



# FISHERY ASSESSMENT REPORT

## IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL



<b>FISHERY:</b>	<b>Capelin (<i>Mallotus villosus</i>)</b>
<b>LOCATION:</b>	<b>Iceland- E. Greenland - Jan Mayen (Subareas V and XIV and Division IIa west of 5°W)</b>
<b>DATE OF REPORT:</b>	<b>13/1/12</b>
<b>ASSESSOR:</b>	<b>Sam Peacock</b>

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Issue No; 2; Issue Date; Nov 09

Report Ref: Iceland Blue Whiting

CCM Code:

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1. Application Details and Summary of the Assessment Outcome			
<b>Name:</b> Icelandic Association of Fishmeal Manufacturers			
<b>Address:</b>			
<b>Country:</b> Iceland		<b>Zip:</b>	
<b>Tel. No.</b>		<b>Fax. No.</b>	
<b>Email address:</b> :		<b>Applicant Code</b>	
<b>Key Contact:</b> :		<b>Title:</b>	
<b>Certification Body Details</b>			
<b>Name of Certification Body:</b> Global Trust Certification Ltd			
<b>Assessor Name:</b> Sam Peacock	<b>Peer Reviewer:</b> Mike Platt	<b>Assessment Days:</b> 1	<b>Initial/Surveillance/Re-certification:</b> Surveillance
<b>Assessment Period</b>	12/1/12		
<b>Scope Details</b>			
<b>1. Scope of Assessment:</b>		IFFO RS standard	
<b>2. Fishery</b>		Capelin ( <i>Mallotus villosus</i> )	
<b>3. Fishery Location</b>		ICES Subareas V and XIV and Division IIa west of 5°W	
<b>4. Fishery Method</b>		Purse Seine, Pelagic Trawl	
<b>Outcome of Assessment</b>			
<b>5. Overall Fishery Compliance Rating</b>		High	
<b>6. Sub Components of Low Compliance</b>		None	
<b>7. Information deficiency</b>		None	
<b>8. Peer Review Evaluation</b>		Maintain approval status	
<b>9. Recommendation</b>		Maintain fishery approval	

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<b>2. Quality of Information</b>
Good; primarily from Icelandic government, MRI and ICES websites.
<b>3. Compliance Level Achieved</b>
HIGH
<b>Recommendation</b>
Approve Fishery
<b>4. Guidance for On-site Assessment</b>
Based on High Compliance Findings
Based on Medium Compliance Findings
<b>Key Stakeholders of the Fishery</b>
<b>5. Assessment Determination</b>
The fishery continues to score highly in every category of the RS assessment. There have been no major changes in management procedure or structure since the initial assessment, and management measures continue to be informed by robust scientific analysis. However, spawning stock biomass has been estimated as close to the minimum aimed for by the management plan, and future surveillance assessments should pay particular attention to the reaction of management organisations if biomass ever falls below this level.
<b>HIGH COMPLIANCE</b>
A1, A2, A3, B1, B2, C1, D1, D2, D3, E1, E2
<b>MEDIUM COMPLIANCE</b>
N/A

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	High Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Fisheries management should be concerned with the whole stock unit	High Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Management actions should be scientifically based	High Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Research in support of fisheries conservation and management should exist	Medium Compliance	High Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Best scientific evidence available should be taken into account when designing conservation and management measures	Medium Compliance	High Compliance	Medium Compliance	Medium Compliance	Medium Compliance
The precautionary approach is applied in the formulation of management plans	Medium Compliance	Medium Compliance	High Compliance	Medium Compliance	Medium Compliance
The level of fishing permitted should be set according to management advice given by research organisations	Medium Compliance	Medium Compliance	Medium Compliance	High Compliance	Medium Compliance
Where excess fishing capacity exist, mechanisms should be in established to reduced capacity	Medium Compliance	Medium Compliance	Medium Compliance	High Compliance	Medium Compliance
Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment	Medium Compliance	Medium Compliance	Medium Compliance	High Compliance	Medium Compliance
A management system for fisheries control and enforcement should be established	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	High Compliance
A framework for sanctions of violation of laws and regulations should be efficiently exists	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	High Compliance

