

FISHERY ASSESSMENT REPORT

IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL



FISHERY:	Capelin (<i>Mallotus villosus</i>)- ICELAND
LOCATION:	Iceland-E. Greenland-Jan Mayen (ICES Subareas V and XIV and Division IIa west of 5°W)
DATE OF REPORT:	16th October 2014
ASSESSOR:	Sam Peacock

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1. APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME			
Name: Icelandic Association of Fishmeal Manufacturers			
Address:			
Country: Iceland		Zip:	
Tel. No.		Fax. No.	
Email address:		Applicant Code	
Key Contact:		Title:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification Ltd.	
Assessor Name	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-certification
Sam Peacock	Dave Garforth	2	Surveillance
Assessment Period	October 2014		
Scope Details			
1. Scope of Assessment		IFFO Global Standard for Responsible Supply – Issue 1	
2. Fishery		Capelin (<i>Mallotus villosus</i>)	
3. Fishery Location		Iceland-E. Greenland-Jan Mayen (ICES Subareas V and XIV and Division IIa west of 5°W)	
4. Fishery Method		Purse seine / pelagic trawl	
Outcome of Assessment			
5. Overall Fishery Compliance Rating		High/medium	
6. Sub Components of Low Compliance		None	
7. Information deficiency		None	
8. Peer Review Evaluation			
9. Recommendation		Maintain approval	

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2. QUALITY OF INFORMATION
Good
3. COMPLIANCE LEVEL ACHIEVED
High/medium
Recommendation
Maintain approval
4. GUIDANCE FOR ONSITE ASSESSMENT
Based on HIGH compliance findings
Based on MEDIUM compliance findings
Based on LOW compliance findings
5. ASSESSMENT DETERMINATION
There have been no significant changes in the management or scientific understanding of the Icelandic capelin fishery since the 2013 re-assessment. Quotas continue to be set in line with advice, and the management objective of maintaining SSB above 400,000t is still estimated to be achieved. The assessment team recommend maintaining the approval of this fishery against the IFFO RS standard.
HIGH Compliance
A1, A2, A3, B1, C1, D1, D2, D3, E1, E2
MEDIUM Compliance
B2
LOW Compliance

SUMMARY OF LEVEL OF COMPLIANCE					
	The Management Framework and Procedures	Stock assessment procedures and management advice	Precautionary approach	Management measures	Implementation
legal and administrative basis	A1				
Fisheries management should be concerned with the whole stock unit	A2				
Management actions should be scientifically based	A3				
Research in support of fisheries conservation and management should exist		B1			
Best scientific evidence available should be taken into account when designing conservation and management measures		B2			
The precautionary approach is applied in the formulation of management plans			C1		
The level of fishing permitted should be set according to management advice given by research organisations				D1	
Where excess fishing capacity exist, mechanisms should be in established to reduced capacity				D2	
Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment				D3	
A framework for sanctions of violation of laws and regulations should be efficiently exists					E1
A management system for fisheries control and enforcement should be established					E2

