team with the help of the MSC has harmonized this fishery with the other fisheries certified in the area and they have arrived at the conclusion that the fishery scores are adequate and the fishery may get the MSC certification.</i></p> <p><i>However, I have my doubts about this fishery being certified (see my comments in 1.2.2 S.I.c). It is true that as the minister states in the consultation section, the MSC can be a way to get an agreement but I consider that the way of doing things should be the opposite: the Icelandic government should be able to reach an agreement with the "old" coastal states for the fishery to obtain the MSC certification.</i></p> <p><i>Reading the client action plan (see my comments there) it seems that people in Iceland has little faith in getting an agreement in the next years. I hope that this issue will be solved before it has an effect on the stock.</i></p> <p><i>As you state in this report, this is species which has originated a lot of disputes in the last years (Scotland/Faroe, etc) and I consider that this certification should be carefully reviewed.</i></p>		<p>First of all thank you for providing your comments. Regarding the Coastal State (CS) agreement, the Assessment Team will take special attention on that during the Surveillance Audits. During the meeting with the MII they confirm that they believe that MSC certification is a way to put under pressure the parties involved on the CS and get an agreement, therefore the Assessment Team will remain hopeful to reach an agreement before the re-assessment, otherwise that will be analysed with MSC.</p> <p>As other NEA fisheries involved in the harmonisation process, ISF Mackerel has the same situation and same opportunities to get the certification and for that reason the conditions set up are the same as MINSA fisheries and Faroes which also are part of the CS.</p> <p>The meetings and updates from the CS will be carefully reviewed by the Assessment Team.</p>

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<p><u>Purse seine fishery.</u> As a general comment for P2, I would say that I have my concerns about the information used by the team to assess the purse seine fishery. It seems that all the scores are based on a research fishery of which there is not any information provided (it would be interesting to add some information or at least a reference about this scientific fishery undertook in 2013, e.g: number of hauls, volumes caught, etc; to know how representative it was in regard to a commercial fishery). I have been checking other MSC certified purse seine fisheries in that latitude and if I am not wrong it seems that the only one that do not have any impact on other species (primary, secondary or ETP) is the mackerel fishery in Iceland, which I understand, reading the consultation section, it is not currently being undertaken. All the other MSC certified purse seine fisheries for North East Atlantic mackerel included at least herring and blue whiting as by-catch. Therefore, although I have not found any reference about this particular in the MSC guidance, I am not sure if a fishery which seem that doesn't exist at the time of the assessment should be certified based on the lack of data.</p>	<p><u>Purse Seine:</u> The purse seine tables has been reviewed and the overall score and rationale has been changed through the report following the peer review comment. The overall outcome has been modified and now is more precautionary according with the data available. A recommendation has been open to encourage the fleet to get more data with this gear type.</p>
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<p>Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe? [Reference: FCR 7.11.1 and sub-clauses]</p>	<p>Yes</p>	<p>CAB Response</p>
<p><u>Justification:</u></p> <p>I quite agree with the conditions raised but I think that in PI 2.4.2 S.I.a doesn't meet SG80 and it needs to be taken into consideration when setting the condition</p>		<p>The PI 2.4.2 S.I.a does not meet SG 80 already and is taking into account the condition and milestones.</p>

Do you think the client action plan is sufficient to close the conditions raised? [Reference FCR 7.11.2-7.11.3 and sub-clauses]	No	CAB Response
<u>Justification:</u> <i>If the fishery is finally certified I have my concerns about how the client action plan for year 4 is drafted: "In year 4, if the coastal states have not reached an agreement by this time, ISF will continue to ask for the resolution before end of the certification period". As I stated above, it seems that nobody in Iceland expects this disagreement with the TAC to be solved in the next years.</i> See also: http://www.hafro.is/Bokasafn/Greinar/ifim_jul13_14.pdf <i>I think that if the fishery gets the MSC logo, this issue should be solved by year 1. The MSC should not consider a fishery as "sustainable" when the TACs set by international agreements are systematically overshoot by the fishery.</i>		<p>The Assessment Team will encourage the client to meet with the MII. Because of currently, there are three NEA Mackerel fisheries in the area, during the meeting with the Minister of innovation and NEAFC representative, they are optimistic about getting an agreement between the countries. The parties already agree in the long term objectives and they will have an agreement on the allocation.</p> <p>The Assessment Team will review carefully every step in the process in each surveillance audit.</p> <p>The stock status will be assess and review carefully every year and any minimal impact will be evaluate as a part of these two conditions raised regarding the CS agreement.</p>

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
Example:1.1.2	No	No	NA	<i>The certifier gave a score of 80 for this PI. The 80 scoring guidepost asks that there is evidence that rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling or previous performance that they will be able to rebuild the stock within the timeline specified. However, no timeline has been specified based on previous performance, or simulation models.</i>	
1.1.1	Y	Y	NA	All scoring issues of this PI are satisfactorily explained. No further comments are necessary.	The Assessment Team is grateful for the peer review comment, no further response is needed.
1.1.2	NA	NA	NA	NA	
1.2.1	Y	N	NA	I have my concerns about how the rationale in 1.2.1a is written. Firstly, it is not totally true that " <i>fishing mortality is well below Flim</i> ". As you stated in the introduction section, taking into account the confidence intervals (which yes are quite wide) shown by the ICES advice for this species, " <i>The upper limits of the</i>	The justification for 1.2.1a text is revised based on reviewer comments and more details to response to this comment are made in the table 1.2.1 SI a. Recent ICES advices have shown tha the mean fishing mortality during the last decade is well below Flim (0.36) and only for 2015 does the upper 5% limit (0.371) go above Flim.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<p><i>confidence limits just touch (or it is over) the F_{lim} value". According to ICES discarding is only calculated for part of the fisheries. So, I hope that the amount of discard is really of 0.8% of the fishery as ICES supposes and the real fishing mortality is not in the upper limits of the confidence interval. Furthermore, if I am not wrong for the 2017 fishery ICES provided advice on the basis of the "ICES MSY approach" but no on the "existing proposed plan" as it has to be evaluated in 2017. Moreover, reference points have been changed several times in the last years: 2014, 2015 and it is expected that again in 2017, which reflect the level of uncertainty in the estimates for the stock. It seems that Fmortality set by the long-term management strategy is over the FMSY calculated by ICES. So, although this management strategy be agreed by all</i></p>	Regarding to Discards in a purse seine fishery that is mainly slipping and the information available is that this is a rare event and Icelandic discard ban, monitoring and surveillance make this data accurate.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				the coastal states (including Iceland and Greenland), mortality will be still over FMSY and it won't be <i>"a target level consistent with MSY"</i> . To be honest with you, I am looking forward to know the results of the benchmarking and the evaluation exercise planned for this year 2017.	
1.2.1 (cont)				The TAC set by the government is always over the TAC advised by the ICES and it should be reflected in the score.	The overshoot is scored as a failure of the HCR in 1.2.2 and condition 1 reflects this failure.
1.2.2	No	No	NA	In Sib there is a mistake, SG100 is not met but a Y has been written in the correspondent section. Sic I have my doubts if it can be considered that <i>"There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation"</i> . In	The Assessment Team has corrected the mistake in the table, thank for your comment and for spotting the error in Sib, this has been corrected. Sic is scored at SG60 and the tools are not considered effectively implemented.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				my opinion the available tools are NOT effective in controlling exploitation as it seems that a harvesting strategy agreed by the "old" coastal states is broken by the Icelandic government which sets its own TAC ignoring the agreement and the scientific advice and putting at risk the state of the stock.	
1.2.3	Y	Y	NA	I am fine with the rationale but maybe the score is too high. When you read the comments from the MFRI in page 102: "The new model is working better? Many questions to answer , but the recruitment is good in recent years, but it cannot be predicted if it will be good for the next years, they are no clear patterns in the shifts, the stocks is jumping everywhere. The stock is changing so quickly so it's difficult to determinate a long plan", it suggests that there are still some uncertainties	<p>PI 1.2.3a- discusses the amount of information that is available and surely the stock is well studied and much scientific effort has been directed at improving the understanding of this stock over the last decade or two.</p> <p>PI 1.2.3b- discusses the information requirement relative to the HCR and again there is ample information available.</p> <p>PI 1.2.3c- records the fact that the mackerel fisheries in the Northeast Atlantic after a deplorable history is now closely monitored and well documented.</p>

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				that need to be understood. It is true that the fishery is quite new in the area and it is not totally clear why the stock is expanding so far North and what is going to happen with the traditional spawning areas in the next years. So, I would suggest a lower score for this information section.	
1.2.4	Y	Y	NA	All scoring issues of this PI are satisfactorily explained. No further comments are necessary.	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.1.1	N	N	NA	2.1.1.b Pelagic trawl. Deepsea redfish (<i>S. mentella</i>). I have my concerns about the statement made in page 41 by the team that the mackerel fishery only impacts on the 'Icelandic Slope' or demersal stock of <i>S. mentella</i> based only (if not, please include reference) on the distribution maps shown in page 42. I know that this <i>S. mentella</i> complex is a	Deepsea Redfish; Firstly, the Assessment team has understood that Redfish (<i>S. mentella</i> complex) are pelagic and present at a range of great depths in Iceland EEZ. In Iceland EEZ Beaked redfish (<i>Sebastes mentella</i>) are fished at 450-600m depths. Importantly, they may be found to inhabit cold waters along slopes and channels at depths of <100m to > 700m dependent on biological needs. Pelagic midwater trawls are rigged to fish in midwater, from the surface to great depth

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<p>nightmare but I find interesting that the pelagic trawl fishery catch a higher volume of this species than the bottom trawl fishery. Anyway, if you include only Beaked redfish (Icelandic slope) in this section, I have my doubts if this stock is really highly likely to be above the PRI as the information for the stock is quite scarce and ICES considers that <i>"The absence of any indications of incoming cohorts raises concerns about the future productivity of the stock"</i>.</p> <p>2.1.1.b Handline. Common dab. In page 52 the team states: "The relatively stable increases identified in the biomass index suggest that it is highly likely that the stock is above any PRI". However, in the information shown by the MFRI is not clear that there has been a increase in the biomass index ("IS-SMB biomass index was low in 2006–2009, higher between 2010 and</p>	<p>depending on the position of the fish; therefore taking deep shoals of mackerel and incidental catch of other species such as redfish is possible. The Assessment Team has recognised that fish from the 'Icelandic Slope' or demersal stock of <i>S. mentella</i> co-occur with catches of mackerel, because of the relative spatial location of both fisheries as shown in Fig.17.</p> <p>Secondly, the latest MFRI stock updated beaked redfish states that the stock size indicator (IS-SMH index) has been stable over time, with some increase in the last two years (2014 and 2015). Catches in the past three years have been the lowest since 1980. The precautionary approach is established and TAC of 12,922t is advised for 2016/17 season. (http://www.hafro.is/Astand/2016/english/demersalbeakedredfish_2016.pdf).</p> <p>The June 2017 ICES update indicated increased biomass index from 82,570t (2012/14) to 94,139t (2015/16). The stock is estimated to be stable and the current fishing operations appear not to hinder recovery.</p>

