FISHERY ASSESSMENT REPORT

IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL

FISHERY:	**North Sea Sandeel *(Ammodytes marinus)***
LOCATION:	**Ices Sub Area IV**
DATE OF REPORT:	**16th June 2010**
ASSESSOR:	**Mike Platt**

1. APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME			
Name: Foreningenfor Danmarks Fiskemel- og Fiskeolieindustri Association of Fishmeal and Fishoil Manufacturers in Denmark			
Address: [redacted]			
Country: DENMARK		**Zip:** [redacted]	
Tel. No: [redacted]		**Fax. No.** [redacted]	
Email address: [redacted]		**Applicant Code**	
Key Contact: [redacted]		**Title:** [redacted]	
Certification Body Details			
Name of Certification Body:	**Global Trust Certification Ltd.**		
Assessor Name	**Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/ Re-certification**
Mike Platt	Dave Garforth	11	INITIAL
Assessment Period	December 2009 – June 2010		
Scope Details			
1. Scope of Assessment	IFFO Global RS Standard Issue 1.0		
2. Fishery	North Sea Sand Eel		
3. Fishery Location	ICES Sub Area IV		
4. Fishery Method	Bottom Trawl		
Outcome of Assessment			
5. Overall Fishery Compliance Rating	**MEDIUM/HIGH COMPLIANCE**		
6. Sub Components of Low Compliance	NONE		
7. Information deficiency	NONE		
8. Peer Review Evaluation	ACCEPT		
9. Recommendation	**CIRCULATE TO CERTIFICATION COMMITTEE**		

2. QUALITY OF INFORMATION

The Quality of Information available to undertake the desk top study assessment was considered appropriate. A high level of the available material came directly from the responsible organisations for research, assessment and management of the North Sea Sandeel fishery.

3. COMPLIANCE LEVEL ACHEIVED

A **MEDIUM/HIGH** level of compliance has been awarded. Refer to table detailing summary level of compliance.

Recommendation

Circulate report to Certification Committee for comment.

4. GUIDANCE FOR ONSITE ASSESSMENT

Based on HIGH compliance findings

- During on site audits, evidence of reporting compliance of catches to the Competent Authority should be undertaken to support verification of this information.

Based on MEDIUM compliance findings

- **Not Applicable**

Based on LOW compliance findings

- **Not Applicable.**

5. ASSESSMENT DETERMINATION

Overall a MEDIUM/HIGH compliance level has been awarded at this time.

HIGH Compliance

The management of the fishery includes a legal and administrative basis for the implementation of measures and controls to support the conservation of the fishery. Fisheries management is concerned with the whole stock unit over its entire area of distribution and take into account fishery removals and the biology of the species.

There is appropriate research in support of fisheries conservation and management.

Where excess fishing capacity exists, there are mechanisms established to reduce capacity to allow for the recovery of the stock to sustainable levels.

Management measures ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment.

There is a framework for sanctions of violation of Laws and regulations and a management system for fisheries control and enforcement is established.

MEDIUM Compliance

C. The Precautionary Approach

1. Further up-dated information on the approach taken for 2010 from the fishery management would be advantageous with respect to a final score for the precautionary approach to ensure that all areas of uncertainty around recruitment, fishing activity in the entire stock etc are taken into account.

LOW Compliance

- **Not Applicable**

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 exist and be proven to be efficient					E1
A management system for fisheries control and enforcement should be established					E2

KEY: Low Compliance: Medium Compliance: High Compliance:

6. RATIONALE OF THE ASSESSMENT OUTCOME

A. THE MANAGEMENT FRAMEWORK AND PROCEDURE

LEVEL OF COMPLIANCE	
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.	
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.

Determination **H**

There is a fishery management framework for Sandeel that includes both a legal and administrative basis at European and National Danish levels for the implementation of measures and controls to support the conservation of the fishery appropriate to IFFO RS requirements.

The general framework for Danish fishery resource management is the Common Fisheries Policy (CFP) of the European Economic Community. The CFP contains an agreement on the allocation of resources between member states as well as general rules on technical conservation measures, fisheries control, market arrangements and structural policy.