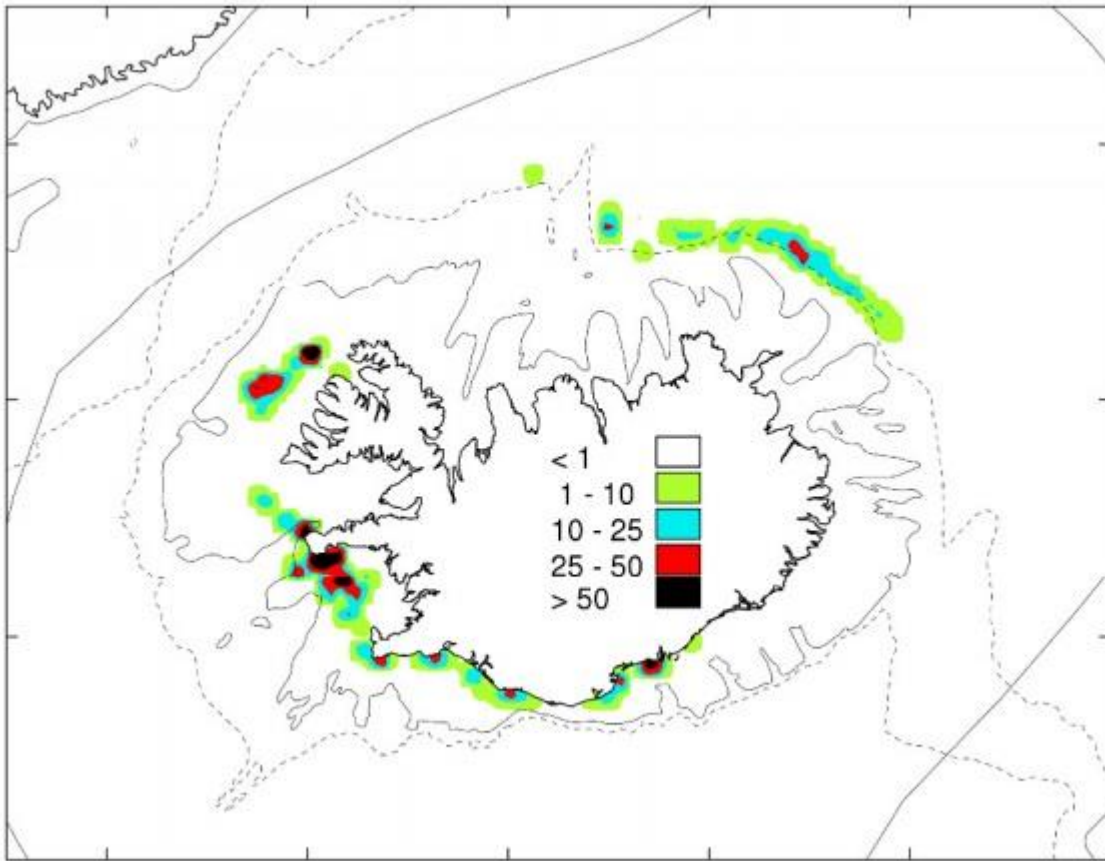
KEY: Low Compliance: Medium Compliance: High Compliance:

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6. RATIONALE OF THE ASSESSMENT OUTCOME	
A. THE MANAGEMENT FRAMEWORK AND PROCEDURE	
LEVEL OF COMPLIANCE	
<i>A1. The management of the fishery must include a legal and administrative basis for the implementation of measures and controls to support the conservation of the fishery.</i>	
LOW	An administrative framework that ensures an efficient management of the fishery for its conservation is not established.
MEDIUM	An administrative framework that ensures an efficient management of the fishery for its conservation is somehow established, but there is evidence of not being efficient to ensure the conservation of the stock.
HIGH	A legal and administrative framework that ensures an efficient management of the fishery for its conservation is established and works efficiently toward the conservation of the stock.
<p><i>Determination: There have been no substantial changes to the Icelandic fisheries management system, and so a high compliance rating remains appropriate.</i></p> <p>Modern Icelandic fisheries management is based on the Fisheries Management Act of 1990, and is the responsibility of the Ministry of Fisheries and Agriculture. The objectives of the Fisheries Management Act are to promote the conservation and efficient utilisation of the marine resources and thus to ensure stable employment and economic viability of fishing communities.</p> <p>The most recent version of the Fisheries Management Act was published in 2006 and includes:</p> <ul style="list-style-type: none"> • A commitment to the conservation and efficient utilisation of Icelandic fishery resources (Article 1). • A commitment to set an annual TAC for each species “for which it is deemed necessary to limit the catch” (Article 3). • A requirement for all commercial fishers to obtain a general fishing permit; vessels not fishing for an entire 12 month period will have their permit revoked (Article 4). • An outline of the ITQ quota system (described in more detail in section D2, below) (Article 8). • An outline of the methodology and responsibility for enforcement and monitoring of fishery regulations (Articles 17 & 18). • An outline of penalties for transgressions (Articles 24 – 27). <p>Iceland’s national fisheries science organisation is the Marine Research Institute (MRI). The MRI carries out wide ranging and extensive research on the status and productivity of the commercial stocks, and long-term research on the marine environment and the ecosystem around Iceland.</p> <p>For more detail on the legal and administrative framework for fisheries management in Iceland, please refer to the 2013 re-assessment (R1).</p>	
H	
R1	