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				2014, but low over the past two years") and it recommends a TAC no higher than 500 tonnes for the fishing year 2016/2017 which is around the dab bycatch. So, given the low indices and high fishing mortality, it is not clear that the stock is highly likely above PRI.	Despite being non-explicitly stated, it can be interpreted from the stable status and biomass increase that it is highly likely that the stock is above PRI". (ICES http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/reb.27.5a14.pdf). Common Dab; From the data from the DoF, total catch from Mackerel fishery is low (0.01%). Fproxy has been below the target since 2015, however, biomass index is stable and increasing, and is considered to be above biomass levels of 2008; evidencing that the fishery is not hindering the recovery or rebuilding of this stock. Being precautionary a score of 80 is met.
2.1.1	Y			Moreover, if I am not wrong in an MSC assessment that I recently reviewed for the same client (ISF) in the same area the team considered that this species didn't meet SG100.	See the comment above regarding Common Dab, the response is detailed in there.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.1.2	Y	Y	NA	All scoring issues of this PI are satisfactorily explained. No further comments are necessary.	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.1.3	Y	Y	NA	All scoring issues of this PI are satisfactorily explained. No further comments are necessary.	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.2.1	Yes	Yes	NA	See my concerns about the purse seine fishery at the beginning	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.2.1 (cont)				S.I.a Pelagic trawls I find really odd to see a dolphin as a secondary species but that's Iceland. S.I.b Pelagic trawls Just a comment for the MSC team (in case anyone reads this assessment). I know the MSC standards and the ETP definition but I will never understand how species which are "critically endangered" such as <i>Coryphaenoides rupestris</i> or <i>Lamna nasus</i> are not	For Dolphin the comment is noted. For Iceland it is not listed as ETP and IUCN list it as Least Concern therefore cannot be classified as ETP species in this assessment. The assessment team has followed the FCR v2.0 to classify ETPs species, regarding that issue that the Peer reviewer has commented, the CAB cannot consider a species as ETP when it is not under consideration in the FCR.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<p>considered ETP species by the MSC. I really think that this criterion needs to be reviewed.</p> <p>Porbeagle. Anyway, as you state, discarding for porbeagle occurs and post-release survival is unknown. So, maybe the average catch shown in the tables in the introduction section do not represent the real impact of these fisheries on the species.</p> <p>Grenadier. There is an error in the final sentence and it is unclear if it meets SG100 or not (it says SG 100 not is met). Please, correct it.</p> <p>Skate. Skate is not an official name/English name for any species. I would name it Common Skate or maybe Blue Skate (or due to the complexity of these species, you can use the scientific name)</p> <p>S.I.b Bottom trawl</p> <p>Two species score 80 and two score</p>	<p>For Porbeagle a recommendation is applied to encourage skippers to report catch and discard quantities of all species.</p> <p>For Grenadier it is a minor secondary species and according to the scoring system where SG 100 is not met, 80 is the default allocation. The mistake has been corrected in the report.</p> <p>Common Skate is appropriate in this assessment, It has been reviewed and changed in the report . Thank you for the comment.</p> <p>The score has been reviewed and now is 90 following the intermediate scoring guidepost. Thank you for your comment.</p>

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				100. The final score of 85 is correct?	
2.2.2	No	No	NA	S.I.a and b. All gears. Main and minor secondary species benefit from some management actions (closed areas, technical measures on mesh size, limits on fishing effort and catches of target species). However, I would not consider it a strategy. So, I think that at least in S.I.a and b SG100 is not met. I consider that the score in this P.I. is too high.	The Assessment team does not agree with the comment and the rationale for that is listed below: Fishing operations for all 4 UoAs in Iceland is recognised with appropriate management strategies. For instance; the MFRI provides scientific monitoring and advice on commercial stocks and marine environment to departments in the Icelandic Ministry of Fisheries and Agriculture (http://www.fisheries.is/management/fisheries-management/). Regulations and Fisheries Management Acts as well as Plans are prepared and implemented taking into consideration regional and international conventions (UNCLOS) and joint nations exploiting stocks in Iceland EEZ. Monitoring, control and surveillance is supported by National Coastguard, and violations are prosecuted with sanctions considered appropriate to deter or disincentive offences. The discard ban and monitoring of catch is a fundamentally strong strategy allowing management of targeted and incidentally catch species.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
					TAC and By-catch TAC or precautionary approaches are advised at scheduled such as annually. Catch share and quota (ITQ) sharing strategy is implemented which also is a component of the harvest strategy and control on fishing removals within sustainable levels. Catch reconciliation is ongoing (inter-annual and end of season). Specific to respective fisheries there are closed areas and marine protection areas where fishing is restricted seasonally or totally to avoid impact to areas or habitat considered critical to the stocks (spawning, feeding, nursery, juvenile, or migration). Various technical measures are implemented and monitored in the fisheries, such as minimum mesh size for net gear, and small fish move on protocol. For all these reason, SG 100 is considered to be met.
2.2.3	No	No	NA	According to the MRI and the ISC (Icelandic Seal Center), although the reporting of by-catch, including marine mammals, is mandatory according to Icelandic law, the realized reporting is not considered reliable (NAMMCO	Please note, the scoring is considered appropriate. The evidence used to assess and score the fishery is the best available information. In addition, the Directory of Fisheries has observers present at roughly 20% of all landings and during 2016 there were observers

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				2016). Therefore, all the information based on this data seems to be unreliable. It would be interesting to know the level of observer coverage in Icelandic fishing vessels to know if this coverage is enough to adequately estimate bycatch in the assessed fisheries. I consider that this score is too high.	onboard vessels fishing for pelagics during 169 days at sea. Fishers confirm no lethal interaction with seals. The Coastguard conduct at-sea inspections (over 200 days in 2016), as well as surveillance flights (250 days in 2016), and ongoing VMS monitoring, where any interaction, (with seals or areas common to seals) might be independently observed and reported. Information from the mandatory reporting system confirms no non-compliance with regards to by-catch from the UoA fisheries. Please note that the Icelandic Seal Center also mentioned that more research is required in order to understand and intervene on decreased wild seal population (http://selasetur.is/en/).
2.3.1	N	N	Needs condition a	S.I.c Purse seine and handline Although I agree with that, I cannot find a clear explanation in any section (4.2.1 (Biology of the target species) and in section 6.6 (ecosystem)) of why	Atlantic Mackerel is addressed in the P1 sections and with regards low trophic level species, was not identified as a bottleneck species with regards to Icelandic marine species foodweb structure, however increased abundance and feeding on prey species is

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<p>mackerel is not considered a key low trophic level species or key prey species in this ecosystem. Please see also my comment about page 30 in the General Comments' section below.</p> <p>S.I.a Pelagic trawl and Bottom trawl</p> <p>As a general comment I would like to add that at least in the ISF haddock and cod re-assessments Atlantic halibut was not considered an ETP species which in my opinion was incorrect.</p> <p>Anyway, a zero TAC has been set for the species. 84 tonnes caught in 2015 seems to be relatively low but this value refers to catches or landings of the species? (as this species can be released alive). If it refers to landings I think that it is important to take into account that the level of post capture survival is unknown. So, I am not sure if it can be considered that <i>"the combined effects of the MSC UoAs on the</i></p>	<p>identified. Its increased abundance is also identified as more food for predators .</p> <p>(http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/Ecosystem_overview-Icelandic_Waters_ecoregion.pdf)</p> <p>No comment on statements regarding ISF haddock and cod fisheries.</p> <p>For Atlantic Halibut taken in the UoAs fishery, mandatory live release of all viable specimen is implement. All catch that is landed is reported in vessel logbook and monitored by the Directorate of Fisheries and MFRI. The annual survey and assessment (IS-SMB) provides importation on the population, and survey indices are stable between years with low uncertainties (or good confidence). For obvious reason, post capture survival monitoring would add some valuable information on the fishery and this could be encouraged through a recommendation. However on this situation it is not obvious that a condition on MSC</p>

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<i>population/stock are known and highly likely to be within these limits". I would have given a score lower than 80 for this P.I. and I would have set a condition to improve the knowledge about the post capture survival for the species.</i>	certification of Icelandic fisheries is appropriate. The situation is likely to change where downward trend is identified in the population or other evidence indicate greater direct influence. The score is retained; a recommendation is added to the fishery.
2.3.1 (cont)				S.I.b Pelagic trawl and bottom trawl. I am not sure why there is a section here referred to mammals, seabirds, etc if it is previously stated that these species are not caught in these fisheries. This is increasing the score here from 80 to 85. Anyway, see my comment in 2.2.3. about the level of compliance with the reporting of marine mammals and other by-catch species S.I.c In my opinion the statement "the mackerel fishery removals are likely to reduce competitors for planktonic food and therefore might facilitate higher	Comment SI.b. is noted. No changes in the justification and scores because the information presented addresses the scoring issues. Comment SI.c is noted. No changes in the justification. The ICES report on Iceland ecosystem is one of the various reports allowing interpretation of the positives of mackerel in the Iceland ecoregion.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				available food for prey species of seabirds and marine mammals" seems to be a bit malicious. I think that it would be necessary to know what bird and mammal species are we talking about and the size of the preys in which they feed upon. It seems that the mackerel stock is expanding to the North of its distribution and although this phenomenon it may produce changes in the current ecosystem balance, the effect may be positive or negative depending on the species treated.	
2.3.2	Y	Y	NA	S.I.a In the last paragraph is seems that a Not is missing "With the lack of independent data on post-capture survival of the viable release, or impact of other non-lethal interactions, or dedicated research programs, as well as regular review of these measures, it can	The Assessment team has corrected the sentence and now is readable and the meaning is in the line with the score. Thank you for the comment.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				NOT be said that there is a comprehensive strategy in place for managing the UoA's impact on ETP species..." Please, correct that. Score agreed	
2.3.3	Y	Y	NA	As in 2.2.3 according to the MRI and the ISC, the reporting of by-catch, including marine mammals, in Iceland is not considered reliable (NAMMCO 2016) in many fisheries. Therefore, all the information based on this data seems to be unreliable. Score adequate.	The comment has been noted. Information from IUCN, and ICES ecosystem report was also considered therefore good information used to assess the fishery according to the MSC Standard. A recommendation is included in the report to encourage improved information on post-release survival of incidental catch species
2.4.1	Y	Y	Y	2.4.1 Pelagic gears. Score agreed. 2.4.1 Bottom trawl All scoring issues of this PI are satisfactorily explained and the score is adequate. There is a mistake when numbering the conditions here and in the next PI.	The Assessment Team is grateful for the comment and the numbering of the conditions has been reviewed and rectified.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				Condition 2 corresponds to 2.4.1 and condition 3 to 2.4.2.	
2.4.2	Y	Y	Y	<p>2.4.2 Pelagic gears S.I.a In other assessments for the same client (cod and haddock) this S.I. has been scored as 80 for pelagic gears but I understand that mackerel is more pelagic than these last species. Score adequate.</p> <p>2.4.2 Bottom trawl S.I.a If I am not wrong in the cod and haddock fisheries this SI didn't meet SG80 for sponges and soft coral. I agree with that score and I think that this SI should be included in the conditions.</p>	<p>The Assessment Team has evaluated the fishery and all UOA taking into account the previous fisheries certified in sake of harmonisation process. Mackerel fishery has scored higher than Cod and Haddock because of the nature of the fishery and the species distribution in the water column shallower than others.</p> <p>In the bottom trawl gear types, the conditions have been set up because SI a does not meet SG 80 and the fishery fails. The conditions in all the fisheries have been stated to develop a partial strategy in four years to protect sponge and hard corals, therefore SI a is taken into account in all the fisheries targeting species with bottom trawl that can affect these VMEs.</p>
2.4.3	Y	Y	NA	All scoring issues of this PI are satisfactorily explained. No further comment are necessary.	The Assessment Team is grateful for the peer review comment, no further response is needed.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.5.1	Y	Y	NA	The rationale supports the given score.	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.5.2	Y	Y	NA	<p>S.I.a The last paragraph refers to the capelin fishery All scoring issues of this PI are satisfactorily explained. No further comment are necessary</p> <p>S.I.b I have already exposed my concerns about the purse seine fishery. Anyway this score seems to be too high for this gear as the impacts of a commercial fishery for this combination of gear + species seem to be unknown.</p>	<p>The Assessment team has reviewed the rationale and the mistake has been corrected, thank you for the comment.</p> <p>Based on the data of other fisheries in the Icelandic waters with purse seine the strategies are very similar for all pelagic fisheries, in which the measures in place have relevant information regarding the stock status, fleet compositions, catches compositions, sensible areas for fishing by gear types, ITQs systems, monitoring control and surveillance systems, landing obligations, control sizes, spatial and temporal closures, scientific stock assessment surveys, collaboration of the industry with research projects, scientific advices, etc. and all these data are available and many research studies are in development to improve the knowledge about Mackerel in Icelandic waters. Therefore if the Mackerel purse seine fishery becomes a normal gear type in the fishing activities the measures and strategies apply to</p>