**KEY:** Low Compliance [Red Box] Medium Compliance [Yellow Box] High Compliance: [Green Box]

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Issue No: 2; Issue Date: Nov 09	Report Ref: Iceland Blue Whiting	CCM Code:
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**6. Rationale of the Assessment Outcome**

**a. The Management Framework and Procedure**

LEVEL OF COMPLIANCE	a.i. 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.	Rating
LOW	<p><b>Determination: <i>Icelandic fisheries management continues to be supported by robust legal and administrative foundations.</i></b></p> <p>Iceland operates a structured, legal fisheries management system to ensure responsible fisheries, focusing on the sustainable utilization of the fish stocks and good treatment of the marine ecosystem. The fisheries management in Iceland is primarily based on extensive research on the fish stocks and the marine ecosystem, decisions made on the conduct of fisheries and allowable catches on the basis of scientific advice, and effective monitoring and enforcement of the fisheries and the total catch. These are the main pillars of the Icelandic fisheries management intended to ensure responsible fisheries and the sustainability of the ocean’s natural resources.</p> <p>For more details please refer to the original fishery assessment report.</p>	HIGH
MEDIUM		
HIGH		
	a.ii. 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	Rating
LOW	<p><b>Determination: <i>There has been no change in the scientific understanding of the distribution of this Capelin stock, nor any change in the management unit.</i></b></p> <p>At the time of the initial assessment, fisheries management was concerned with the entire distribution of the capelin stock, and all fishery removals and species biology were taken into account by management organisations. There have been no changes in either the science or the management unit since that time.</p>	HIGH
MEDIUM		
HIGH		

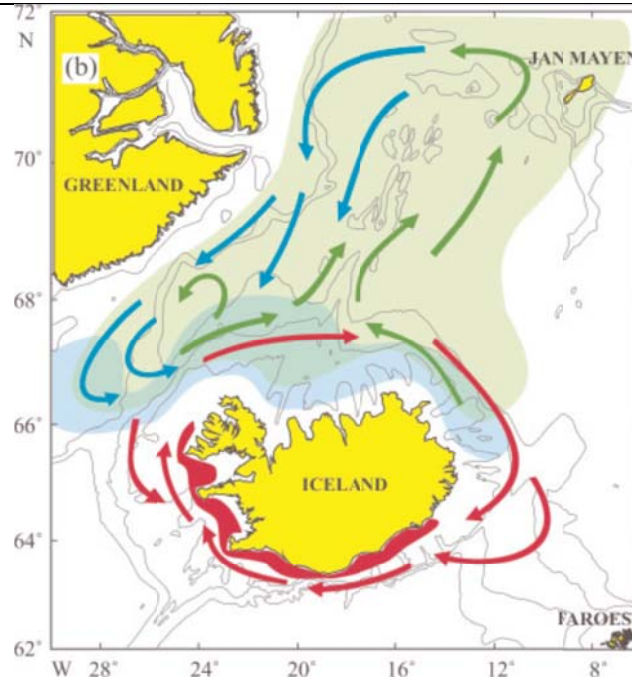
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**Distribution and migrations of Capelin in the Iceland–East Greenland–Jan Mayen area. Red area, spawning grounds; green area, adult feeding area; blue area, distribution and feeding area of juveniles; green arrows, adult feeding migrations; blue arrows, return migrations; red arrows, spawning migrations. Depth contours are 200, 500, and 1000 m. (ICES, 2002)**

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	a.iii .Management actions should be based on long-term conservation objectives	Rating
LOW	<p><b>Determination: <i>The management plan for this stock remains unchanged since the time of the initial assessment.</i></b></p> <p>The capelin fishery is managed according to a two-step management plan which requires that a minimum spawning-stock biomass of 400,000 t remains at the end of the fishing season, so as to ensure a good level of recruitment for subsequent years. This target spawning stock was agreed by all nations 1979 and its basis was determined from research from other capelin stocks (primarily the Barents Sea stock). It was estimated by ICES that the spawning stock biomass was 411,000 t in spring 2010.</p> <p>For more details of the capelin management plan, please refer to the initial fishery assessment.</p>	HIGH
MEDIUM		
HIGH		