LEVEL OF COMPLIANCE		
<i>A2. Fisheries management should be concerned with the whole stock unit over its entire area of distribution and take into account fishery removals and the biology of the species.</i>		
LOW	Fisheries management is not concerned with the whole stock unit over its entire area of distribution and do not take into account any of the matters listed in 'A1'.	
MEDIUM	Fisheries management is concerned with matters listed in 'A1' but not entirely. Fisheries, in relation to 'A1' statement, should improve to ensure the long term conservation of the marine resource.	
HIGH	Fisheries management should be concerned with the whole stock unit over its entire area of distribution and take into account: <ul style="list-style-type: none"> • All fishery removals • The biology of the species 	
<p><i>Determination: Neither the management unit nor the scientific understanding of the stock have changed since the 2013 re-assessment, meaning a high compliance rating remains appropriate.</i></p> <p>Capelin in the Iceland/East Greenland/Jan Mayen area is considered by ICES to be a separate stock, and ICES has a good understanding of its distribution and life history. The design of management measures takes extensive account of the biology of the species. For example, as a precautionary measure to protect juveniles, all fishing with pelagic trawl has been banned in the Icelandic waters where juveniles are generally found, either separately or mixed with the adults. Additional temporary localised closures are enacted when high proportions of juveniles are detected in the catch. The timing of the fishery is also designed around protecting juveniles and the spawning stock.</p> <p>Fishery-dependent data include detailed landings information and are used in the formulation of management actions and the production of scientific advice. Discards and bycatch are not included in stock assessments, but based on observer data both are considered by ICES to be negligible.</p>		H



Fishing grounds in the 2013/2014 fishing season. Dark areas indicate highest catch (tonnes/nmi²). From the MRI advice, 2013/14 (R2).

R1, R2

LEVEL OF COMPLIANCE

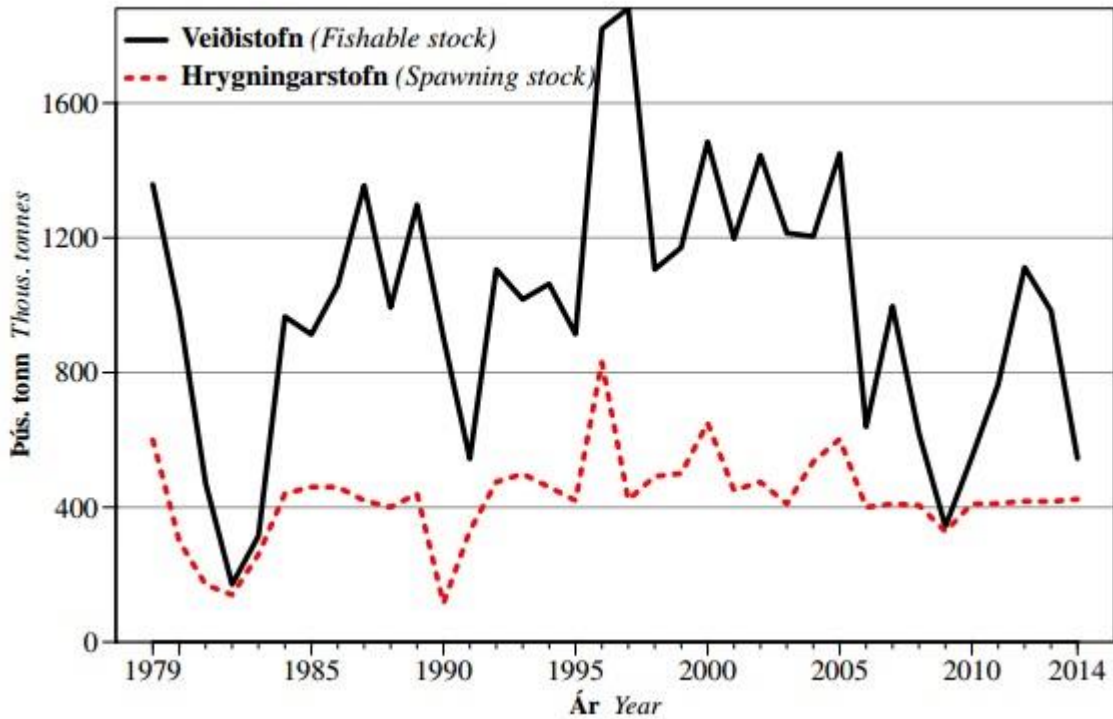
A3. Management actions should be based on long-term conservation objectives