The Management Regime in Demark

Sandeel is managed principally by TAC, although fishing season and access (vessel licensing) is also controlled. Once the TAC/quota agreements are adopted in December through EC Regulations, the national management scheme is implemented by Danish Ministerial Order.

The 1999 Fisheries Act covers protection of fish stocks, regulations on commercial and recreational fisheries, first hand marketing and duties. The responsible authority for monitoring and enforcing EU and national conservation policies is the Danish Directorate of Fisheries, which is a part of the Ministry of Food, Agriculture and Fisheries. The Directorate carries out inspections at sea and of landings, as well as verification of EU marketing standards.

The principles used in the management scheme are discussed with the fishermen's organisation and the fishing industry before the conditions are finally assigned. The discussions take place in the Regulatory Committee at which the organisations and the Ministry of Food, Agriculture and Fisheries are represented. The Regulatory Committee meets every month to evaluate the present catch/quota situation for possible changes.

The committee uses a series of management schemes to ensure continuous fishing operations, whilst at the same time ensuring that the Danish Quotas allocated under the CFP are not exceeded.

These include:

- Vessel catch limits
- Days at sea
- Time Closures
- Licenses these are statutory for fishing species used for reduction purposes
- Minimum landing sizes
- Notifying the fisheries control before landing

LEVEL OF COMPLIANCE	
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.	
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: • All fishery removals • The biology of the species

Determination **H**

Fisheries management is concerned with the whole stock unit. Its distribution in the North Sea is defined by the ICES Subarea IV (excluding the Shetlands) and ICES area IIIa. All fisheries removals (EU and Norway) and the biology of the species are accounted for in the formulation of management strategies which principally commence at EU level within the CFP framework and with reference to ICES scientific advice.

The fishery management is concerned with the whole stock of sandeel in the North Sea this based on the assumption that there is a single stock. ICES has indicated that there is strong evidence of a number of spatially distinct (sub-) stocks although current advice is based on the entire stock treated as one. It is known that sub-stocks on the Viking/Bergen Banks, in the western North Sea off Scotland, and the (separately-managed) Shetland stock are distinct but the full extent of the North sea stock structure remains unclear and insufficient at this time to enable more specific management of the North Sea.

Therefore to ensure that the whole stock is covered ICES gives scientific advice on the entire stock as one and all sandeel removals and its biology are accounted for in the formulation of the recommended TAC. However, ICES does recommend that future management should take account of the spatial structure of sandeels.

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 **H**

No specific scientific information is available to fully develop a long term management strategy that addresses the long term conservation of the Sandeel and its effects on the wider ecosystem, the assessment team did consider that the approach adopted by the EU countries, including Denmark involved in the exploitation of this species in the North Sea as being responsible.

There is specific advice in the form of a catch limit although no fishing mortality reference points are set for the North sea Sandeel fishery. The EC and has Norway requested that ICES provide further advice to the European Community and Norway. The details were specified in 2007 (R7).

1. A long term management strategy for sandeel fisheries that ensures sustainable fisheries, that allows Maximum Sustainable Yields to be achieved and is consistent with the precautionary approach; that prevents local depletion of sandeel aggregations and takes into account the function of sandeel in the ecosystem.

2. The possible negative effects on the reproductive success and incoming year class strength due to bottom towed gears undertaking fisheries other than for sandeels, and operating on the various sandeel fishing grounds during the spawning season.

3. The possible effects of bottom towed gears on the alteration of physical and biological characteristics of the sandeel essential habitats as well as whether and how any such alterations may affect the dynamic of the sandeel stock.

The advice from ICES on a management strategy for 2007 was later used in the regulation of the 2007 fishing opportunities in Community waters (Council Regulation (EC) No 41/2006 of 21 December 2006 – OJ L15 of 20 January 2007 p 1) and in the Norwegian EEZ.

There have been localized stock depletions noted and closed areas imposed by the overseeing countries , and ICES has recommended that these areas of the fishery, which have been depleted should remain closed until there is evidence that local populations have recovered. Fishing in other areas in the Sandeel distribution are conducive with ensuring that the precautionary biomass of 600,000t (Ices 2009) is reached and maintained 2011 (ICES, 2009a).

