



# FISHERY ASSESSMENT REPORT

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



<b>FISHERY:</b>	North Sea Sandeel ( <i>Ammodytes marinus</i> )
<b>LOCATION:</b>	ICES subarea IV (Denmark)
<b>DATE OF REPORT:</b>	28/06/12
<b>ASSESSOR:</b>	Sam Peacock

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Issue No; 2; Issue Date; Nov 09

Report Ref: Sandeel

CCM Code:

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1. Application Details and Summary of the Assessment Outcome			
<b>Address:</b>			
<b>Country:</b> Denmark		<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>	
Certification Body Details			
<b>Name of Certification Body:</b>		Global Trust Certification Ltd	
<b>Assessor Name:</b>	<b>Peer Reviewer:</b>	<b>Assessment Days:</b>	<b>Initial/Surveillance/Re-certification:</b>
Sam Peacock	Mike Platt	1	Surveillance
<b>Assessment Period</b>	28/6/12		
Scope Details			
<b>1. Scope of Assessment:</b>	IFFO RS standard		
<b>2. Fishery</b>	North sea sandeel ( <i>Ammodytes marinus</i> )		
<b>3. Fishery Location</b>	ICES Subarea IV		
<b>4. Fishery Method</b>	Bottom trawl		
Outcome of Assessment			
<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>	Agree with approval status		
<b>9. Recommendation</b>	Maintain approval		

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<b>2. Quality of Information</b>
Good; mainly EU and ICES websites
<b>3. Compliance Level Achieved</b>
<b>Recommendation</b>
<b>Maintain fishery approval</b>
<b>4. Guidance for On-site Assessment</b>
<b>Based on High Compliance Findings</b>
<b>Based on Medium Compliance Findings</b>
<b>Key Stakeholders of the Fishery</b>
<b>5. Assessment Determination</b>
<b>HIGH COMPLIANCE</b>
A1, A2, A3, B1, B2, C1, D1, D2, D3, E1, E2
<b>MEDIUM COMPLIANCE</b>

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	Low Compliance	Low Compliance	Low Compliance	Low Compliance
Fisheries management should be concerned with the whole stock unit	High Compliance	Low Compliance	Low Compliance	Low Compliance	Low Compliance
Management actions should be scientifically based	High Compliance	Low Compliance	Low Compliance	Low Compliance	Low Compliance
Research in support of fisheries conservation and management should exist	Low Compliance	High Compliance	Low Compliance	Low Compliance	Low Compliance
Best scientific evidence available should be taken into account when designing conservation and management measures	Low Compliance	High Compliance	Low Compliance	Low Compliance	Low Compliance
The precautionary approach is applied in the formulation of management plans	Low Compliance	Low Compliance	High Compliance	Low Compliance	Low Compliance
The level of fishing permitted should be set according to management advice given by research organisations	Low Compliance	Low Compliance	Low Compliance	High Compliance	Low Compliance
Where excess fishing capacity exist, mechanisms should be in established to reduced capacity	Low Compliance	Low Compliance	Low Compliance	High Compliance	Low 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	Low Compliance	Low Compliance	Low Compliance	High Compliance	Low Compliance
A management system for fisheries control and enforcement should be established	Low Compliance	Low Compliance	Low Compliance	Low Compliance	High Compliance
A framework for sanctions of violation of laws and regulations should be efficiently exists	Low Compliance	Low Compliance	Low Compliance	Low Compliance	High Compliance

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

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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>There continues to be a legal and administrative framework at both European and National levels for the implementation of measures and controls to support the conservation of the fishery.</i></b></p> <p>There has been no substantial change in the European Common Fisheries Policy (CFP), which provides the main legal and administrative framework for Danish fisheries management, since the 2011 surveillance assessment. An extensive reform of the CFP is currently under discussion by the European parliament and council, and is expected to be implemented from 2013.</p> <p>The CFP is enforced in the Danish fishing sector by Danish Ministerial Order.</p> <p>For more information on the current CFP and its implementation in a Danish context please refer to the initial 2010 assessment report.</p> <p>Ref: 3,7</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>ICES advice continues to divide the sandeel population into seven distinct stocks. Management at the European level initially set a single 2012 TAC for the entire species, but subsequently amended this to 7 regional TACs in line with ICES advice.</i></b></p> <p>At the time of the original assessment, ICES advice treated the North Sea sandeel population as one stock. However, since 2010 ICES has provided recommendations for seven distinct areas, to better reflect the stock structure and enable management to avoid local depletions. The EU issued an amendment in July 2010 to set individual quotas for each of these areas, effectively</p>	HIGH
MEDIUM		
HIGH		