LOW	Management actions are not based on long term management objectives.
MEDIUM	Management actions are based on long term management objectives. However the actions are not scientifically formulated.
HIGH	Management actions are based on long term management objectives, and actions are science based.

Determination: Capelin continues to be managed using an escapement strategy which aims to ensure SSB is above 400,000t at the end of every fishing season. The most recent and historical estimates of SSB indicate that the approach is generally successful. H

Since 1980 the TAC has been set in accordance with a 400,000t escapement strategy management plan. In June 1989 Greenland, Iceland and Norway signed an agreement on the division of the TAC between the countries. This agreement has been revised several times since then, most recently in 2003. ICES has not evaluated the management plan, but states that the escapement target of 400,000t can be “treated as preliminarily precautionary”. As most capelin die at age 3, ICES does not consider medium-term stock projections to be useful. Estimates of SSB have fluctuated around approximately 400,000t since the late 1990’s. Thus although the specifics have not been confirmed by ICES, an escapement-based approach appears to be appropriate for the short-lived capelin stock.

For more detail on the management approach, please refer to the 2013 re-assessment (R1).



Abundance of the fishable capelin stock on the 1 January in the 1978/79–2013/14 fishing seasons, and the remaining spawning stock biomass at the end of each season. From the 2013/14 MRI advice (R2).

R1, R2

B. STOCK ASSESSMENT PROCEDURES AND MANAGEMENT ADVICE

LEVEL OF COMPLIANCE

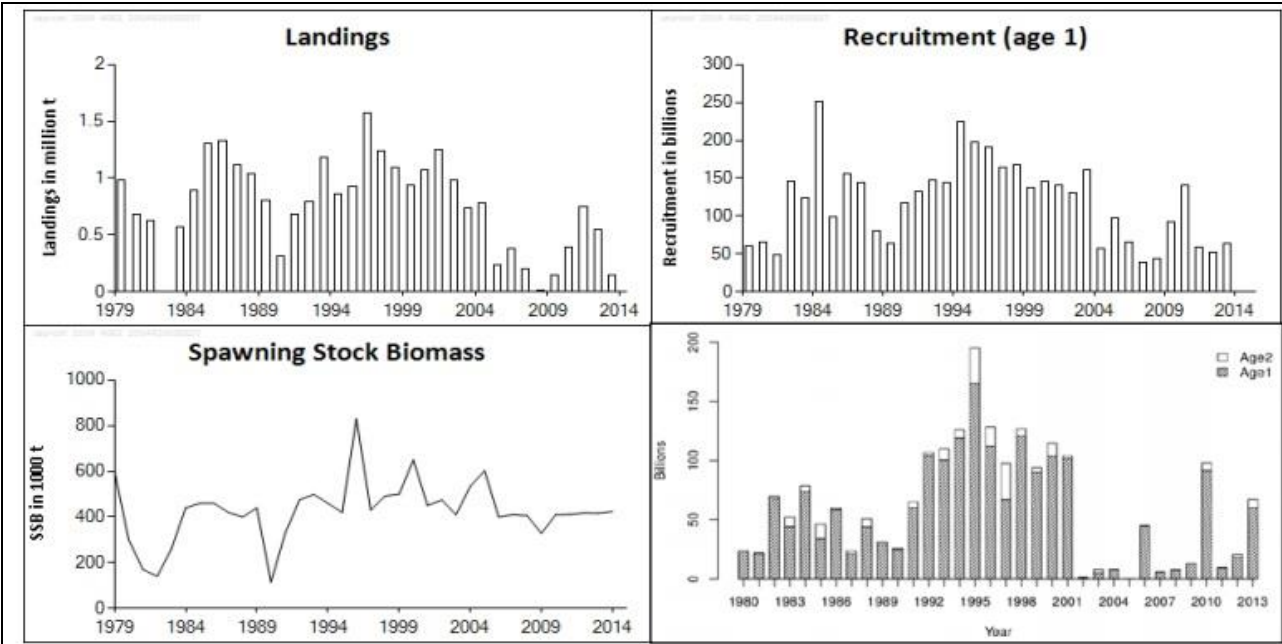
B1. Research in support of fisheries conservation and management should exist.