The areas of greatest depletion are those found in the Norwegian EEZ (ICES, 2009c) (outside of the EU/Danish management control system). In 2006 and 2008 increases in stock size were accompanied by repopulation of some depleted areas, particularly in the north of the North Sea. Nevertheless, data suggest that following the fisheries in 2008, abundance in these areas fell again to a low level (ICES, 2009a).

Management actions are based on MSY objectives and consistent with the precautionary approach. There are proposed stock reference points (ICES) which have been taken into consideration since 2007, resulting in reduced catches and SSB above the limit reference point for the entire stock.

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

H

Research in support of fisheries conservation and management exists and is principally compiled by ICES and used as the basis of advice to the nations fishing for North Sea Sandeel.
The assessment method used is Seasonal XSA (SXSA), which allows the use of semi-annual data. Fishing effort data from the commercial fishery in the northern, and southern North Sea are treated as two independent fleets, and are separated into half-years.

The major elements of recent recruitment and stock development have been captured in the 2009 assessment, but details in recent years have posed uncertainties due to:

- the assumption that there is a single North Sea stock;
- lack of independent fishery catch data;
- large changes in fishing pattern in recent years; and
- possible large changes in catch rate efficiency in recent years.

The overall assessment used to provide the stock status assumes equal weight for fleets fishing in the north and south of the North Sea, but this is uncertain as catching effort in the Norwegian EEZ has been reduced due to localised closures. Therefore the stock estimate may not be accurate as it should be.

The resulting range of biomass estimates in 2009 may not be as accurate as they should be and further evaluations of which assessment model approach is needed to remedy these highlighted uncertainties.

In addition, the state of recruitment into the stock which is usually estimated from additional surveys are not available , but this type of work is in hand. Initial review of this new data by ICES does conclude that these type of surveys will have the potential to provide better indices of recruitment on both local and subarea scale, which will be of great importance when TAC are set. The current recruitment estimates are presently based on commercial catch-at-age data which are deemed not to be as accurate.

Finally Sandeel is noted as being an important food resource for prey species and there has been research on the ecosystem aspects of the North Sea Sandeel fishery, including seabird interactions.

To conclude, research in support of fisheries conservation exists, and is appropriate in developing and supporting improvements in the overall management of the entire fishery.

LEVEL OF COMPLIANCE	
B2. Best scientific evidence available should be taken into account when designing conservation and management measures.	
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 comprehensive manner.

Determination **H**

Management of the sandeel stock does take into account all the available scientific evidence. Denmark participates both in ICES and EU when decisions on stock management of the conservation of the Sandeel fishery are being made.

In 2009 ICES advised that where stocks are known to be depleted then the local closure areas must be enforced, until research proves that the stock has recovered. However in areas that were not depleted, fishing in 2010 will be allowed as long as the real time monitoring of the stock indicate that the Bpa of 600,000 t will be achieved by 2011.

In additional, research by the Fisheries Research Service (FRS) in Scotland indicate that even in these non depleted areas, the sandeel require a specific type of sand to live in and as a result could become depleted if excessive fishing activity took place in these localities. ICES has stated while this research is still new, it has recommended that further research into the habitat requirements for sandeel and consequences of this on future management decisions for the stock in these areas.

Management decisions can be summarized as follows: In May 2009, ICES suggested a TAC of 400 000 tonnes on the basis of the real-time monitoring in April. ICES advice was adopted by management. The resulting TAC was not fully taken, recorded landings totalled 350 000 t.

Considering the current state of the stock, the EU and Norway agreed to limit the jointly monitored fishery during 2010 to those areas not identified as depleted, which would then inform a decision on the 2010 TAC based on the Harvest Control Rule. The EU set a unilateral provisional TAC of 200,000 t (Regjeringen, 2010).

C. THE PECAUTIONARY APPROACH

LEVEL OF COMPLIANCE	
C1. The precautionary approach is applied in the formulation of management plans.	
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).

Determination. **M**

The EU Common Fisheries Policy which is the principal management framework for the EU Sandeel fishery, is based on the precautionary approach to managing fish stocks. In 2002 this policy was further strengthened through the introduction a precautionary approach to protect and conserve living aquatic resources, and to minimise the impact of fishing activities on marine eco-systems.