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					manage the ecosystem will be the same as other purse seine fisheries targeting other species.
2.5.3	Y	N	NA	Technically Óskarsson, et al (2015) and Olafsdottir, et al (2016) refer to the diet of Atlantic tuna and the interactions of mackerel with herring. I think that these reports do not talk about birds or sea mammals as the rationale suggests. S.I.c the score in this element seems to be too high. The GADGET model is not a full scale ecosystem model and it seems that it has been mainly applied to the cod fishery or cod ecosystem interactions. I have not found any reference to this model being applied to the mackerel fishery or to the interaction of mackerel with other species.	In the SI a when the Assessment Team has mentioned Olafsdottir, et al (2016) it was because the th article they explain the importance of Mackerel on Atlantic Bluefin Tuna (ABFT) in NEA waters and how the changes in prey species distribution can be one of the factor that ABFT is in higher latitudes. Because of the ecological role of Mackerel in Icelandic waters is still under studies and as a new stock in the area more research projects are needed. That article has shown how some differences in the feeding habit of ABFT reflect different oceanographic conditions, and consequently biogeographic distributions of potential prey species and can account as information of Mackerel ecosystem roles in Icelandic waters further other researches that have been carried on by MFRI to understand the changes of the Mackerel distribution. Óskarsson, et al (2015) has shown the diet composition of Mackerel and how the stock has been extending its summer feeding distribution north and west, including

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					<p>around Iceland, since around 2006. The article describes feeding habits in the marine ecosystem around Iceland during the summers 2009–2011, and the role of mackerel in the Icelandic ecosystem is been described for that reason the references are used in this SI because they are accounting in getting information of a “new stock” in the study area.</p> <p>Regarding Gadget model, the Assessment Team has reviewed the rationale and wording was added to explain better how gadget, even is not used in particular for Mackerel stock assessment is used by MFRi to evaluated different commercial stocks in the Icelandic waters and the relationship between fisheries and ecosystem elements, further to evaluate changes in distribution due to climate change, therefore due to Mackerel is recently included in the Icelandic fisheries that data can be useful to draft the patterns and possible shift in Mackerel ecology around Iceland.</p>
3.1.1	Y	Y	No	One general comment for P3 that I also included in my last review.	The assessment team do not think that it should be considered memberships of a particular organization

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				<p>Iceland is not a signatory party to the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS) which protects ETP species. I really think that this particular should be reflected in a lower score at some point in P3. If we do not take it into consideration, this can lead to perverse scoring as the countries which do not signed any international agreement get better scores in some sections because their lack of commitment to protect ETP species. Sia and b It seems that there is a framework for cooperation and a mechanism for the resolution of legal disputes arising within the system but in this fishery it seems to be totally ineffective. Score adequate. The client action plan in Year 1 refers to blue whiting. This is the mackerel fishery. I have my doubts about how the client</p>	<p>when scoring a fishery. If the management system in the country meets the requirements of the PI it should be scored accordingly. There is no a specific requirement on any SI about membership of ASCOBANS.</p> <p>The Assessment team does not agree with the statement: "If we do not take it into consideration, this can lead to perverse scoring as the countries which do not signed any international agreement get better scores in some sections because their lack of commitment to protect ETP species."</p> <p>The reviewer states that "The client action plan in Year 1 refers to blue whiting. This is the mackerel fishery". I couldn't verify that. The Assessment team has reviewed the wording and the condition makes reference to Blue whiting and Capelin because the Client was involved in other Coastal States agreements and they will do the same as they previously did for other fisheries: to encourage MII to get an agreement asap.</p>

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<p>action plan for year 4 is drafted: <i>"In year 4, if the coastal states have not reached an agreement by this time, ISF will continue to ask for the resolution before end of the certification period"</i>. I consider that if this fishery finally gets the MSC logo, this issue should be solved by year 1. I think that the MSC should not name a fishery as "sustainable" when the TACs set by international agreements based on the scientific advice are systematically overshot.</p>	<p>The reviewer seems to be of the opinion that if the coastal states catch in excess of the scientific advice and possibly unsustainable catches then it is the fault of the "new" coastal states and not the "old" ones. Therefore the "old" coastal states for mackerel can continue to use the MSC logo in the present situation but the "new" states that are responsible for the excess fishing should not be MSC-certified. The Assessment Team does not believe this view is sensible or sustainable. It is not obvious that the mackerel fisheries that were certified in 2016 should have been certified but if it was possible to certify these fisheries in the "old" coastal states in spite of the lack of agreement on total catch with the "new" states it seems reasonable that similar mackerel fisheries in the "new" states should be certified for sake of harmonization.</p>
3.1.2	No	No	Needs condition a	<p>S.I.e In the consultations section NASBO (National Association of Small Boat Owners) claims that: "They are not part of the decision making process but they tried to get involved. There are no</p>	<p>The remark about consultations refers to the quota decisions in general rather than the decision on mackerel which is taken at a different time and mostly based on discussions within the ministry and the MFRI and the ministry claims that NASBO is included.</p>

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<p>formal meetings in the process, it has been suggested to ask why NASBO is not included in the process and to receive a formal justification of that" despite in 2014 they caught 40% of the quota for mackerel. Did you get a formal justification for that? In this case, it is unclear if really the "The consultation process provides opportunity for all interested and affected parties to be involved". So, it is considered that SG80 is not met and the score should be reviewed and a condition included.</p>	<p>The Assessment Team is wondering where the "40%" reported by the reviewer comes from because the data show that the share of vessels using hooks is below 4% in 2014.</p> <p>The Assessment Team does not agree that with the system in place a condition is needed in this PI.</p>
3.1.3	Yes	Yes	NA	The rationale supports the given score. No further comments are necessary.	The Assessment Team is grateful for the peer review comment, no further response is needed.
3.2.1	No	No	NA	I think that the score is too high. The management plan set but the old coastal states have objectives that are systematically breached by the Fisheries authorities in Iceland. So, I consider for	<p>Following the comment, the reviewer argues that "the old Coastal States has objectives ..."</p> <p>Currently, there is no disagreement between the present Coastal States ("old" and "new") on the Harvest Control Rules used to device the management</p>

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				this objectives for the fishery that we are assessing are an useless piece of paper and SG100 is not met.	advice and they cooperate in research and in the interpretation of the results from the research within ICES. What they disagree on is the sharing of the TAC. The reviewer is of the opinion that "old coastal states" should be able to dictate shares to new coastal states and that MSC should help them in that by refusing to certify fisheries from the "new" coastal states if the "new" state doesn't accept what the old states decide for them. The reviewer doesn't provide any justification for this view and the Assessment Team believes that in sake of harmonisation new fisheries can be certified as the fisheries included in the "Old Coastal State".
3.2.2	Y	Y	NA	3.2.2b Score agreed. However, I think the rationale is not clear when explaining why SG80 is met and SG100 it is not. It is suggested to review this rationale. 3.2.2e Score agreed. "Perhaps the management system does not always act proactively enough to avoid legal disputes". Could you explain this	The Assessment Team has review the rationale following the peer reviewer comment. The rational has been augmented as follows: The decision-making processes respond in a transparent, timely and adaptive manner to serious and other important issues identified via relevant research, monitoring, evaluation and consultation. Management plans have been developed in working groups where the industry and unions of the crew have their

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				<p>sentence a little more?</p>	<p>representatives. These plans are partly reviewed each year through the stock assessments and the advice provided by MRI/MFRI and ICES each year. In those cases where a management plan has been found to be faulty, like for example, the original management plan for cod from 1995 they have been reviewed (cod in 2004) and subsequently the Minister has adopted a new management plan (for cod in 2007).</p> <p>Decision-making processes respond to all issues of major importance which have been identified in relevant research, but it is difficult to contend that it has responded to all issues in a timely manner (was the reaction to the fact that the HCRs for cod that were introduced in 1995 set TACs too high and were corrected in 2007 "timely", or was the ban on all targeting of halibut, which the scientist had asked for many years, "timely").</p> <p>The management responds to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, and adaptive manner and take it</p>

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
					<p>account of the wider implications of decisions and therefore SG 80 is met. But the "timely" aspect of it can be discussed and therefore SG100 is not met.</p> <p>The coastal states have responded to developments in the fishery, e.g. by inviting states where mackerel wasn't fished before to their meetings (Iceland, Russia, and Greenland).</p> <p>Regarding 3.2.2SI e) When the Assessment Team has explained that perhaps the government is not always enough proactive it means that there have been several court cases involving aspects of the management system. Some would argue that it is natural, and the government shouldn't try to avoid legal disputes, e.g. on the question if the special licensing of fishing vessels and the limits on entry of new vessels was in accordance with the Icelandic constitution.</p>
3.2.3	N	N	NA	It seems that the The National Association of Small Boat Owners (NASBO) is quite unhappy with the mackerel quota assigned to them (4%)	There is constant disagreement between fishermen on the sharing of the TACs, not only between fishing states, but also within each state. Iceland is no different in that respect than other countries.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<p>by the Ministry of fisheries and is demanding an increase to 16% of the TAC. Although one of the main tasks of fishermen, all along the world, is to be unhappy, it is unclear if this association has been included in the decision-making process when setting quotas.</p> <p>If I am not wrong all the SI in this PI are met but the final score given is 95 and it should be 100.</p> <p>Anyway as in PI 2.3.3, according to the MRI and the ISC (Icelandic Seal Center), although the reporting of by-catch, including marine mammals, is mandatory according to Icelandic law, the realized reporting is not considered reliable (NAMMCO 2016). So, I consider that SG100 is not met in S.I.c.</p>	<p>Since the introduction of the fisheries management in Iceland in the 1980s NASBO has been quite successful in changing the distribution of the TACs in their favour, using widespread sympathy with small scale fishermen among the Icelandic population. The Assessment Team does not think it is sensible for MSC to get involved in these disputes.</p> <p>As for the arithmetic of the scoring for 3.2.3, the PI 3.2.3 d) has only one SI scoring maximum of 80. Therefore the overall scoring of 3.2.3 is 95.</p> <p>The reporting of bycatches of marine mammals has improving very much but it is likely that it is still far from complete. Especially older fishermen in small vessels (as can be NASBO's members) are likely to discard and not report on marine mammals they have caught.</p> <p>This issue is a bit judgmental issue but the Assessment Team can accept that 3.2.3 c) is scored 80 and not 100 because of insufficient reporting of bycatches.</p>
3.2.4	Y	Y	NA	The rationale supports the given score. No further comments are necessary.	The Assessment Team is grateful for the peer review comment, no further response is needed.

Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary) can be added below and on additional pages

-Page 30: When explaining why North East Atlantic Mackerel is not considered a LTL species despite the MSC guidance, it would be helpful to include a reference. It is quite interesting because the same rationale has been used in several MSC assessments by different CABs: Faroese fishery, Northern Ireland fishery, etc; but if I am not wrong the reference used in all of them (ICES 2008b) is missing in all the reports. So, it seems that this section has been copied and pasted from one report to the others without checking this information.

CAB's response: The last report from ICES has stated that unlike capelin, mackerel feeds in the ecoregion and are a minor prey item, thereby exporting energy from the system (ICES 2017). In Icelandic waters Mackerel is not considered as LTL key species and Capelin and Sandeel are relevant LTL species in Icelandic waters. The text has been reviewed in the background section to make sure that is clear the concept of LTL species.

-Page 32. Primary species. Handline: although it is a jigging fishery, if no bait is used in the handline fishery it should be good to include a short comment about this particular in this section (I have not found any).