LOW	Research to support the conservation and management of the stock, non-target species and physical environment does not exist
MEDIUM	Research to support the conservation and the management of the stock, non-target species and physical environment exists, however research programmes could be significantly improved to decrease scientific advice uncertainty.
HIGH	Research to support the conservation and the management of the stock, non-target species and physical environment exist, and existent research is considered most adequate for the long term conservation of the target, non-target and physical environment

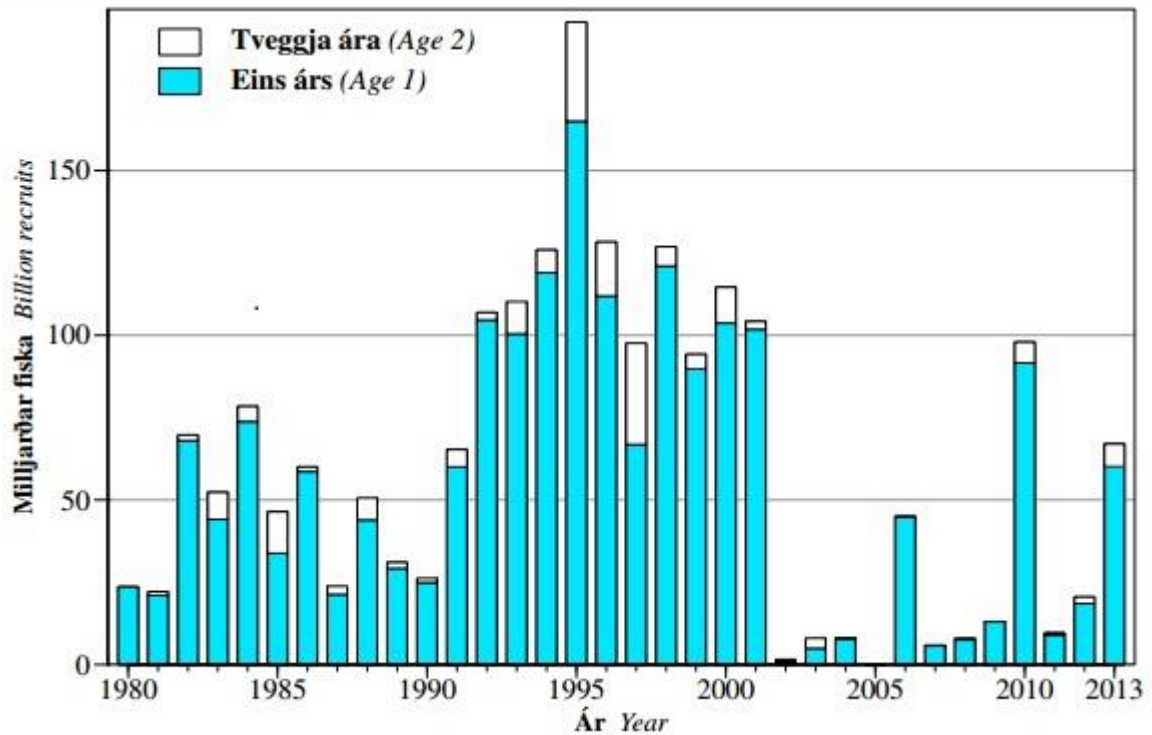
Determination: The fishery-dependent and fishery-independent data sources identified in the 2013 re-assessment continue to form the basis for ICES and MRI stock assessments.