Further up-dated information on the approach taken for 2010 from the fishery management would be advantageous with respect to a final score for the precautionary approach to ensure that all areas of uncertainty around recruitment, fishing activity in the entire stock etc are taken into account, as a result of this a medium rating has been applied.

Sandeels are an important prey species for many marine predators such as seabirds and fish. There have

been concerns of the magnitude of the fishery and its potential impact on the North Sea marine ecosystem. Though multi-species analyses have shown that over the scale of the North Sea, the predators do not suffer from a lack of food, this was not found to be the case in locally concentrated harvesting which may cause local and temporary depletions of food for predators. (ICES, 2007b,c, 2008a) (Fisheries Research Services, Aberdeen website).
There has been scientific advice which has required both closed seasons and areas for parts of the Sandeel fishery. Since 2004 the fishery in the Norwegian EEZ has been restricted to April 1 to June 23. From 2005 the Danish vessels have not been allowed to fish sandeels before 31st of March. In 2008 the entire fishery in the EU controlled zone was opened on April 1st and closed after August 1st .

In addition more advice on the precautionary management of the stock has closed areas in the Norwegian EEZ and in Scotland's Firth of Forth .
The stock dynamics of sandeels is characterized by a high natural mortality and high variable recruitment, the latter more related to environmental factors than to the size of the SSB (ICES, 2008a). In 2009, advice, ICES considers that Bpa of 600,000 t is appropriate for the stock.
Due to the stock dynamics reference points on fishing mortality have not been advised. ICES have recommended that the defined closed areas are maintained, and detailed research carried out to ensure the stock has recovered before they are allowed to be fished again.

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 **H**

There has been some deviation to set TAC's previously between the countries taking part in the fishery, but principally, Denmark, within the EU member structure is acting in compliance with set TAC's which corresponds to management advise set by research organisations.

In 2007, EU landed 155,000 t and Norway 51,000 t, corresponding to 91% and 30%, respectively, of the TAC of 170,000 t. Before that year, landings had never exceeded the set TAC since 1998.

In 2008, both EU and Norway accepted the TAC of 400,000 tonnes as suggested by ICES (Commission Regulation 697/2008 of 23 July 2008). However as no agreement between EU and Norway on how to share the TAC was put in place. EU and Norway set their respectively quotas to 360 000 t and 128 000 t, a total well above the recommended catch. However, the recorded landings for 2008 was 335 000 t which below TAC.

For 2009, ICES advised a similar TAC as for 2008 (400,000t.)

The EU set the Community TAC ((EC) No 43/2009, ANNEX II. 2009) for Sandeel in EC waters of area IIIa; EC waters of areas IIa and IV as follows:

Denmark 296,556 tonnes; United Kingdom 3,660 tonnes; Germany 256 tonnes; Sweden 6,148 tonnes with a total for EU of 177,500 tonnes. Third party country quotas were set as follows; Norway 20,000 (Zone IV) and Faroe 2,500 (Zone IV). (Danish Directorate fishery statistics website)

The total catch for 2009 including from the Norwegian fishery was 350,000t. , 297,890t of it were taken by

the Danish fleet ,under the advised 400,000t TAC. The Danish fleet were compliant with abiding to their set quota and the trend over the past few years is that landing were within a 2% tolerance of their allowable quota

LEVEL OF COMPLIANCE	
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.	
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.

H

Determination

Robust mechanisms are now in place to redirect Fishing capacity away from depleted sandeel areas through closures and seasonal restrictions. These agreements have been managed across regulatory borders and restricted access for both EU and Norwegian fishing fleets. In addition, TAC/Quota agreements have been set for member and third country fleets for the EU EEZ North Sea Fishery and have been enforced.

The EU CFP is the principle instrument for managing the size of the EU fleet in relation to fishing opportunities. The primary tool is an incentivised decommissioning programme. There was a 50% decline in the number of Danish vessels (from 200 to 98 vessels) fishing sandeels from 2004 to 2005,
a 53 % reduction in total fishing capacity. In 2007, the Danish industrial vessels were given individual tradable quotas (ITQ) on sandeels and this caused a change towards fewer and larger vessels, and in 2008 only 83 Danish vessels were fishing sandeels.
Denmark operates in accordance to the EU Regulations for capacity management through the Danish Directorate of Fisheries and activities towards managing capacity in the North Sea Sandeel fishery are compliant.