CAB's response: In Iceland, the Handline fisheries for mackerel is operated with the reels are attached to the ship's side. The line is often 50-200 m long with a 6-8 m extension of fine twine containing four to eight hooks. The hooks are often 10 cm long containing rubber bait to mimic prey. The line is let out and the reel automatically senses the bottom. The hook is moved up and down by the automatic reel and is reeled in when the reel senses the set minimum weight of fish on the line. (Source: <http://www.fisheries.is/fisheries/fishing-gear/handline/>)

-Page 37. The final paragraph is repeated twice.

CAB's response: The Assessment Team has corrected the mistake, thank you for the comment.

-Page 59. The 4Yr Average Landing (Kg) column used in table 11, 12 and 13 (and in previous tables) seems to work well for small species but it seems a bit odd for big species such as dolphins or porbeagles. A 20kg average (porbeagle) in four years means a quarter of individual each year? It would be interesting to know the number of individuals caught by the fishery in the reference period.

CAB's response: Catch data by weight only was provided. Future information is likely to included counts as well as weight measures.

-Page 60. I find very interesting that the number of secondary species caught by the pelagic trawl fishery is higher than in the bottom trawl fishery.

CAB's response: Catch data is evaluated according to the information provided, where discard ban is implemented and is considered representative of the fishery until future information indicate. Pelagic trawl is a direct fishery for Mackerel and the % of catches is bigger therefore the non-retained

species as well and further because is a mixed fishery with other pelagic fisheries in the area therefore the grounds are more sensible to find other pelagic species.

-Page 63. The Dipturus complex (*D. flossada*) is listed by the IUCN as “critically endangered”. I consider that it should be mentioned in the corresponding section.

CAB’s response: Common Skate is taken in the UoAs pelagic (0.0001%) and bottom trawl (0.001%). The IUCN considered this specie to belong to a complex of skates. The group is considered Critically Endangered in Europe. The complex is required to be spilt to better identify the true status of each component¹. A number of species of skates are known to be caught as a by-catch in Icelandic waters, but information on amount of the catches is incomplete, and the status of these species is not known. Information on status and trends of non-commercial species are collected in extensive bottom trawl surveys conducted in early spring and autumn (ICES NWWG Report 2016)

-Page 75. I think that figure 37 is also available in English; I consider that it should be changed to improve understanding.

CAB’s response: The updated figure from 2016 is available in Icelandic; the assessment team could not find the complete figure with all the areas in English.

-Page 78. “About 25 species of stocks of fish and marine invertebrates are exploited commercially on a regular basis in Icelandic waters. Icelandic waters are comparatively rich in species and contain around 30 commercially exploited stocks of fish and marine invertebrates”. This idea is repeated twice.

CAB’s response: The Assessment Team has reviewed the text and has deleted the repetition of the idea. Thanks you for the comment.

-Page 79. “An MFRI research outcome has shown the feeding ecology of a large number of fish species, marine mammals and seabirds; and has shown that capelin and sandeels are key prey species in the Icelandic marine ecosystems (MFRI, 2016). However, Mackerel has not that role in Icelandic ecosystem”.

This is the same conclusion that is stated at the beginning of the report, that mackerel is not a key species in the ecosystem. However, again the reference given (MFRI, 2016) leads to nowhere as it has not included in the reference list. As you stated in the ETP section at least for some species (gannets) mackerel supposes 50% of its diet.

CAB’s response: The Assessment Team met with Marine Institute and they showed evidence that in the Icelandic Ecosystem, Mackerel is no a LTL species. The flow of energy in the trophic chain is not through Mackerel stock. There are other forage species more relevant in Icelandic waters. Further, Mackerel stock is happening recently in the area and is not the basis of resources sources of seabirds’ species. The last ecosystem overview from ICES (2017) has not shown mackerel as food sources for seabirds in the area furthermore, the Mackerel stock distribution in the area, is grow thing in the area and the removals of the fishery do not affect the feeding habits of any seabird. The reference has been included in the section 7 alongside Ices Ecosystem Overview from 2017.

-Page 112. I think that ISF haddock fishery is missing in the table.

CAB's response: ISF Haddock has been taken into account in the outcomes of ISF Mackerel Fishery in terms of harmonisation and the mistake has been corrected.

-Page 234. 3.2.1a there is a typo: "The management of **golden redfish** includes measures relevant to the effects the fishery has on the ecosystem".

CAB's response: The mistake has been corrected.

15.2 Peer Reviewer 2

Summary of Peer Reviewer Opinion

<i>Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?</i>	Yes	CAB Response
<i>Justification:</i> This assessment benefits from previous MSC assessments of NEA mackerel and ISF demersal trawl fisheries, in that much of the groundwork has already been done. Consequently, there are few Pis where scoring could be challenged, and the overall outcome is sound.		The Assessment team has been working close to the other NEA Mackerel fisheries in the sake of harmonisation process; therefore some of the Pis rationales are very similar among fisheries.
<i>Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?</i> <i>[Reference: FCR 7.11.1 and sub-clauses]</i>	No	CAB Response
<i>Justification:</i> All conditions are harmonized with other MSC-certified fisheries, and should have identical wording other than for the client action plan. This is the case for Conditions 2, 3 and 4, but not for Condition 1.		The harmonization achieved an agreed scoring and the agreement on the substance of the condition (here condition 1). The precise wording varies slightly because of differences in the fishery and because of version under which the fishery is scored
<i>Do you think the client action plan is sufficient to close the conditions raised?</i> <i>[Reference FCR 7.11.2-7.11.3 and sub-clauses]</i>	Yes	CAB Response
<i>Justification:</i> Despite the above comment on Condition 1, the client action plan for all four conditions is appropriate.		No further response is needed. Thank you for the comment.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
<i>Example:1.1.2</i>	No	No	NA	<i>The certifier gave a score of 80 for this PI. The 80 scoring guidepost asks that there is evidence that rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling or previous performance that they will be able to rebuild the stock within the timeline specified. However, no timeline has been specified based on previous performance, or simulation models.</i>	
1.1.1	Yes	Yes	NA	The information presented justifies the score, but it would be useful to present the most recent ICES stock assessment summary figure here.	The ICES summary Figures from the January 2017 advice are reproduced as Figures 7-11. References have been inserted in the justification.
1.1.2	Yes	Yes	NA	This PI has not been scored	No further comment is needed
1.2.1	No	No	NA	You state that the harvest strategy as implemented by the 2008 HCR has worked well, but the HCR is not described in the assessment report (or at PI 1.2.2). Has it changed since 2014? (see PI 1.2.4a,	As noted in the justification, the 2008 plan is expected to be revised both based on the current political discussions and because the changes in the stock productivity. A short

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				<p>and PI 3.1.3). This should be rectified.</p> <p>b. It is possible that the stock biomass has doubled from 2003 to 2016 due entirely to natural processes, rather than being fished under a good strategy. Though fishing mortality has been below F 0.3 since 2009, it remains above Fmsy (the target) and the evidence at SG80 is not robust.</p> <p>f. Comments here must address the whole fishery that exploits NEA mackerel, not just the ISF fishery.</p>	<p>summary of the 2008 plan has been inserted in the report text.</p> <p>Sib.The Assessment team believes that the objective is to keep the stock above 2.2 Mill tons and this has been achieved therefore SG80 is met and justified.</p> <p>Sif. It is the entire fishery that operates under a discard ban this has been clarified.</p>
1.2.2	Yes	Yes	No	It is important to state that Condition1 is harmonised with other MSC-certified mackerel fisheries	The Assessment team has reviewed the condition and the statement has been inserted.
1.2.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
1.2.4	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
UoA 1 Pelagic trawl					
2.1.1	No	Yes	NA	This PI requires that minor primary species are highly likely to be above the PRI or, if below the PRI, there is evidence that the UoA does not hinder recovery and rebuilding. If there is uncertainty that SSB is above RPI some of the stocks mentioned, I suggest that you provide the proportion of the total catch for each stock that is taken by the UoA to show that it does not hinder recovery and rebuilding.	The assessment team has included updates in several species. Percent of total annual catch information updated in the justification for species where catch is considered not to hinder recovery; Tusk, Anglerfish, Argentine, Bluefin Tuna, ad deepsea redfish
2.1.2	Yes	Yes	NA	The information presented justifies the	

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Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				score	
2.1.3	Yes	Yes	NA	The information presented justifies the score	
2.2.1	Yes	Yes	NA	This PI requires that minor secondary species are highly likely to be within biologically based limits or, if below, there is evidence that the UoA does not hinder recovery and rebuilding. There is uncertainty that SSB is above RPI some of the stocks mentioned, and I suggest that you provide the proportion of the total catch for each stock (not just the proportion of the UoA catch) taken by the UoA to show that it does not hinder recovery and rebuilding.	The assessment team has included the percentage of catches of each species to show that the ISF Mackerel does not hinder the stock status or possible recovery of the species under assessment. Percent of total annual catch information updated in the justification for species
2.2.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.2.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.4.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.4.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

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Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
					response is needed.
2.4.3	Yes	No	NA	Given your previous comments on habitat impacts (no effect), the physical impacts of the gears on soft corals and sponges are fully quantified, and SG 100 is met.	The Assessment team has been used the precautionary approach in terms of that due to a condition is open in Bottom trawl regarding soft corals and sponge therefore the information about these VMEs is not sufficient to get SG 100, more researchs are needed. On the other hand in terms of the harmonisation the Assessment Team has scored the same as other NEA fisheries in the area.
2.5.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.5.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.5.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
UoA 2 Purse seine					
2.1.1	Yes	Yes	NA	The information presented justifies the score. However, if purse seine was to be used in future to target mackerel, there is no guarantee that the catch will be 100% clean. This should be acknowledged.	This is acknowledge in the report and the score for purse seine has been modified following the comments from both Peer Reviewer. It is acknowledged that future use of the Purse Seine gear in the mackerel fishery might not be as clean as indicated in the present information A recommendation has been set up to improve purse seine data from the fishery
2.1.2	Yes	No	NA	c. given that the evidence presented concerns a trial fishery 4 years ago, it cannot be said that the strategy is being	The Assessment team has reviewed the information and the comment is noted and changed (100 is not met).

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				implemented successfully and is achieving its overall objective.	
2.1.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.2.1	Yes	Yes	NA	The information presented justifies the score. However, if purse seine was to be used in future to target mackerel, there is no guarantee that the catch will be 100% clean. This should be acknowledged.	The Assessment team has reviewed the purse seine scoring and it is acknowledged that future use of the Purse Seine gear in the mackerel fishery might not be as clean as indicated in the present information. The overall score has been revised. This is acknowledge in the report.
2.2.2	Yes	No	NA	c. given that the evidence presented concerns a trial fishery 4 years ago, it cannot be said that the strategy is being implemented successfully and is achieving its overall objective.	The Assessment team has reviewed the information and the comment is noted and changed (100 is not met).