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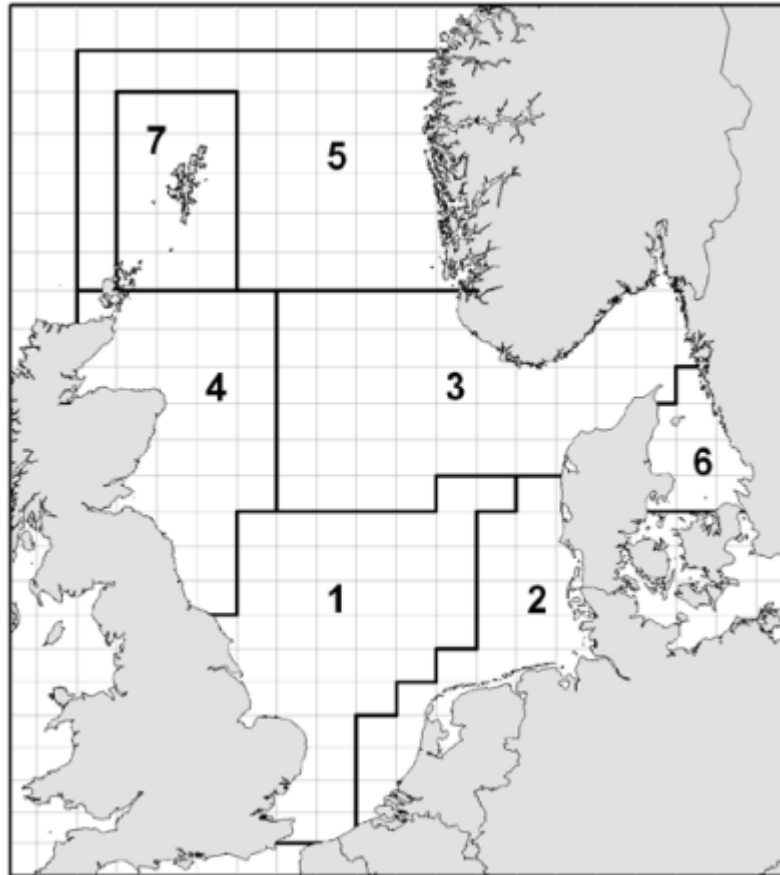
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meaning the fishery is now managed as seven distinct stocks.

The available evidence suggests that the 2012 TAC was initially set as a single quota for the entire fishery, but was subsequently amended to set an individual quota for each sandeel management area (SA).



**Map of the sandeel management areas in ICES division IIIa and subarea IV. In 2012 a separate TAC was set for each area. From the March**

		<b>2012 ICES sandeel advice.</b>	
		For more general information on the definition of the stock please refer to the initial fishery assessment. Ref: 1,3,4	
		a.iii .Management actions should be based on long-term conservation objectives	Rating
LOW		<p><b>Determination: <i>There is no evidence to suggest any significant changes since the previous surveillance assessment in the time scale over which research and management actions are focused.</i></b></p> <p>The original IFFO fishery assessment concluded that while there was no specific scientific information available to fully develop a long-term management strategy for North Sea sandeel, the approaches adopted by EU countries including Denmark were responsible. ICES notes that sandeel is a short-lived species, and that the high natural mortality and small number of year classes in the fishery means that future population size is largely determined by incoming year classes.</p> <p>For more information on the management objectives of the fishery please refer to the initial assessment. Ref: 3,4</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>ICES considers the new advice format (breaking the fishery down into 7 sandeel areas (SAs)) to be a significant improvement over previous approaches. While the amount of data collected varies between SAs, those from which the majority of sandeel is sourced are considered well surveyed. Highly conservative quotas are set in the poorly understood management areas.</i></b></p>	HIGH
MEDIUM			
HIGH			

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	<p>Prior to 2010, ICES presented advice for this region in three units: North Sea excluding the Shetland area, the Shetland area, and the Skagerrak–Kattegat. From 2010 onward, ICES advice has been provided for seven areas to better reflect the stock structure and to enable management to take action to avoid local depletions, as has been repeatedly advised in recent years. The quality of these regional assessments is considered considerably greater than the previous advice.</p> <p>The amount of scientific and fisheries information differs by area and so does the level of detail for each area’s advice. Advice for SA1-3 is based on dredge surveys and fishery data; a limited amount of survey data is incorporated into advice for SA4; and advice for SA5-7 is based on trend data only. The majority of sandeel landings are from SA1, with almost all other landings originating in SA2-4 (see D1).</p> <p>Catch statistics and survey trawl data are available for SA5-7 but are considered inadequate to make a stock assessment. For this reason only limited recommendations were possible for these areas. To reflect this, SA5 and SA7 will remain closed in 2012, and SA6 will be subject to a TAC of 420t only.</p> <p>For information of the general scientific understanding of sandeel, and a description of the previous stock assessment process, please refer to the initial assessment report.</p> <p>Ref: 1,3,4</p>	
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>Management of the sandeel stock continues to take into account ICES scientific advice in the design of conservation and management measures.</i></b></p> <p>Management of North Sea sandeel continues to follow the advice of ICES, both in the setting of annual quotas and the closing of local fisheries in cases where stocks are found to be over-exploited. There have been no significant changes in the relationship between management and science since the last surveillance assessment.</p> <p>For more information please refer to the initial assessment report.</p> <p>Ref: 1,3,4,5</p>	HIGH
MEDIUM		
HIGH		