**b. Stock Assessment Procedures and Management Advice**

LEVEL OF COMPLIANCE	bi. Research in support of fisheries conservation and management should exist.	Rating
LOW	<p><b>Determination: <i>The Marine Research Institute (MRI) continues to conduct annual hydroacoustic surveys of this stock, and make quota recommendations in cooperation with the International Council for the Exploration of the Sea (ICES).</i></b></p> <p>In the quota year 2010/2011, 390,000 t of capelin were landed, of which Icelandic vessels landed 327,000. Survey data of immature capelin of the 2008 and 2009 year classes, collected in autumn 2010, were used by MRI to predict the fishable stock size for the 2011/2012 quota year. The autumn assessment survey of juvenile capelin in 2010 gave a large estimate for the 2009 year class. ICES also produces recommendations for the stock in conjunction with the MRI research.</p>	HIGH
MEDIUM		
HIGH		

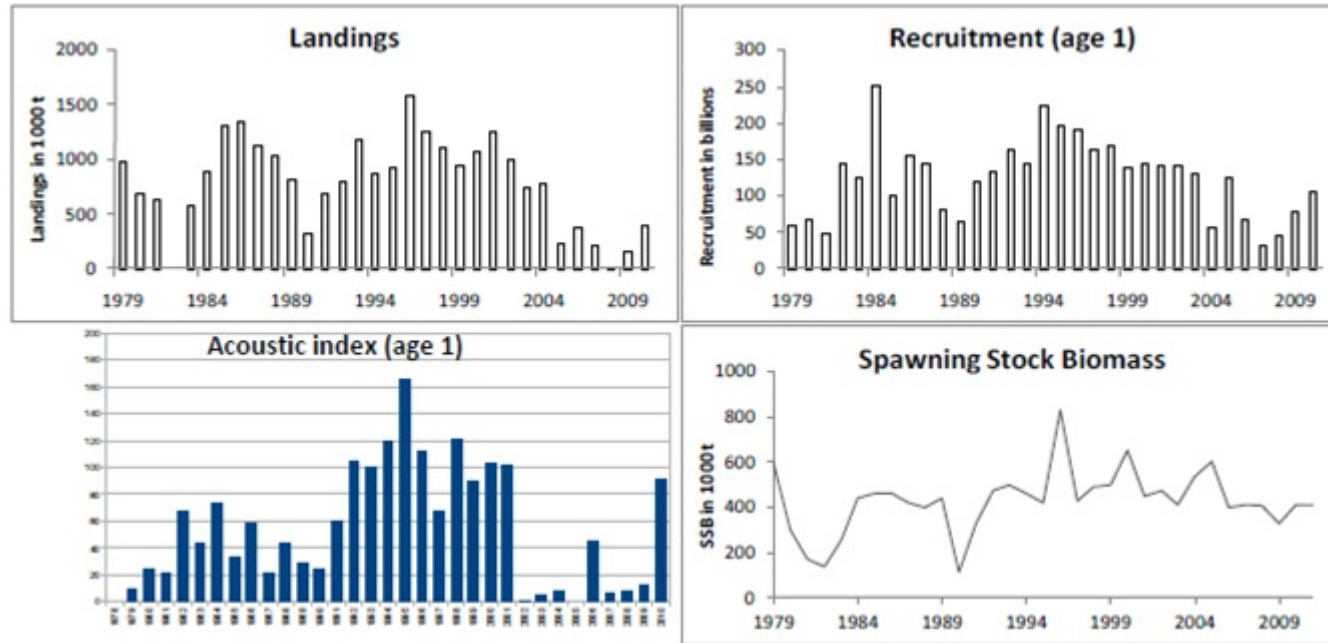
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Capelin in the Iceland–East Greenland–Jan Mayen area, landings and stock assessment results (weights in '000t). Acoustic index at age 1 (numbers in billions) from autumn surveys.