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.2.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.4.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.4.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

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Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
					response is needed.
2.4.3	Yes	No	NA	Given the previous comments on habitat impacts (no effect), the physical impacts of the gears on soft corals and sponges are fully quantified, and SG 100 is met.	The Assessment team has considered that in terms of harmonisation and due to the condition set up the rationale at SG 80 is adequate for the ISF mackerel fishery.
2.5.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.5.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.5.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
UoA 3 handline					

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.1.1	No	Yes	NA	This PI requires that minor primary species are highly likely to be above the PRI or, if below the PRI, there is evidence that the UoA does not hinder recovery and rebuilding. There is uncertainty that SSB is above RPI for some of the stocks mentioned (e.g common dab), and I suggest that you provide the proportion of the total catch for each stock taken by the UoA to show that it does not hinder recovery and rebuilding.	The Assessment team has reviewed the PI ad scoring statement has been updated with total annual catch percent for common dab and other species to show catch levels are low and not likely to hinder stock recovery
2.1.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.1.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.2.1	Yes	Yes	NA	This PI requires that minor secondary species are highly likely to be within	Scoring statement is updated with total annual catch percent to show

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Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				biologically based limits or, if below, there is evidence that the UoA does not hinder recovery and rebuilding. If there is uncertainty that SSB is above RPI some of the stocks mentioned, I suggest that you provide the proportion of the total catch for each stock (not just the proportion of the UoA catch) taken by the UoA to show that it does not hinder recovery and rebuilding.	catch level are low and not likely to hinder stock recovery.
2.2.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.2.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

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Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.3.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.4.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.4.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.4.3	Yes	No	NA	Given the previous comments on habitat impacts (no effect), the physical impacts of the gears on soft corals and sponges are fully quantified, and SG 100 is met.	The Assessment team considers that the scoring at SG 80 is adequate for this fishery. Mackerel is a recent fishery in the area and more research projects to determinate and control VMEs are needed.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.5.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.5.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.5.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
UoA 4 bottom otter trawl					
2.1.1	No	Yes	NA	This PI requires that minor primary species are highly likely to be above the PRI or, if below the PRI, there is evidence that the UoA does not hinder recovery and rebuilding. If there is uncertainty that SSB is above RPI for some of the stocks mentioned, I suggest that you provide the	The Assessment team has reviewed the information and the scoring statement has been updated with total annual catch percent to show catch level are low and not likely to hinder stock recovery

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				proportion of the total catch for each stock taken by the UoA to show that it does not hinder recovery and rebuilding.	
2.1.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.1.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.2.1	Yes	Yes	NA	This PI requires that minor secondary species are highly likely to be within biologically based limits or, if below, there is evidence that the UoA does not hinder recovery and rebuilding. If there is uncertainty that SSB is above RPI for some of the stocks mentioned, I suggest that you provide the proportion of the total catch for each stock (not just the proportion of the UoA catch) taken by the	Scoring statement is updated with total annual catch percent to show catch level are low and not likely to hinder stock recovery

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Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
				UoA to show that it does not hinder recovery and rebuilding.	
2.2.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.2.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.3.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

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Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.4.1	Yes	Yes	Yes	It would be useful to explicitly state that Condition 3 (should be 2) is harmonised with other ISF MSC-certified demersal trawl fisheries	The Assessment team has corrected this mistake and the numbering of the conditions is now updated.
2.4.2	Yes	Yes	Yes	The information presented justifies the score. Condition 4 should be C.3.	The mistake is noted and The Assessment team has corrected it and the numbering of the conditions is now updated.
2.4.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.5.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
2.5.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
2.5.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
3.1.1	Yes	Yes	Yes	Whilst the NEAFC provides a framework for the coastal states to negotiate an agreement on the sharing of the TAC for mackerel, the problem is not that the coastal states have not agreed the sharing of the TAC, but that unilaterally declared national quotas have resulted in total catches well in excess of the scientific advice, and F is not consistent with MSC Principle 1 (i.e. above F_{MSY}). It is important to state that Condition 4 is harmonised with other MSC-certified mackerel fisheries.	The Assessment Team agrees completely with what the reviewer is saying. The text of the justification explained that the coastal states "have not managed to agree on the sharing of the TAC which has resulted in considerable catches in excess of the TAC." To make this point clearer the text has been altered to: "have not managed to agree on the sharing of the TAC but declared quotas which have resulted in catches in excess of the management advice."
3.1.2	Yes	Yes	NA	The information presented justifies the score	No further justification is needed.

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Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
3.1.3	No	Yes	NA	If all coastal states agree on a management plan, which is consistent with MSC Principle 1 and 2, this should be presented here in order to show why SG 100 is met.	The scoring of this Pis is already SG 100.
3.2.1	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
3.2.2	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
3.2.3	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.
3.2.4	Yes	Yes	NA	The information presented justifies the score	The Assessment Team is grateful for the peer review comment, no further response is needed.

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Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary) can be added below and on additional pages

General comment on information presentation: This is a large assessment report, and the authors should consider removing information that is not required by the MSC standard and avoiding duplication where possible. In particular, to make sure that the information presented in each section is relevant, and amend accordingly. The main omission in the background information is any discussion of the circumstances that led to MSC mackerel fishery certificates being suspended in 2012, and whether the quota setting and allocation problems have been rectified. Is there actually a management plan in operation today? The scoring comments are, however, excellent.

CAB's response: That issue has been taking account in the harmonisation process and the fishery has been evaluated with actual data. However the assessment team has introduced a text to explain that in the harmonisation section. There are long-term objectives based on a management plan, the issue is still the Coastal State agreement.

Fishery unit: On page 8 you say that the fishery under assessment covers all Icelandic commercial vessels member (sic) of the Iceland Sustainable Fisheries that are entitled to fish Mackerel in ICES Division Va, but at page 13 that the Client group and other eligible fishers are all registered Icelandic vessels that carry valid permits --- to target the mackerel stock in ICES Subareas I-IX, XII, and XIV (Northeast Atlantic) using mid-water trawl, seine, bottom trawl or hand line. I assume that the 138 vessels targeting mackerel are the client group, whilst all Icelandic registered vessels carrying a valid permit for the fisheries from the DoF (around 1300 in all quota categories) are eligible fishers. On page 15 you state that the entire fleet of Icelandic commercial vessels with valid fishing permits issued by the DoF is covered regardless of whether a vessel owner is an ISF member, but it is the ISF Mackerel fishery that is under assessment. Then, that only ISFs shareholders have the right to sell their products as MSC certified. This is unclear.

CAB's response: The client group is formed by the vessels with Icelandic permission fishing in Icelandic waters; however other vessels targeting Mackerel in the NEA waters could be eligible fishers if they comply with the IDSF agreement and the FCRv2.0 requirement.

Page 14: Strengths. It is wrong to state that the Mackerel Stock is well managed, given the problems that have led to suspension of MSC certificates on mackerel fisheries since 2012 (and which still apply, see Conditions 1 & 4).

CAB's response: The fisheries are well managed in the sense that the fisheries are compliant with the regulations. This was not always the case mackerel stock assessments up to about 2008 repeatedly demonstrate the conflict between the catch data (fisheries) data and the fishery independent data (e.g. mackerel egg surveys). The issue is the lack of joint management between the Parties (EU, Norway, Faroe Islands, Iceland, Greenland and Russia). These falls into two groups 1) EU, Norway, Faroes Islands and Russia and 2) Iceland and Greenland. The text has been amended to make the points more clear.

Page 18: Eligibility for Certification against MSC Standard. I would question whether the fishery "is not conducted under controversial unilateral exemption to an international agreement"

CAB's response: Before entering under full-assessment the CAB and MSC analysed the situation of the NEA Mackerel Fisheries and it was determinate that the lack of agreement between parties in the CS is not a controversial unilateral exemption in the fishery, further, it is hardly acceptable that one group (EU, Norway, Faroes Island) can dictate the 'international agreement'

Page 17: it would be useful here to explain what the season 2016/2017 means in terms of calendar months covered. Table 3 suggests that there is an annual TAC. This should be the TAC that was agreed, and is not the ICES advice (which was ≤ 774 kt for 2016, for example), and does not include the unilateral Norway/Faroe Islands TAC first declared in 2009, nor the Icelandic quota. In fact, there were no internationally agreed quotas and the values presented are the sum of unilateral quotas. Is this what “mackerel total catches have no agreement of sharing between the parties involved in the Coastal States” means? The most recent aggregated catches are not those reported to NEAFC in 2014, but are shown for 2015 in the 2016 ICES report. This section needs to be explicit, following the statement on page 20 “There is no agreement between the coastal states on catch allocation, which has resulted in catches far exceeding the advice given by ICES”, and on page 22 “There is presently an ongoing dispute regarding the fishing of mackerel in the North East Atlantic amongst the Coastal States.”

CAB’s response: Mackerel fishing season is defined by MII between May and October but the peak is June through September. Annual TAC is referred to a fishing season and there is an annual TAC in EU, Norway, Faroes Island based on the calendar months (Jan-Dec) and the agreement between these countries is based on this fishing year. In Iceland the fishing year is Sept – Aug. The text has been amended.

I suggest that the text from 4.2.2 Fishing area page 21 to the end of page 23 is revised to avoid repetition and present a logical order; and also to avoid duplication in 5.1 Stock Structure.

Note that the purse seine identified in Table 23 is not herring purse seine, but purse seine used to target mackerel (with 100% success) in a trial fishery in 2013 (see page 34).

It is important to have a description of the gears being used in the 4 UoAs, detailing size of nets, mesh sizes, ground gear, towing speed and other operational information. This is relevant to P2.1 retained species, ETP species, and any conditions that might require gear modifications to avoid certain species, and P2.4 Habitats, to explain how the various gears interact with sea bed communities, for example. This would support the information at section 6.4.

CAB’s response: Every UoA has been explained and defined in the P2 The name of the gear is (in Iceland) a ‘Herring purse seine’. This does not imply that the target species is Herring. . A revision of this section has been done to avoid repetition of main information. A footnote has been added.

9.4 Stock status: If the relative importance of the southern component has decreased from 24% of the NEA mackerel stock in 2013 to 11% in 2016, and the biomass of the North Sea component remains stable at a low level – around 3% to 4%, how can the biomass of the western component have decreased in the same period, when its relative contribution to the mackerel stock increased from 73% to 85% and the overall SSB estimated by ICES increased by 10%? Does this suggest that the egg surveys do not well estimate stock abundance?

CAB’s response: The text is taken from the ICES report and is admittedly unclear. The point is that the associated with the changes in the north also changes elsewhere bin the mackerel stock takes place . The last ICES report has stated that some eggs surveys gave contradictory information in the recent years, for that reason in the last assessment form 2016 the information of the surveys have less influence than the catch information from all the parties targeting Mackerel on the estimated stock status. The text has been amended.

Page 29. 5.2.4 Catch and landings: as with the presentation of SSB, F and recruitment above, this section should not focus on information about landings collected by the Icelandic Directorate of

Fisheries, but cover all fisheries on NEA mackerel (the P1 target stock). This also applies for 5.3.1 harvest Strategy.

CAB's response: The report is covering ISF Mackerel fishery and for that reason in this section the catches from the DoF are important. However is presented a table with the catches for other NEA Mackerel to show how the allocation is. The Reviewer is of course correct that to evaluate the stock status the focus should be on the total catches and therefore Figure 11 presents these data. An additional paragraph has been inserted and the section restructured

9.4.5 Biological Reference points: Given the concern about fishing mortality levels, and plans for "new reference points", it is important to discuss the basis for the reference points and whether they are robust.

CAB's response: The technical basis for the existing reference points is briefly summarized in Table 6. Bloss will not change and in this context the reference points are robust, whether the benchmark will come up with a radical different approach the assessment team does not have insight to know but they will analysis carefully during the surveillance audit if they are already available.

9.4.5. **Harvest Control Rules:** you say that the EU, Faroe Islands, and Norway have agreed a long-term management strategy for NEA mackerel, which ICES has not yet evaluated and not all parties involved in the mackerel fishery have taken part in the agreement. This suggests that there is no HCR in place. If, however, the plan is being used by the 'old' coastal states (EU, Faroe Islands and Norway), and Iceland's HCR is to set its quota at 16.3% of the total TAC they agree (is that within the agreed TAC, or an additional 16.3 %?), then it is important to describe the elements of the underlying HCR. To avoid confusion, the current management plan should be presented in this report.

CAB's response: The HCRs are in place and long-term objectives and strategies to manage the fishery are in place and all the parties agree with them. The disagreement is not due to the HCR or management plan is due to the allocation system of the old CS. Iceland considers that 16.3% is its fair share of the mackerel stock and have announced that its policy is to set the Icelandic TAC at this level (16.3% of the TAC agreed by the 'old' coastal states). This will lead to an overshoot of the advised TAC as also Russian has a share in the 15.6% set aside in the 'old' coastal state agreement.

9.4.5. Management advice: it would be useful here to present a table showing the recent history of ICES' annual catch advice, the total declared quotas and the actual international catch, as estimated by ICES. This will show how well the fishery is being managed, and explain why F has remained above F_{MSY} , i.e. outside biological limits. It appears that the advice provided by ICES, until a management plan is agreed by all Parties, is being ignored.