ICES conducts an annual stock assessment and the MRI provides advice throughout the year based on the results of ongoing survey efforts. Data from a number of surveys (fishery-independent) and landings data (fishery-dependent) are available to ICES and the MRI, although the results of some non-stock-specific research efforts (such as estimates of bycatch and discarding) do not appear to be made available to ICES. The diagrams below show the most up-to-date estimates for various stock characteristics; for more detail on the source of these data please refer to the 2013 re-assessment (R1).

H



Capelin in Subareas V and XIV and Division IIa west of 5°W (Iceland–East Greenland–Jan Mayen area). Landings and assessment results (weights in thousand tonnes). Acoustic index of immature capelin at ages 1 and 2 (numbers in billions) from autumn surveys. From the ICES advice, May 2014 (R3).



Acoustically measured number of immature age 1 and 2 capelin in autumn 1980–2013. From the MRI advice, 2013/14 (R2).

R1 – R3

LEVEL OF COMPLIANCE		
<i>B2. Best scientific evidence available should be taken into account when designing conservation and management measures.</i>		
LOW	Scientific advice is not taken into account when designing conservation and management measures.	
MEDIUM	Scientific advice is taken into account, when designing conservation and management measures. However some areas of discrepancy are identified that could have a significant impact in the long term conservation of the marine environment.	
HIGH	Scientific advice is taken into account, when designing conservation and management measures, in a comprehensively manner.	
<p><i>Determination: There is no evidence available to the assessment team to suggest that the lack of transparency in the MRI advice generation process has changed, and so a medium compliance rating remains appropriate.</i></p> <p>Fishery management decisions are informed by the annual stock assessments conducted by ICES and the MRI, and by in-year advice which is provided by the MRI and updated to reflect survey results. In general, this advice has been followed, to the extent that the fishery was closed entirely in 2008/09, when biomass was estimated to be too low to ensure SSB would be above 400,000t if a fishery took place. In addition to following MRI quota recommendations, a number of technical measures have been implemented in the fishery in line with scientific advice, including minimum mesh sizes and closed areas. However, members of the ICES North-Western Working Group (NWWG) have expressed concern over the lack of transparency in the scientific process by which Icelandic (i.e. MRI) data are analysed and advice produced. Additionally, there is a discrepancy between the ICES-advised season start (October) and the actual time when fishing begins.</p> <p>R1</p>		M
C. THE PRECAUTIONARY APPROACH		
LEVEL OF COMPLIANCE		
<i>C1. The precautionary approach is applied in the formulation of management plans.</i>		
LOW	The precautionary approach is not applied in the formulation of management plans.	
MEDIUM	The precautionary approach is applied, however not all uncertainties are taken into account.	
HIGH	The precautionary approach is applied, taking into account uncertainties relating to the dynamic of fish population (recruitment, mortality, growth and fecundity), and the impact of the fishing activities, such as discards and by-catch of non-target species as well as on the physical environment (Habitats).	
<p><i>Determination: The fishery continues to be managed in line with the precautionary approach. There have been no major changes since the time of the previous assessment.</i></p> <p>ICES has not evaluated the management plan, but states that the escapement target of 400,000t can be “treated as preliminarily precautionary”. There are no other reference points defined for the stock. ICES has recently expressed concern that the natural mortality estimates used in the TAC calculations may be too low, leading to higher TACs than sustainable. In response, the MRI applies a rule which means the initial TAC is set at 0t in any year where it would otherwise be set below 500,000t. This represents a precautionary approach as it does not use the lack of an accurate mortality estimate as an excuse for inaction.</p> <p>R1</p>		H

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D. MANAGEMENT MEASURES

LEVEL OF COMPLIANCE

D1. The level of fishing permitted should be set according to management advice given by research organisations.

LOW	The level of fishing permitted is not set according to management advice given by research organisations.
MEDIUM	The level of fishing permitted is higher than management advice given by research organisations. However, the difference is not considered to have a significant impact of the sustainability of the stock
HIGH	The level of fishing permitted is set according to management advice given by research organisations.