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**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>The EU Common Fisheries Policy and the ICES scientific analysis process both make use of the precautionary approach for the recommendation and development of fishery management decisions. The new SA-based advice and management approach clearly implements the precautionary principal, applying more conservative catch restrictions to those areas which are less well-understood.</i></b></p> <p>The quality of the current assessment is considered much improved compared to the combined assessment for the whole North Sea as conducted before 2010. This is because the stock assessment areas used since 2010 better reflect the actual spatial stock structure and dynamics of sandeel. The use of fishery-independent data from dredge surveys has also improved the quality of the assessment. Application of the new statistical assessment model “SMS-effort” in combination with the Sandeel Area-based assessment approach has removed retrospective bias in F and SSB for the most recent years. This is probably due to the robust model assumption of fishing mortality being proportional to fishing effort.</p> <p>The confidence limits of the model estimates of F, SSB, and recruitment indicate a high to medium precision for the SA 1 assessment, a medium precision for the SA 2 assessment, and a lower precision for the SA 3 assessment. The sources of uncertainty within the new assessment and forecast framework are derived from the following sources:</p> <ul style="list-style-type: none"> <li>• Use of common, time-invariant natural mortality values over all areas.</li> <li>• Assumption of correspondence between commercial effort and fishing mortality.</li> <li>• Observations of effort prior to 2011 are only available from the Danish fishery (which also has the largest catches) and</li> </ul>	HIGH
MEDIUM		
HIGH		

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	<p>only few observations in the 2011 data can be used to estimate national differences in catchability.</p> <ul style="list-style-type: none"> <li>• Age and length sampling uncertainty, in particular in the less sampled Norwegian EEZ.</li> <li>• There are apparent differences in recruitment between the Norwegian EEZ and the rest of SA 3.</li> <li>• Assumption that the maturity pattern in the forecast year is the long-term average.</li> </ul> <p>Ref: 1,3,4,5</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: Individual quotas are now set for each of the seven sandeel management areas. The 2012 quotas were set in accordance with the ICES advice.</b></p> <p>Preliminary advice from ICES led to an initial TAC across all sandeel stocks of 200,000t. This was reduced in April 2012 to reflect subsequent SA-specific ICES advice, and divided between the sandeel management areas as illustrated in the table below. There is currently no information available recording how much sandeel was landed before the TAC was updated, but this will form an important part of the 2013 assessment of this fishery, when total landings data are available.</p> <p>Note that the quotas in SA2-4 are for monitoring purposes only.</p>	HIGH
MEDIUM		
HIGH		

ICES advice and final EU & Norway TACs for each sandeel management area in 2012. Adapted from the March 2012 ICES advice and EU regulation 368/2012.							
Sandeel management area	SA1	SA2	SA3	SA4	SA5	SA6	SA7
ICES advice (2012)	<23,000t	<5,000t	<5,000t	<5,000t	No increase (from 0t)	No increase (from 420t)	No increase (from 0t)
EU & Norway TAC 2012	23,000t	5,000t	5,000t	5,000t	0t	420t	0t

In response to a special request by the Danish Ministry of Food, Agriculture and Fisheries, ICES published additional advice on sandeel in May 2012. In this advice ICES states, "Following the ICES MSY framework for a short-lived species, the fishery in 2012 should retain a stock of sandeel that is sufficient for successful recruitment (at MSY  $B_{\text{escapement}} = 215,000$  t). This implies a zero catch in Sandeel Area 1 in 2012." It is unclear whether the SA1 TAC will be further reduced (to 0t) as a result of this advice, or indeed whether this is even possible as the sandeel season began in April. Fishing would normally continue uninterrupted from April onwards, although it was previously agreed to stop fishing in June and July to protect food supplies for the breeding seabird population. As noted above, the extent to which total landings reflect ICES advice will form a key component of the 2013 assessment.

Ref: 1,2,5,8

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	<b>Determination: The CFP includes a policy framework capable of concertedly reducing fleet capacity by decommissioning, as evidenced in this and other fisheries.</b>	HIGH
MEDIUM	Denmark operates in accordance with the EU Regulations for capacity management through the Danish Directorate of Fisheries and activities towards managing capacity in the North Sea and the sandeel fishery is compliant. For more information please refer	
HIGH	.	