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LEVEL OF COMPLIANCE		b.ii Best scientific evidence available should be taken into account when designing conservation and management measures	Rating
LOW		<p><b>Determination: <i>There have been no significant changes since the initial assessment in the way in which scientific information is utilised in the management of this fishery.</i></b></p> <p>The initial assessment of this fishery concluded that scientific advice is fully taken into account in the management of this fishery, to the extent that when recommended by MRI and ICES, annual quotas have been set at zero and the fishery has been closed for a year (for example in 2009/10). There have been no significant changes in the management methodology or the manner in which scientific evidence is factored into management decisions since that time.</p> <p>For more information please refer to the initial assessment.</p>	HIGH
MEDIUM			
HIGH			

**c. The Precautionary Approach**

LEVEL OF COMPLIANCE		c.i The precautionary approach is applied in the formulation of management plans.	Rating
LOW		<p><b>Determination: <i>There have been no fundamental changes to the approach taken by stock management organisations, which was found by the initial assessment to be adherent to the precautionary approach.</i></b></p> <p>The fishery is managed according to a two-step management plan which requires a spawning-stock biomass of no less than 400,000 t by the end of the fishing season. The first step in this plan is to set a preliminary TAC, based on the results of an acoustic survey carried out to evaluate the immature 1-group and immature part of the 2-group of the capelin stock about a year before it enters the fishable stock. The initial quota is set at two thirds of the preliminary TAC, calculated on the condition that 400 000 t of the SSB should be left for spawning. The second step is based on the results of another survey conducted during the fishing season</p>	HIGH
MEDIUM			
HIGH			

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	<p>for the same year classes. This result is used to revise the TAC, still based on the condition that 400 000 t of the SSB should be left for spawning.</p> <p>ICES has not evaluated the management plan with respect to its conformity to the precautionary approach and MSY framework; however the initial assessment determined that the management plan and other management objectives and actions were compliant with the precautionary approach, and there have been no major changes since that time. For a more detailed explanation of the original decision, please refer to the initial assessment.</p>	
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**d. Management Measures**

LEVEL OF COMPLIANCE	d.i The level of fishing permitted should be set according to management advice given by research organisations.	Rating
LOW	<p><b>Determination: <i>Initial TACs continue to be set according to scientific advice, and the available evidence suggests that this level of fishing is maintaining the stock above the spawning stock biomass target of the management plan.</i></b></p> <p>The ICES advice for the 2011/12 fishing season is as follows:</p> <p><i>Until additional survey measurements on the size of the 2009 year class become available the initial quota should be set significantly lower than two thirds of the predicted quota in the management agreement. The assessment and short-term predictions used are not accepted methods because the natural mortality applied is considered too low. Therefore it is recommended that the initial quota be set at 50% of the predicted quota, implying an initial quota of 366 000 t.</i></p> <p>The Icelandic Ministry of Fisheries and Agriculture website reports that the current, initial TAC for capelin in 2011/12 has been set at 0t until further data becomes available, thus exceeding the level of caution recommended by the ICES advice. As the fishery usually only occurs between June and August, initial quotas are always updated before the start of the season. For this reason, the</p>	HIGH
MEDIUM		
HIGH		

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	<p>ICES advice for the 2010/11 season (that there should be no fishery until further survey data became available) was also followed by management organisations. Subsequently the 2010/11 TAC was increased to 390,000t on the basis of survey results analysed by the MRI.</p> <p>Landings have historically not exceeded final quotas, and the 2010/11 season was no different, with a TAC of 390,000t and total landings of 391,000t. For more detail on the methodology used to calculate initial and final quotas, please refer to the initial assessment.</p>	
LEVEL OF COMPLIANCE	d.ii Where excess fishing capacity exist, mechanisms should be in established to reduced capacity to allow for the recovery of the stock to sustainable levels.	Rating
LOW	<p><b>Determination: <i>The capacity-reducing mechanisms identified in the original assessment continue to be functional and effective.</i></b></p> <p>Iceland operates a vessel registration, licensing and permit system which is necessary to obtain quota within the Individual transfer quota system. The Marine Policy focuses on economic utilisation of stocks. The system acts to create disincentives for allowing excess capacity in fisheries. Other technical measures, including season, permanent and temporary closures act to manage effort and capacity within the permitted fleet.</p>	HIGH
MEDIUM		
HIGH		
LEVEL OF COMPLIANCE	d.iii Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment.	Rating
LOW	<p><b>Determination: <i>The initial fishery assessment concluded after on-site assessment that there were adequate management measures in place for the fishery to score highly in this category, and there have been no major changes since that time.</i></b></p> <p>Various measures are taken to ensure the protection of small fish and vulnerable habitats, such as regulations on the type of fishing gear allowed in different areas, the closing of fishing grounds, minimum mesh size and the use of small-fish sorting grids.</p> <p>The majority of Capelin is caught using purse seines, which cause little or no damage to the benthic habitat. Mid-water pelagic trawls are used less often and like the purse seine have minimal impacts on the seabed ecology. The level of bycatch in the</p>	HIGH
MEDIUM		
HIGH		