Determination: The level of fishing continues to be set in line with MRI advice, and landings remain within scientifically-recommended levels.

In most years, and every year since 2009, the TAC is set in line with the MRI advice, and where it has exceeded the advice historically the difference has been minimal (see table below). Final total landings have consistently been at or below the official quota. The final TAC for the 2013/14 season was set at 160,000t. Final landings were 142,000t, of which Icelandic vessels landed 111,000t.

MRI quota recommendations ('Rec. TAC'), final TAC, and landings data for Capelin 1984 – 2014. From the MRI advice, 2013/14 (R2).

TAFLA 2.24.1. LODNA. Endanlegar tillögur um aflahámark, ákvörðun stjórnvalda um aflamark og afli (þús. tonn). CAPELIN. TAC recommended by the Marine Research Institute, national TAC, and landings (thous. tonnes).					
Vertíðir	Tillaga	Aflamark	Afli	Afli	Afli
Seasons	Rec. TAC	TAC	Íslendinga Landings (Iceland)	annarra Landings (others)	alls Total landings
1984/85	920	920	774	123	897
1985/86	1 280	1 280	987	325	1 312
1986/87	1 290	1 290	1 053	380	1 333
1987/88	1 115	1 115	912	204	1 116
1988/89	1 065	1 065	921	116	1 037
1989/90	900	900	666	142	808
1990/91	250	312	284	27	311
1991/92	740	740	635	47	682
1992/93	900	900	655	95	793
1993/94	1 250	1 250	1 001	178	1 179
1994/95	850	850	750	114	864
1995/96	1 150	1 150	883	46	929
1996/97	1 600	1 600	1 249	322	1 571
1997/98	1 265	1 265	940	260	1 245
1998/99	1 200	1 200	899	201	1 100
1999/00	1 000	1 000	844	90	934
2000/01	1 110	1 110	894	177	1 071
2001/02	1 300	1 300	1 051	198	1 249
2002/03	1 000	1 000	765	223	988
2003/04	875	875	575	167	742
2004/05	985	985	640	144	784
2005/06	215	238	193	45	238
2006/07	370	385	307	70	377
2007/08	207	207	149	54	203
2008/09	0	15	15	0	15
2009/10	150	150	111	40	151
2010/11	390	390	322	68	390
2011/12	765	765	585	162	747
2012/13	570	570	464	87	551
2013/14	160	160	111	31	142

R1, R2		
LEVEL OF COMPLIANCE		
<i>D2. Where excess fishing capacity exist, mechanisms should be in established to reduced capacity to allow for the recovery of the stock to sustainable levels.</i>		
LOW	Mechanisms to allow for recovery of the stock to sustainable levels are not established.	
MEDIUM	Mechanisms to allow for recovery of the stock to sustainable levels are somehow established. However there is no evidence of the efficiency of the methods used.	
HIGH	Mechanisms are established to reduce capacity to allow for the recovery of the stock to sustainable levels and there are evidences of recovery.	
<p><i>Determination: Annual quotas remain the primary mechanism for limiting fishing effort in Iceland. As there have been no major changes since the 2013 re-assessment, a high compliance rating remains appropriate.</i></p> <p>The main instrument in Icelandic fisheries and fleet management is a system based on Individual Tradable Quota (ITQs), which has been in place in its current form since 1990. During the past 15 years there has been no specific fleet management system in Iceland; fishing licenses are readily available for anyone with a seaworthy vessel, and no decommissioning schemes are in place. Under the ITQ system, each vessel is allocated a certain share of the TAC of the relevant species. Decommissioning occurs indirectly, as companies increase their share of the TAC by buying out vessels and thus receiving the quota attached to those vessels.</p>		H
R1		
LEVEL OF COMPLIANCE		
<i>D3. Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment.</i>		
LOW	There are no management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment.	
MEDIUM	There are management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment. However it is not science based.	
HIGH	There are management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment. Measures are based on scientific information.	
<p><i>Determination: The impacts of the fishery on non-target species and the physical environment remain minimal. There have been no significant changes since the 2013 re-assessment.</i></p> <p>With some minor exceptions it is required by Icelandic law to land all catches. Consequently, no minimum landing size is in force. To prevent the removal of juvenile and spawning fish Iceland implements various technical measures such as mesh size regulation, real-time, temporary and permanent area closures. Icelandic legislation (557/2007) states that all fishing vessels must keep a Fishery Log-book. Birds and Mammals that are caught in fishing gear are to be reported and recorded in the Fishery Log-book. ICES states that capelin plays a key role in the marine ecosystem in this area and is by far the most important pelagic fish stock in Icelandic waters. It is not clear to what extent the ecosystem impacts of capelin removals are factored into scientific advice or management decisions. Direct effects on habitat and seafloor are typically minimal for pelagic gears, although occasional contact is known to occur and, in these cases, can potentially cause damage to fragile ecosystems (e.g. corals).</p>		H
R1		