CAB's response: The figures regarding ICES advice are already presented in the report form figure 7 to 11 and in the table 11. However, table inserted as required. The HCR is not being ignored as each party claims that this is the basis for their TAC. The issue is what is a fair share of the total advice TAC.

6.1.5 Status of Primary Species: Note, it is important to correctly identify the specific stock area (defined by ICES) for the species retained by the ISF Mackerel fishery. For example, cod, haddock and saithe stocks are not Northeast Atlantic (which mackerel is), but probably Division 5a cod (it is not made clear anywhere). This should be made clear in the captions to the stock summary charts for each species.

CAB's response: Stock areas updated to show- ICES Division 5.a

Blue whiting, note repetition of second paragraph.

CAB's response: Repetition removed from the text

Redfish: please be consistent with Golden redfish = *S. norvegicus* or *S. marinus*. Though the UoAs fisheries operate within the Icelandic slope, they do fish on the stocks of redfish (certainly for *S. norvegicus*) in ICES subareas 5, 12, and 14. This is the ICES assessment unit.

CAB's response: Statement updated to read- Golden redfish (*Sebastes norvegicus* also named *S. marinus*). It is noted and included in the report that fishery is likely to operate in ICES assessment areas 5, 12, and 14 (where stock is at healthy status⁶⁸), however the fishery is dominantly operated within the Icelandic slope.

Common dab: the catch and biomass indices shown in Fig. 26 suggest that the stock is currently very low, and it is doubtful to claim that it is highly likely that the stock is above any PRI.

CAB's response: Statement updated with to reflex – Total annual percent of catch is low (0.01%) and rephrased to say not hindering recovery of stock

Plaice: Figure 30 a shows F trends in relation to F_{MSY} , but you say that the wider EU fishing community has requested recommendations from ICES with regards to F_{MSY} and $MSY_{PROXIES}$. Does this mean that the estimate of F_{MSY} is doubtful?

CAB's response: The Assessment team believes that the estimates are accurate based on the information available, and not doubtful, however the fishing community is asking ICES to updated monitoring, perhaps consistent with other commonly harvest flatfish of similar areas. The statement is removed from the report to maintain focus on the fact that $F < F_{MSY}$

6.4 Habitats: Page 70 - Figure 35 does not show the distribution of the grounds where the Icelandic mackerel fishery takes place. This is better displayed in Fig. 3. Part of the fishery appears to take place outside the Icelandic 200 nm EEZ. This section should focus on habitat impacts, or the lack of them, and any discussion of gear selectivity for fish species belongs in the previous section. It would be useful to make clear (if it is the case) that the demersal trawl fishery is not directed at mackerel, which is essentially a by-catch, and therefore the gear is not designed in relation to catching mackerel. It should be mentioned here that the trawl fishery is MSC certified for other P1 target species (ISF Iceland golden redfish, cod, saithe & ling).

CAB's response: The section is focus on the encountered habitats by gears type and is harmonised with other fisheries certified as the conditions in the habitat. The relation between bottom trawl and Mackerel as target species is done in the background section of gear types used in the fishery. A table showing with the fisheries that ISF Mackerel has been harmonised is shown in the section 8.

6.6 Ecosystem effects: You state that mackerel is not defined as a prey for a wide range of fish, mammals and birds, therefore, the indirect impacts is not relevant. Also that there is food competition between mackerel and herring (copepod are the most important prey for both species), and that mackerel does not have a key role in Icelandic ecosystem. Whilst the latter might be true, compared to sandeel, herring and capelin, mackerel is certainly an important prey species for sea birds (e.g. gannets, see comments at PI 2.3.1) and cetaceans, and its increasing abundance must impact on other pelagic species.

CAB's response: The last ecosystem overview from ICES has shown how Mackerel is not considered a key element in the trophic level as other species as capelin and sandeel in the

⁶⁸ <http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/reg.27.561214.pdf>

Icelandic waters. However that issue has been updated in the report following PR1 comments as well.

P3. Management: There has to be a discussion here on the failure of management to restrict the total international catches of NEA mackerel to what ICES advises using the MSY approach (which MSC follows), and the reasons that MSC mackerel certificates were suspended in 2012 and whether the situation has been rectified. Note that PI 3.1.1. scores 65 and there is a harmonized condition. Under Long-term objectives you mention a management plan for mackerel, which is devised by ICES and agreed by the Coastal States, but do not provide any details. Is it in place, and does it contain an HCR that addresses the MSC requirements? Presumably not, as PI 1.2.2 scores 65.

CAB's response: The NEA mackerel fisheries scores below 80 on several PIs because of lack of agreement on the sharing of the TAC given in the management advice, which has led to quotas and catches in excess of this TAC. The coastal states have during several years discussed sharing of the TACs but there are no clear signs that they are moving closer to an agreement. The same is true for the Atlanto-Scandic herring and blue whiting. The MSC has decided to use its leverage to press for an agreement between the coastal states that respects the ICES advice on TACs by granting the certification with conditions that the clients meet certain action plans to press for an agreement. The assessment of the mackerel fishery in Iceland should be harmonized with these decisions, which was taken in 2016 for several important mackerel fisheries.

It is important to stress that the coastal states cooperate on research of the mackerel stock and in the process of providing the management advice, which meets the requirements of MSCs Principle 1 and 2. It is, of course, very important to note that while agreeing on the TACs that should be caught each year the coastal states do not agree on how to share the TACs. The Icelandic government proposed this year that all coastal states should reduce their shares proportionally so that the total catch would not exceed the advice. This proposal, if accepted, would meet the requirements of the MSC, but as it proved unacceptable to the other coastal states the disagreement on the sharing of the advice TACs remains unsolved. It is also worth noting that even if the quotas decided by the coastal states exceed the advice this is not open access fishing and the quotas have been changed in accordance with changes in the status of the stock. Presently the mackerel stock seems to be in good conditions in spite of the fishing in excess of the advice for several years.

Appendix 1 Scoring and Rationales: please delete the 12.1, 12.1.1 etc prefixes, so that readers can quickly identify the PI's being scored (e.g. PI 1.1.1 – Stock Status).

CAB's response: SAIG global follow the same template for all the fisheries and the numbering here makes easier to get the sections from the contents table and the understanding of the rationales.

16 Appendix 4. Stakeholder submissions

No submission during the certification process was received by the Assessment Team.

17 Appendix 5. Surveillance Frequency

The fishery has a surveillance plan that it was determined by the CAB following the FCR 7.23.4.

Table 24 and Table 25 show the level of surveillance settled by the CAB and the timing planned for the next surveillance.

Table 24. Timing of surveillance audit

Surveillance Level	Year 1	Year 2	Year 3	Year 4
Level 4	Off-site surveillance audit	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit & re-certification site visit

The level of surveillance has been settled as **level 4** by the Assessment Team due to the fishery comply with the FCR 7.24. Two conditions are established for all the UoAs. Two additional conditions in the UoA- Bottom Trawl have been established. The ability to verify information remotely is possible. Icelandic fisheries have a transparent a clear system of management. The most of the data are available in different websites and the data can be obtained on request.

Table 25. Surveillance level rationale

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
1	October 2018	Middle October 2018	After the fishing season and when the ICES advice for 2019 will be published. The surveillance can be push back until ICES will post the new Advice.

18 Appendix 6. Objections Process

No objection has been received for this certification during the objection period.

19 Appendix 7. Additional information: List of vessels included in the assessment and shareholders in ISF

Updated December 2016

Year: 2016

N. Vessel.	Name	Portr	Catch
259	Jökull ÞH 259	Skip án vinnslu	98695
363	Maron GK 522	Án makrílleyfis	20
1277	Ljósafell SU 70	Án makrílleyfis	1276
1396	Jón Skólastjóri GK 60	Lína og handfæri	86345
1396	Jón Skólastjóri GK 60	Viðbótarkvóti	10417
1424	Steini Sigvalda GK 526	Skip án vinnslu	166
1511	Ragnar Alfreðs GK 183	Viðbótarkvóti	86
1516	Fjóla GK 121	Lína og handfæri	385912
1516	Fjóla GK 121	Viðbótarkvóti	38555
1560	Linda RE 44	Lína og handfæri	21356
1560	Linda RE 44	Viðbótarkvóti	1924
1579	Gnúpur GK 11	Vinnsluskip	1006719
1637	Stakkavík GK 85	Lína og handfæri	104330
1637	Stakkavík GK 85	Viðbótarkvóti	52204
1645	Jón á Hofi ÁR 42	Skip án vinnslu	202
1666	Svala Dís KE 29	Lína og handfæri	113563
1666	Svala Dís KE 29	Viðbótarkvóti	20000
1742	Kap VE 4	Aflareynsluskip	6147693
1829	Máni ÁR 70	Lína og handfæri	136024
1829	Máni ÁR 70	Viðbótarkvóti	20365
1844	Víxill II SH 158	Lína og handfæri	95323
1844	Víxill II SH 158	Viðbótarkvóti	5867
1852	Agnar BA 125	Lína og handfæri	57465
1852	Agnar BA 125	Viðbótarkvóti	35546
1873	Hreggi AK 85	Lína og handfæri	61891
1887	Máni II ÁR 7	Lína og handfæri	247024
1887	Máni II ÁR 7	Viðbótarkvóti	63894
1914	Gosi KE 102	Lína og handfæri	132676
1914	Gosi KE 102	Viðbótarkvóti	29998
1926	Vísir SH 77	Lína og handfæri	20511
1926	Vísir SH 77	Viðbótarkvóti	39490
1972	Hrafn Sveinbjarnarson GK 255	Vinnsluskip	1411856
1977	Júlíus Geirmundsson ÍS 270	Vinnsluskip	1190512
1986	Ísak AK 67	Lína og handfæri	410953
1986	Ísak AK 67	Viðbótarkvóti	74429
2106	Addi afi GK 97	Lína og handfæri	264505
2106	Addi afi GK 97	Viðbótarkvóti	72679

2178	Sæborg NS 40	Viðbótarkvóti	254
2243	Brynja II SH 237	Lína og handfæri	335764
2243	Brynja II SH 237	Viðbótarkvóti	69939
2256	Guðrún Petrína GK 107	Lína og handfæri	240701
2256	Guðrún Petrína GK 107	Viðbótarkvóti	42914
2388	Ísleifur VE 63	Aflareynsluskip	6624550
2405	Andey GK 66	Lína og handfæri	294686
2405	Andey GK 66	Viðbótarkvóti	45000
2407	Hákon EA 148	Aflareynsluskip	5932832

— **List of shareholders in the client group**

Number	Shareholder Name
1	Icelandic Group hf.
2	Iceland Seafood ehf.
3	Sæmark ehf.
4	Danica Seafood hf.
5	Vinnslustöðin hf
6	Toppfiskur ehf.
7	Nastar ehf.
8	Bacco Seaproducts ehf
9	Royal Iceland
10	Erik the Red Seafood ehf
11	Marz Sjavarafurdir ehf.
12	Akraborg ehf.
13	Fiskidjan Bylgja hf.
14	Frostfiskur ehf.
15	Leo Fresh fish ehf
16	Icemark ehf.
17	Icelandic Nýfiskur ehf
18	Samherji hf.
19	Vísir hf.
20	Spes ehf
21	Rekstarfélagið Eskja ehf
22	Vignir G. Jónsson Hf
23	Rammi hf
24	Ferskfiskur ehf
25	Icemar ehf
26	Fisk- Seafood ehf
27	Fiskkaup hf
28	Ice-co foods ehf
29	HB Grandi hf
30	AB Fish ehf
31	Iceland Pelagic ehf
32	Sverrir Björnsson ehf
33	Brim hf
34	Merlo Seafood ehf
35	Bergur-Huginn ehf
36	Northern Seafood ehf
37	Iceland Westfjord Seafood ehf
38	Sölufélag grásleppuútgerða ehf

39	Háteigur ehf
40	Iraco ehf
41	Skinney-Pinganes hf
42	Whitelink Seafood ehf
43	Selhöfði ehf
44	Ice Frozen Seafood ehf
45	Idunn Seafoods ehf
46	Lýsi hf
47	Íslenska- sales agency ehf
48	Viking Fresh ehf
49	Sildarvinnslan hf
50	Kennitala ehf
51	Elite Seafood Iceland ehf
52	Seafood Services ehf
53	Sildarvinnslan hf
54	Isfoss ehf
55	Atlantic Seafood ehf

20 MSC Technical Oversight

Date: 31/08/2017

SUBJECT: MSC Technical Oversight for ISF Iceland mackerel - Public Comment Draft Report

Dear Virginia Polonio (SAI Global (SAI))

Please find below the results of our Technical Oversight review. This was completed by both the Fisheries Standards Team and Supply Chain Standards Team.