However despite these depleted areas the estimated overall stock size has increased over the past five years, due to this low fishing mortality. In 2009 SSB was above B_{lim} 430,000t for the first time since 2000 but continued to be below B_{pa} 600,000t. .

The long term conservation of the Sandeel stock and its impact on the surrounding ecosystem is best served by taking local view points on specific areas of the stock and the maintenance of the program of closed areas imposed by the member countries fishing the north sea sandeel stock

LEVEL OF COMPLIANCE	
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.	
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.

Determination **H**

There is evidence that a reduction in sandeel populations will have an affect on the localized ecosystem., but to what extent this will affect the population dynamics of these predator species is unclear. However, there have been cases where areas have been closed to fishing that are adjacent to bird colonies, eg Firth of Forth Area. So it is the view of the assessment team that when science highlights potential problems the fishery is managed in such a way as to ensure that actions are taken to prevent the impact of fishing activities on non-target species.

Bycatches

The sandeel is considered a very important prey species for a variety of predators, including fish, marine mammals and seabirds (ICES, 2007b, c, 2008a). In general, fishing on sandeel aggregations at a distance less than 100 km from seabird colonies has been found to affect some surface feeding bird species, especially black-legged kittiwake and sandwich tern (ICES, 2007a,b,c, 2008a).

Fish and mobile marine mammal populations are assumed to be less vulnerable to local sandeel depletion (ICES, 2007c).

In the light of studies linking low sandeel availability to poor breeding success of kittiwake, all commercial fishing in the Firth of Forth area has been prohibited since 2000, except for a short-term fishery in May and June of each year for stock monitoring purposes.

There is a low by-catch of other commercially exploited fish species (ICES, 2007c) in sandeel fisheries. The direct effects of the sandeel fishery on species that are also fished are considered smaller than the effects of directed fishing on these fish species.

Habitat

Sandeels are the principal species targeted by the small fish bottom trawl fishery in which small meshed-gear is used (i.e., trawls with mesh sizes < 16 mm) (ICES, 2007b,c, 2008a).

It is noted that all bottom trawling in general, can have impact on benthic communities and habitats and this has been shown to have occurred effectively in the southern parts of the North Sea in the past (Hiddink *et al.,* 2006).

The type of trawl used in the industry is very light in construction compared to other dermersal trawl gears and the impact on the seabed is thought to be minimal as no chains or rubber discs are used.
Benthic ecology of sandeel habitat- clean, sandy bottom –typically no hard corals and in fauna generally invertebrates that can re-colonise areas quickly.

E. IMPLEMENTATION

LEVEL OF COMPLIANCE	
E1. There should be a framework for sanctions of violation of Laws and regulations.	
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.

Determination H

Denmark operates in accordance with the EU framework for sanctions of violations of fishery laws and regulations

Infringements of CFP rules are dealt with by the Member State concerned. Monitoring the number of cases detected and the nature and the level of the sanctions imposed is a key part of the Commission's task of ensuring a level playing field for all EU fishers.

2008 Council Regulation (EC) No 1005/2008 established a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing. Through EU Fishery Policy and Regulations, Member States must apply effective, proportionate and dissuasive sanctions against natural or legal persons engaged in IUU activities. A maximum sanction of at least five times the value of the fishery products obtained is provided for with regard to the committing of the said infringement.

In the event of a repeated infringement within a five-year period, the Member States shall impose a maximum sanction of at least eight times the value of the fishery products obtained by committing the serious infringement.

The Danish Directorate of Fisheries is the competent authority with responsibility of enforcement of sanctions and penalties with respect to the prosecution of fishery rules. The Danish fishing control system applies EU access regulations in combination with regulations of the total fleet capacity measured by tonnage and engine power. Vessels must be registered and authorised through individual licensing. Legal instruments are brought into force through Ministerial Orders and largely reflect EU Regulations within the CFP framework.

LEVEL OF COMPLIANCE		
E2. A management system for fisheries control and enforcement should be established.		
LOW	A management system for fisheries control and enforcement is not established.	
MEDIUM	A management system for fisheries control and enforcement is established but does not work efficiently.	
HIGH	A management system for fisheries control and enforcement is established and work efficiently.	