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	<p>Capelin fishery in Iceland is estimated to be very low by the Fisheries and Aquaculture Department of the United Nations, being less than 2%. 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. This Fishery Log-book is returned to the Directory of Fisheries once a month. These reports are then sent onto the Marine Research Institute where the information is used in their scientific work.</p> <p>For more information, please refer to the initial assessment.</p>	
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**e. Implementation**

LEVEL OF COMPLIANCE	e.i There should be a framework for sanctions of violation of Laws and regulations.	Rating
LOW	<p><b>Determination: <i>The original assessment identified an efficient framework of sanctions for violations of laws and regulations. There have been no major changes since that time.</i></b></p> <p>The legal and administrative framework consists of laws and regulations that specify and allow the Ministry through the services of the Directorate to prosecute and charge fines through the Courts of Iceland for infringement of fishery regulations.</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, the relevant company or individual must obtain an additional catch quota for the relevant species. If this is not done within a certain timeframe, the fishing permit may be revoked as well as a charge having to be paid for the illegal catch.</p>	HIGH
MEDIUM		
HIGH		

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LEVEL OF COMPLIANCE	e.ii A management system for fisheries control and enforcement should be established.	Rating
LOW	<p><b>Determination: <i>The original assessment concluded that an effective management system was in place. There have been no significant changes since that time.</i></b></p> <p>All commercial fisheries are subject to authorization by the Directorate of Fisheries. The Iceland Coast Guard, which falls under the auspices of the Ministry of Justice, monitors the fisheries of vessels operating in Icelandic waters, as well as monitoring closed areas.</p> <p>There are also strict requirements for the keeping of e- logbooks on-board all fishing vessels and they must be made available for fishery inspectors.</p> <p>The Icelandic Directorate of Fisheries is responsible for monitoring and inspecting vessels both at sea, through an observer programme and ashore, through a network of official landing sites where all catches are registered by officials who report to a central database. Thus 60 ports of landings in Iceland send electronic data daily to the Directorate. A total of approximately 50.000 landings are registered in the system every year.</p> <p>All vessels must be registered, licensed and the Directorate issues fishing permits and allocates catch quotas.</p>	HIGH
MEDIUM		
HIGH		

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## References

Vilhjalmsson, H., 2002. Capelin (*Mallotus villosus*) in the Iceland - East Greenland – Jan Mayen ecosystem. ICES Journal of Marine Science 59: 870 – 883

ICES advice Capelin in Subareas V and XIV and Division IIa west of 5°W (Iceland–East Greenland–Jan Mayen area) June 2010: <http://www.ices.dk/committe/acom/comwork/report/2010/2010/cap-icel.pdf>

ICES advice Capelin in Subareas V and XIV and Division IIa west of 5°W (Iceland–East Greenland–Jan Mayen area) June 2011: <http://www.ices.dk/committe/acom/comwork/report/2011/2011/cap-icel.pdf>

IFFO fishery assessment report, Capelin, 5<sup>th</sup> May 2010 (Global Trust Certification).

Icelandic Ministry of Fisheries and Agriculture fishing quotas:  
<http://www.fisheries.is/management/total-allowable-catch/>

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