Ref	Type	Page	Requirement	Reference	Details	PI
27235	Major	136	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the team's conclusion.	PI 1.2.2 (c): At SG60, some evidence is required to support that the tools used or available are appropriate and effective in controlling exploitation. It is not clear in the rationale what evidence is being presented as such and whether the tools are appropriate or effective at SG60.	1.2.2
27236	Minor	130	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the team's conclusion.	PI 1.2.1 (a): Given the disagreement between the 'old' states and Iceland, it is not clear how the harvest strategy is responsive to the state of the stock and how the elements of the harvest strategy work together to meet SG80.	1.2.1
27242	Guidance	131, 135, 139, 149			PI 1.2.1 (b): The numbering throughout the rationale is off by one and there is an empty numbered bullet point. PI 1.2.2 (b): In the rationale is states that SG100 is not met. However, SG100 is indicated as being met in the corresponding box. This was brought up by a peer reviewer as well and the provided response said this was fixed but it is not. PI 1.2.4 (b): The rationale states SG100 is met but there is no scoring guidepost at the 100 level for this scoring issue. PI2.1.1b: Rationale states at SG100 is met for all minor species, but Common dab only meets SG80. Scoring is correct at PI level.	1.2.1, 1.2.2, 1.2.4, 2.1.1

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CERTIFIED SUSTAINABLE SEAFOOD

27243	Guidance	112	FCR-7.6.2 v.2.0	If the eligibility date is set before the certification date, the CAB shall inform the fishery that any fish harvested after the eligibility date and sold or stored as under-assessment fish shall be handled in conformity with relevant under-assessment product requirements in the MSC Chain of Custody Standard.	With the selection of the publication of the PCDR as the target eligibility date, this means that the fishery will have eligible under-assessment product. Please ensure the fishery client is informed of the under-assessment product requirements, as per the Default CoC Standard v4.0, section 5.6.	
27244	Guidance	115, 116, 341, 342, 343	FCR_7.12.2.1 v.2.0	The CAB shall determine and document the scope of the fishery certificate, including the parties and categories of parties eligible to use the certificate and the point(s) at which chain of custody is needed	Section 9.4 could be written more clearly to make the following three statements, which MSC have interpreted: 1) The fishery certificate covers all vessels, so none of the 138 vessels listed in Appendix 7 require CoC. In addition, all auctions and points of landing that do not take ownership of certified mackerel are also included in the fishery certificate. 2) CoC is required from first change in ownership (likely to be a sale outside the client group) or processing (likely to be when fish enters a CoC certified processor in the client group). 3) A certificate sharing agreement is in place among the 49 members of the client group, listed in Appendix 7. Only certified mackerel that is sold through one of these CoC certified companies can be sold as MSC or with the MSC ecolabel.	
27245	Minor	115	FCR_7.12.2.1.a v.2.0	Chain of custody certification shall always be required following a change of ownership of the product to any party not covered by the fishery certificate	It is not clear whether the cold store facilities mentioned on page 115 are covered by the fishery certificate or the CoC of the relevant client group member.	

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CERTIFIED SUSTAINABLE SEAFOOD						
27246	Guidance	115, 116	FCR_7.12.2 v.2.0	If the CAB makes a positive determination under 7.12.1, fish and fish products from the UoA may enter into certified chains of custody and be eligible to be sold as MSC-certified or carry the MSC ecolabel.	Buyers/subcontractors in between the vessel and client group member will need to be informed about what they can and cannot do with regards to selling/labelling mackerel as MSC/certified/with ecolabel. For the purposes of meeting CoC principle 2 (identification), these buyers/subcontractors will need to be able to identify the certified mackerel as certified. For example, they might wish to use the acronym "MSC". But it must be made clear they cannot use the MSC ecolabel, and can only sell the product as certified to members of the client group.	
27248	Guidance	112	FCR-7.6.1 v.2.0	7.6.1 The CAB shall nominate a date from which product from a certified fishery is eligible to be sold as MSC certified or bear the MSC ecolabel (the eligibility date). This shall be either: 7.6.1.1 The date of the certification of the fishery; or 7.6.1.2 The publication date of the first Public Comment Draft Report.	The Target Eligibility Date is set as the date of publication of the PCDR. Please provide the rationale for selecting this date, and whether the traceability and segregation systems will be implemented by this date.	
27249	Major	228	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the team's conclusion.	PI2.4.1 (a) and (b)(UoA 4 bottom otter trawl): Scoring issues are scored at SG80, but it is not clear in the rationale how the UoA specific impact on commonly encountered habitat types (scoring issue a) and VMEs (scoring issue b) were analysed to support this determination. See SA3.13.4 and associated guidance. It is also not clear which commonly encountered habitats and VMEs are scored in this PI.	2.4.1

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CERTIFIED SUSTAINABLE SEAFOOD						
27250	Minor	226-224	FCR-7.10.7 v.2.0	7.10.7 In Principle 1 or 2, the team shall score PIs comprised of differing scoring elements (species or habitats) that comprise part of a component affected by the UoA.	PI 2.4.1-2.4.3 (all gears): It is not always clear in rationale what habitat scoring elements are included in the UoAs. See SA3.13.3 and associated guidance.	2.4.1, 2.4.2, 2.4.3
27251	Major	231-236	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the team's conclusion.	PI2.1.2 (e), PI2.2.2 (e) and PI2.4.2 (a) (all gears): consideration of alternative measures (species) and measures (habitats at SG60) do not consider ghost fishing. See Box GS7).	2.1.2, 2.2.2, 2.4.2
27252	Major	235	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the team's conclusion.	PI2.4.1 (d) (UoA 4 bottom otter trawl): It is not clear in rationale what quantitative evidence is available to score SG80 for VMEs soft corals and sponges. It is also not clear which non-MSC fisheries are considered in the rationale for this scoring issue.	2.4.1
27253	Major	141	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the team's conclusion.	PI2.1.1 (a), PI2.2.1 (a), 2.3.1 (a) and 2.4.2 (a) and (b) (all gears): It is not clear how the assessment team has determined the need to assess cumulative impacts (if necessary) in P2. See GSA3.4.6, GSA3.10, Table GSA3 GSA3.14.2.2. For example, the rationale for UoA 4 (bottom otter trawl) for PI2.4.2 (a) and (d) does not clearly identify MSC and non MSC UoAs assessed.	2.1.1, 2.2.1, 2.3.1, 2.4.2
27254	Major	142, 145, 152,	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the team's conclusion.	PI2.1.1 (b) (all gears): Rationale does not consistently state if a minor species is above PRI. For example, for Atlantic wolffish no reference is made to PRI, but only that "fishing mortality has declined since 2009 and is now below Fmsy". See GSA3.4.6 and associated guidance.	2.1.1
27255	Major	148, 185	FCR-SA3.1.1 v.2.0	The team shall determine and document under which component P2 species will be assessed prior to scoring the Unit of Assessment (UoA)	PI2.1.1 and PI2.2.1 (UoA 2 Purse seine): Minor primary and secondary species are repeated in the rationale for both PIs for UoA 2. e.g. Pilot whales should only be a secondary species - SA3.1.4.2.	2.1.1, 2.2.1

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27256	Major	174-176, 208-210	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the team's conclusion.	PI2.1.3 and PI2.2.3 (UoA 2 Purse seine): It is not clear how the assessment team have determined that the information gained from an investigative fishery is adequate to represent a commercial fishery not yet in operation at the SG80 level (unconditional pass for P2 information PIs). Additionally, no information is provided in the report to assess the quality of information from the investigative purse seine fishery for mackerel.	2.1.3, 2.2.3, 2.3.3, 2.4.3, 2.5.3
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This report is provided for action by the CAB and ASI in order to improve consistency with the MSC scheme requirements; MSC does not review all work products submitted by Conformity Assessment Bodies and this review should not be considered a checking service. If any clarification is required, please contact the relevant FAM or SCS manager for more information.

If you have any questions regarding this response, please do not hesitate to contact the Fisheries Assessment Manager for this fishery.

Marine Stewardship Council
cc: Accreditation Services International

20.1 MSC TO- CAB responses

Page	Version	Oversight Description	Pi	CAB Comment
136	FCR-7.10.6.1 v2.0	PI 1.2.2 I: At SG60, some evidence is required to support that the tools used or available are appropriate and effective in controlling exploitation. It is not clear in the rationale what evidence is being presented as such and whether the tools are appropriate or effective at SG60.	1.2.2	<p>There is a strong commitment across the disagreements on the quota allocation that the stock should be maintained at a high level (on site visit interview with Icelandic ministry). Effective measures are expected to be taken should the stock fall below PRI. Such a situation is not likely in the time period expected to reach an agreement on the quota allocation given current stock status.</p> <p>The management tools are available in the national legislations and in the coastal state agreement. This package includes scientific assessment and advice, for a consideration of the advice both national and international, TAC, technical measures, MCS systems. This package is known from past history of this fishery as well for other fisheries in the North Atlantic to be appropriate and effective in achieving PI 1.1.1 SG80, e.g. the Barents Sea fisheries and fisheries around Iceland. The tools are implemented effectively nationally and the fisheries are under control. The coastal state negotiations are progressing even if slower than desired.</p>
130	FCR-7.10.6.1 v2.0	PI 1.2.1 (a): Given the disagreement between the 'old' states and Iceland, it is not clear how the harvest strategy is responsive to the state of the stock and how the elements of the harvest strategy work together to meet SG80.	1.2.1	<p>The coastal states agree that overall they will follow the ICES advice. This advice is based on an assessment that reflects the stock development. Hence the strategy is responsive to stock development.</p> <p>There is substantial effort from many sides to reach an agreement that includes a quota allocation scheme hence the strategy is expected to achieve PI 1.1.1 SG80; i.e. SG60 is met. The elements in the strategy, fish stock assessment, advice, international consultations national implementations of the agreements and effective MCS work together to deliver PI 1.1.1 SG80.</p>

				The current situation including the ongoing Brexit negotiations are likely to prolong the time before a mackerel agreement is reached. However, the time lapse to reach an international agreement is not detrimental to the stock as production currently is high.
131, 135, 139,149		<p>PI 1.2.1 (b): The numbering throughout the rationale is off by one and there is an empty numbered bullet point.</p> <p>PI 1.2.2 (b): In the rationale are states that SG100 is not met. However, SG100 is indicated as being met in the corresponding box. This was brought up by a peer reviewer as well and the provided response said this was fixed but it is not.</p> <p>PI 1.2.4 (b): The rationale states SG100 is met but there is no scoring guidepost at the 100 level for this scoring issue.</p> <p>PI2.1.1b: A Rationale state at SG100 is met for all minor species, but Common dab only meets SG80. Scoring is correct at PI level.</p>	1.2.1, 1.2.2, 1.2.4, 2.1.1	The mistakes have been reviewed and fixed in all the Pis. Thank you for the comment.
112	FCR-7.6.2 v2.0	With the selection of the publication of the PCDR as the target eligibility date, this means that the fishery will have eligible under-assessment product. Please ensure the fishery client is informed of the under-assessment product requirements, as per the Default CoC Standard v4.0, section 5.6.		<p>The lead assessor has informed the client about the under-assessment requirements and the client is aware and all the shareholders are informed.</p> <p>However, a statement in the section has been included to clarify which process must to be followed in that case.</p>

115, 116, 341, 342, 343	FCR_7.12.2.1 v2.0	<p>Section 9.4 could be written more clearly to make the following three statements, which MSC have interpreted:</p> <p>1) The fishery certificate covers all vessels, so none of the 138 vessels listed in Appendix 7 require CoC. In addition, all auctions and points of landing that do not take ownership of certified mackerel are also included in the fishery certificate.</p> <p>2) CoC is required from first change in ownership (likely to be a sale outside the client group) or processing (likely to be when fish enters a CoC certified processor in the client group).</p> <p>3) A certificate sharing agreement is in place among the 49 members of the client group, listed in Appendix 7. Only certified mackerel that is sold through one of these CoC certified companies can be sold as MSC or with the MSC ecolabel.</p>		The section has been reviewed a new wording has been included to clarify the main aspect of the traceability system and the CoC.
115	FCR_7.12.2.1.a v2.0	It is not clear whether the cold store facilities mentioned on page 115 are covered by the fishery certificate or the CoC of the relevant client group member.		The cold stores are part of the companies in the certificate; therefore the shareholders can sell the fish in the first sale or keep in their cold store. For that reason the cold store are part of the fishery is the shareholder decide to store the catch and further are part of the CoC scheme because all the member of ISF client group are included in the fishery and in the CoC scheme. The assessment team has included a sentence in the paragraph to make clear the comment.