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E. IMPLEMENTATION	
LEVEL OF COMPLIANCE	
<i>E1. There should be a framework for sanctions of violation of Laws and regulations.</i>	
LOW	A framework for sanctions of violation of Laws and regulations do not efficiently exist.
MEDIUM	A framework for sanctions of violation of Laws and regulations do exist but do not work efficiently.
HIGH	A framework for sanctions of violation of Laws and regulations exists and is proven to be efficient.
<p><i>Determination: As at the time of the 2013 re-assessment, there is a robust framework in place for sanctioning violations of fishery laws and regulations in Iceland.</i></p> <p>Breaches of the law and regulations on fisheries management are subject to fines or revoking of the fishing permit, irrespective of whether such conduct is by intent or negligence. Major or repeated intentional offenses are subject to up to six years imprisonment. If the catch of a vessel exceeds the allowable catch of the said vessel of individual species, the relevant fishing company must obtain an additional catch quota for the relevant species.</p> <p>Penalties are outlined in Articles 24-27 of the Fisheries Management Act, including:</p> <ul style="list-style-type: none"> • Violations of the Act shall be prosecuted according to the Criminal Proceedings Act. • Violations against the Act shall be liable to fines, and cases of serious or repeated deliberate violation shall be liable to imprisonment for up to six years. • Fines may vary between ISK 400,000 (US\$3,200) and ISK 8,000,000 (US\$65,000), depending on the nature and scope, and whether it represents a repeat offence. 	
R1	H
LEVEL OF COMPLIANCE	
<i>E2. A management system for fisheries control and enforcement should be established.</i>	
LOW	A management system for fisheries control and enforcement is not established.
MEDIUM	A management system for fisheries control and enforcement is established but do not work efficiently.
HIGH	A management system for fisheries control and enforcement is established and work efficiently.
<p><i>Determination: Effective fisheries control and enforcement mechanisms remain in place in Icelandic fisheries.</i></p> <p>Day to day administration and enforcement of the Fisheries Act and related legislation is in the hands of the Directorate of Fisheries, a government body responsible to the Minister of Fisheries. The Directorate is also responsible for the continuous monitoring of compliance with the Act. The Icelandic Coast Guard, responsible to the Minister of Justice, monitors fishing activities in Icelandic waters, including surveillance of areas closed for fishing and inspection of mesh sizes and other gear related practices. Under a bilateral agreement between Iceland and the European Union (EU), Icelandic inspectors are required on board all EU fishing vessels in Icelandic waters.</p>	
R1	H

7. KEY STAKEHOLDERS

8. REFERENCES

R1 – IFFO RS Iceland Capelin re-assessment, August 2013: <http://www.iffo.net/files/iffoweb/approved-raw-materials/whole-fish/final-iceland-capelin-re-assessment-august-2013ds.pdf>

R2 – MRI capelin advice, 2013/14: R7 – MRI caplin advice, 2014: <http://www.hafro.is/Astand/2014/english/24-capelin-14.pdf>

R3 - ICES capelin advice, May 2014: <http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2014/2014/cap-icel.pdf>