	<p>to the initial assessment.</p> <p>It is possible that capacity-reducing mechanisms will change substantially with the introduction of the CFP reforms scheduled for 2013.</p> <p>Ref: 4,5,7</p>	
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>Sandeel is an important prey species in North Sea ecosystems, and overexploitation can have a significant effect on predator populations. The robust regional closure mechanisms identified by the original assessment are still in place, and so it appears that when science highlights non-target species impacts of the fishery, relevant action can be taken.</i></b></p> <p>In the North Sea a sandeel fishery is prohibited (April to August) in a 20,000 km<sup>2</sup> band of the North Sea off the Firth of Forth and Grampian Coast to safeguard seabird colonies. Fishing would normally continue uninterrupted from April onwards. It was agreed to stop fishing in June and July to protect food supplies for the breeding seabird population.</p> <p>An amending regulation in 2012 made it illegal for EU vessels to fish for or transport basking shark, white shark, porbeagle, angel shark, common skate, or guitarfishes. Where caught accidentally these species are to be returned unharmed.</p> <p>There is also considered to be a low by-catch of other commercially exploited fish species by the Sandeel fishery, and the impact of the comparatively light trawl gear used on the physical environment is considered minimal. It is possible that such management measures will change substantially with the introduction of the CFP reforms scheduled for 2013. In particular, a ban on discarding is under discussion, although it is currently unclear precisely how such a ban would be implemented.</p> <p>For more information on the management measures in place to minimise non-target species and physical impacts, please refer to the initial fishery assessment report.</p> <p>Ref: 4,5,7,8</p>	HIGH
MEDIUM		
HIGH		

**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: Denmark operates in accordance with the EU framework for sanctions of violations of fishery laws and regulations. There have been no substantial changes since the previous surveillance assessment.</b></p> <p>EU member states are required to apply effective, proportionate and dissuasive sanctions against natural or legal persons engaged in IUU activities. The Danish fishing control system applies EU access regulations and administrates individual licensing.</p> <p>For more detailed information, see the original fishery assessment.</p> <p>Ref: 4,5</p>	HIGH
MEDIUM		
HIGH		
LEVEL OF COMPLIANCE	e.ii A management system for fisheries control and enforcement should be established.	Rating
LOW	<p><b>Determination: The previous surveillance assessment reported that the EU Commission considered the Danish enforcement system to be robust and working efficiently. There is no evidence to suggest this has changed over the last year.</b></p> <p>The Danish Directorate of Fisheries is the competent authority with control and enforcement responsibilities. All Danish vessels must be registered and authorised individually. Vessels are inspected regularly and catches levels are monitored, both at sea and in port.</p> <p>For more detailed information, please refer to the original fishery assessment.</p> <p>Ref: 4,5</p>	HIGH
MEDIUM		
HIGH		

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## References

1 – ICES sandeel advice, March 2012:

<http://www.ices.dk/committe/acom/comwork/report/2012/2012/san-34.pdf>

2 – ICES special request advice, May 2012:

[http://www.ices.dk/committe/acom/comwork/report/2012/Special%20Requests/EC\\_Sandeel\\_Real\\_Time\\_Monitoring\\_assessment.pdf](http://www.ices.dk/committe/acom/comwork/report/2012/Special%20Requests/EC_Sandeel_Real_Time_Monitoring_assessment.pdf)

3 – 2010 sandeel (Denmark) IFFO RS initial assessment report:

<http://www.iffonet.net/downloads/IFFO%20RS/Whole%20Fish/Denmark%20-%20Sandeel.pdf>

4 – 2011 sandeel (Denmark) IFFO RS surveillance report:

<http://www.iffonet.net/downloads/IFFO%20RS/Whole%20Fish/Sandeel%20fishery%20surveillance%20report.pdf>

5 – 2012 regional (sandeel management area) sandeel quotas: [http://eur-](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:116:0017:0018:EN:PDF)

[lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:116:0017:0018:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:116:0017:0018:EN:PDF)

6 – 2012 regulation prohibiting fishing for or transporting of specified sharks and rays: [http://eur-](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:116:0017:0018:EN:PDF)

[lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:116:0017:0018:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:116:0017:0018:EN:PDF)

7 – EU CFP reform process: [http://ec.europa.eu/fisheries/reform/index\\_en.htm](http://ec.europa.eu/fisheries/reform/index_en.htm)

8 – Seafish annual review of feed fish stocks, March 2012:

[http://www.seafish.org/media/publications/SeafishAnnualReviewFeedFishStocks\\_201203.pdf](http://www.seafish.org/media/publications/SeafishAnnualReviewFeedFishStocks_201203.pdf)

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