115, 116	FCR_7.12.2 v2.0	<p>Buyers/subcontractors in between the vessel and client group member will need to be informed about what they can and cannot do with regards to selling/labelling mackerel as MSC/certified/with ecolabel.</p> <p>For the purposes of meeting CoC principle 2 (identification), these buyers/subcontractors will need to be able to identify the certified mackerel as certified. For example, they might wish to use the acronym "MSC". But it must be made clear they cannot use the MSC ecolabel, and can only sell the product as certified to members of the client group.</p>		<p>The Assessment team has always informed the client about the process to carry on the ecolabel, the client group and ISF shareholders have a large understanding on how work MSC CoC and MSC fisheries certification and that have a compressive scheme to make clear the traceability of all their products. The assessment team believes that the comments made here are very clear for the client and there is no risks of no comply with the tractability of the fishery and its products.</p>
112	FCR-7.6.1 v2.0	<p>The Target Eligibility Date is set as the date of publication of the PCDR. Please provide the rationale for selecting this date, and whether the traceability and segregation systems will be implemented by this date.</p>		<p>The assessment team has chosen the date of the publication of the PCDR according the FCR v2.0 requirements and as agreed with the client after evaluating the fishery in the line with the certification requirement and with the other fisheries certified during the harmonisation process.</p> <p>There is no risk of loss in the traceability, segregation and identification systems. The logbooks contain the date of catch, the fishery and trade system can differentiate product from that sold prior to the August 1st, 2017 and that sold from that date onwards. The client has informed all the shareholders and they are aware of the requirements and the product under-assessment.</p>
228	FCR-7.10.6.1 v2.0	<p>PI 2.4.1 (a) and (b)(UoA 4 bottom otter trawl): Scoring issues are scored at SG80, but it is not clear in the rationale how the UoA specific impact on commonly encountered habitat types (scoring issue a) and VMEs (scoring issue b) were analysed to support this determination. See SA3.13.4 and associated guidance.</p> <p>It is also not clear which commonly encountered</p>	2.4.1	<p>The Assessment team has considers that the rationale has followed the guidepost, the habitats encountered by the UoA are defined in the rationale as follow:</p> <p><i>"Likely encountered habitats tend to be bottom surface varying from sandy mud to gravel and cobbled areas (Ragnarsson & Steingrímsson, 2003). Fishing operations that contact the seabed can have unwanted, and often severe, environmental effects. Some of the most commonly impacts are documented in the ICES</i></p>

		habitats and VMEs are scored in this PI.	<p><i>Ecosystems overview and other researches around Iceland (Burgos et al.2014), macroinvertebrates are commonly affected by fishing activities, mostly deep sea coral reefs and sponges gardens” Therefore, it was take into account Substratum, geomorphology and biota as the SA3.13. 2 clauses define.</i></p> <p>The possible VMEs that can be affected are defined as deep sea coral reef, soft corals gardens and sponge gardens, all of them are VMEs defined in the ICES ecosystem overview and in the NEAFC. So, it’s clear which ecosystem are assessed even the assessment team has mentioned the harmonisation with other fisheries and the condition set up is in relation two of these three VMEs evaluated in the fishery UoA.</p> <p>To justify SG 80 the assessment team has explained in the rationale that the fishing grounds to bottom trawl are well defined and well studied over the year and it’s shown that the productivity of these areas is stable over the years. <i>“However, in the areas where bottom trawl in Iceland takes place seems that there are areas with high resilience that can be more dynamic areas than others and in harmonization with other ISF Iceland demersal fisheries MSC certified (Cod, Saithe and Golden redfish), it is highly unlikely that this gear will reduce their structure and function to the point where there would be serious irreversible harm. These areas are well defined and they have been fished for many years and following the DoF cathe and MFRI studies they are still productive over the long-term.”</i></p> <p>So regarding SA3.13.4 the team has not considered that the impact of the fishery is serious or irreversible because the structure is not reduce and it shown in the studies carried out by ICES that the areas are productive over the years and they are well controlled and monitored.</p>
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226-224	FCR-7.10.7 v2.0	PI 2.4.1-2.4.3 (all gears): It is not always clear in rationale what habitat scoring elements are included in the UoAs. See SA3.13.3 and associated guidance.	2.4.1, 2.4.2, 2.4.3	<p>The assessment team believes that the habitats in contact with each gear types are defined, the rationale above can be a response for that comment, in UoA 4 bottom trawl all the encountered habitat are defined in terms of biota, substratum and geomorphology.</p> <p>In the pelagic gear types the assessment team has mentioned that the water column is the area affected, further in the background section there are some explanation of each possible habitat encountered (pg 69-71 herein). And for bottom trawl the same rationale has been used through the 3 PIs. (pg 71-74)</p> <p>Furthermore in the case of bottom trawl the rationale are harmonised with other fisheries and the same conditions have been raised.</p>
231-236	FCR-7.10.6.1 v2.0	PI 2.1.2 (e), PI2.2.2 (e) and PI2.4.2 (a) (all gears): consideration of alternative measures (species) and measures (habitats at SG60) do not consider ghost fishing. (See Box GS7).	2.1.2, 2.2.2, 2.4.2	<p>The Icelandic regulations and management system take into account the unwanted catches and how to reduce the mortality of unobserved species through the catches. The ghost fishing with the gear types in use is not frequent, purse seine is an experimental fishery for mackerel at this stage and the other three are not gear types easier to be lost. To loss a bottom trawl mesh or pelagic trawl mesh is something very expensive for the fishermen and they have measures to optimize the fishing operation methodology. Further there is a project in Iceland called blue army that has been funded to collect mesh, rubbish and abandoned gears on the beaches in Iceland, so if that could be a problem the Icelandic regulations will take part, there are no a high number of gears abandoned. Iceland as other countries fishing in ICES areas they must follow FAO recommendations in terms of prevent the ghost fishing, gear marking, better reporting of gear loss, minimize the impacts in the environment using recyclable material, gear recovering programme, disposal of old gear. For example, Icelandic Maritime Administration provides guidelines in relation to fishing vessels together with the record book on the reporting of fishing gears lost. Therefore the Assessment team believes that Icelandic</p>

				regulations are well defined and they take into account FAO guidelines for fishing activities. However a sentence has been included in the rationales to point out that comment.
235	FCR-7.10.6.1 v2.0	PI 2.4.1 (d) (UoA 4 bottom otter trawl): It is not clear in rationale what quantative evidence is available to score SG80 for VMEs soft corals and sponges. It is also not clear which non-MSC fisheries are considered in the rationale for this scoring issue.	2.4.1	The Fisheries with license in the Icelandic fishing grounds are MSC certified and there are no activities in these areas under non-MSC fisheries in EEZ. The fisheries non-MSC certified can be fisheries in NEAFC areas and high sea areas and they are controlled by NEAFC regulations. The quantitative evidence is given with the results that the productivity is the same over the years, and no less catch in the areas or less % of biomass have been detected by ICES ecosystem Overview (April 2017).
141	FCR-7.10.6.1 v2.0	PI 2.1.1 (a), PI2.2.1 (a), 2.3.1 (a) and 2.4.2 (a) and (b) (all gears): It is not clear how the assessment team has determined the need to assess cumulative impacts (if necessary) in P2. See GSA3.4.6, GSA3.10, Table GSA3 GSA3.14.2.2. For example, the rationale for UoA 4 (bottom otter trawl) for PI2.4.2 (a) and (d) does not clearly identify MSC and non-MSC UoAs assessed.	2.1.1, 2.2.1, 2.3.1, 2.4.2	The Fisheries that can overlap with ISF mackerel fishery are MSC certified and have been harmonised with the fishery, therefore all the cumulative impacts have been taken into account, furthermore in some cases as 2.4.2 the fishery has been scored with a precautionary approach due to all the quantitative effect for all the fisheries cannot be quantify. On the other hand, most of the vessels that can fish in areas closely to VMEs have move on rules when encountering VMEs in these areas, but these are informal and voluntary for that reason the team was precautionary regarding this score. Therefore, the assessment team considers that cumulative impacts have been considered in the rationales of the fishery.
142, 145, 152,	FCR-7.10.6.1 v2.0	PI 2.1.1 (b) (all gears): Rationale does not consistently state if a minor species is above PRI. For example, for Atlantic wolffish no reference is made to PRI, but only that "fishing mortality has declined since 2009 and is now below Fmsy". See GSA3.4.6 and associated guidance.	2.1.1	The assessment team has follow the requirement and when a species is not clear if the status is fluctuating around the PRI the second option set up in the guidepost have been used to evaluate the species and therefore, if the fishery does not hinder the recovery of the stock the assessment team has evaluated SG at 80. Most of the species retained in the fishery by all gear types have percentage of catches almost negligible and are less than 0.1 %, therefore can be confirmed that the stock status of these non-target species is not hindered by MISF Mackerel fishery.

148, 185	FCR-SA3.1.1 v2.0	PI 2.1.1 and PI2.2.1 (UoA 2 Purse seine): Minor primary and secondary species are repeated in the rationale for both PIs for UoA 2. E.g. Pilot whales should only be a secondary species - SA3.1.4.2.	2.1.1, 2.2.1	The Assessment team has evaluated the fishery as an experimental gear type for mackerel; therefore to avoid lack of information to score P2 the assessment team has used information from other purse seine fisheries in the area with the same operational methodology and condition. However, the assessment team has reviewed the rationale and pilot whales have been classified as secondary.
174-176, 208-210	FCR-7.10.6.1 v2.0	PI 2.1.3 and PI2.2.3 (UoA 2 Purse seine): It is not clear how the assessment team have determined that the information gained from an investigative fishery is adequate to represent a commercial fishery not yet in operation at the SG80 level (unconditional pass for P2 information PIs). Additionally, no information is provided in the report to assess the quality of information from the investigative purse seine fishery for mackerel.	2.1.3, 2.2.3, 2.3.3, 2.4.3, 2.5.3	<p>Following the requirement there is no clause specifying that an experimental gear type cannot be assessed. The assessment team has used the information from similar fisheries in the same areas with the same gear type and the results have been extrapolated to ISF Mackerel fishery.</p> <p>At the same time the Assessment team is aware of the lack of information directly from the fishery and a recommendation has been raised to encourage the client to get more data from the vessels included in the certificate by next surveillance audit.</p>