Determination H

The EU Commission publishes an annual report based on information supplied by the Member States and this confirmed that Denmark was not found to be one of the main countries associated with infringements to the EU rules. This strongly suggests that the Danish enforcement systems that are in operation are robust and are working efficiently

The EU Fisheries management system works through a series of rules and regulations which lay down harvest control rules such as TAC's, how many days they can spend at sea and restrictions on gear type and mesh sizes.

Regulation of industrial fisheries outside of national 12 mile fishery limits is by a mixture of quotas, closed areas and by-catch regulations.

The Danish Directorate of Fisheries is the competent authority with control and enforcement responsibilities. The Danish fishing control system applies the EU access regulation in combination with regulations of the total fleet capacity measured by tonnage and engine power. All vessels must be registered and authorised through individual licensing.

In addition, fishery conservation compliance controls cover issues such as quota management and the implementation of technical measures (e.g. mesh sizes). Regular inspections are used to ensure that the fishing gear on board vessels meets official norms and that the information entered in log-books - where skippers must register the date, origin and volume of catches on board - is correct and that fish are not undersized.

Catch levels are checked to ensure that there are still quotas available for the species found on board. The composition of the catch is also examined to determine whether the rules governing the relative proportions of targeted species and non-targeted species, or by-catches, retained on board have been respected.

Such checks are carried out both at sea and in port. Both aerial monitoring to locate vessels and vessel boardings are used order to cross-check and confirm this information with the data contained in EC log-books. Development activities also include a vessel electronic monitoring system to promote self reporting and the new EC electronic logbook.

National inspections also include all operations from landing and marketing to storage and transportation, including landings of industrial catchers to fishmeal plants. Operators must, at all times, be in possession of proper documentation detailing the origin, nature, quantity and quality of fish involved in transactions, so that it can be cross-checked with data in log-books and from other sources.

7. REFERENCES

R1. About the Common Fisheries Policy, Control and Enforcement
http://ec.europa.eu/fisheries/cfp/control_enforcement_en.htm

R2. About the Common Fisheries Policy, Managing a Common Resource
http://ec.europa.eu/fisheries/cfp_en.htm

R3. Country Note on National Fisheries Management System-Denmark

R4. Muus, B.J. & Nielsen, J.G. 1999. Seafish. Blackwell Science, Oxford, UK: 1-340 pp.

R5. Myron A. Peck, Christian Möllmann (2007). Resolving Climatic Impacts on fish stocks. Specific Targeted Research Project on "Modernisation and sustainability of fisheries, including aquaculture-based production systems" Institute of Hydrobiology and Fisheries Research, University of Hamburg (Partner 5, UniH, Hamburg, Germany).

R6. EC and Norway request on in-year management advice for sandeel in the North Sea
http://www.ices.dk/committe/acom/comwork/report/2009/Special%20Requests/EC%20Norway%2 0in-year%20management%20advice%20for%20Sandeels-2009.pdf

R7. Fish Source North Sea Sprat
www.fishsource.com

R8. ICES, 2009b. Report of the ICES Advisory Committee. Book 6: North Sea. 6.4.23 Sandeel in Division IVa North of 59ºN and West of 0ºE (Shetland area).
http://www.ices.dk/committe/acom/comwork/report/2009/2009/san-shet.pdf

R9. ICES, 2009d. Report of the ICES Advisory Committee. Book 6: North Sea. 6.3.3.1 EC and Norway request on in-year management advice for sandeel in the North Sea
http://www.ices.dk/committe/acom/comwork/report/2009/Special%20Requests/EC%20Norway%20in-year%20management%20advice%20for%20Sandeels-2009.pdf

R10. Fisheries Research Centre, Scotland website references
http://www.frs-scotland.gov.uk/FRS.Web/Delivery/display_standalone.aspx?contentid=657

R11. Paulsztat, B. (2005) Collaborative research around the North Sea: two case studies from Denmark. www/Ir9ces.dk

R12. (EC) Regulation No 43/2009, ANNEX II. Fixing for 2009 the fishing opportunities and associated conditions for certain fish stocks and groups of fish stocks, applicable in Community waters and, for Community vessels, in waters where catch limitations are required.