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German North Sea Saithe Trawl Fishery

Final Report

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1 EXECUTIVE SUMMARY

1. This report sets out the results of the re-assessment of the German North Sea Saithe Trawl Fishery against the Marine Stewardship Council (MSC) Principles and Criteria for Sustainable Fishing. The assessment commenced in August 2012.
2. The assessment was carried out by a team of three assessors: Jim Andrews, Mike Pawson and Rainer Thomas. The assessment of Principle 1 was led by Mike Pawson; Principle 2 was led by Jim Andrews and Principle 3 was led by Rainer Thomas. A full account of the assessment team members' relevant experience is set out in section 2 of this report.
3. The evaluation process for this assessment involved gathering information relevant to the fishery during a site visit in October 2012; discussions with experts and stakeholders; and reviewing relevant literature. The assessment team then compiled a draft report, and met to 'score' the performance of the fishery. The draft report that was produced by the team has been considered by the client, subject to peer review, and was then published for stakeholder comment in July 2013 before being published as a Final Report on the MSC website.
4. The main strengths of this fishery are that the stock status is good and is consistent with the MSY approach to fisheries management. There is good and long-standing observer coverage in the fishery which provides confidence that it is not causing adverse impacts on non-target or any endangered, threatened or protected species. There is a robust and well-founded management system in place which is implemented through regulations that are subject to comprehensive monitoring control and surveillance.
5. The team did not identify any significant weaknesses in the fishery under assessment.
6. MSC certification requires that each of the three MSC Principles have aggregated scores of 80 or higher; that no individual performance indicator score less than 60; and that the clients provide a client action plan to improve the performance of indicators with scores less than 80 for which conditions have been prescribed. The fishery has met these three requirements. The assessment team has therefore recommended that this fishery **should be certified** according to the Marine Stewardship Council Principles and Criteria. The MSC Principle scores were calculated according to the procedures set out in the MSC Certification Requirements v1.2 and are set out in the table below.

Final Principle Scores	
Principle	Score
Principle 1 – Target Species	91.3 – PASS
Principle 2 – Ecosystem	90.3 – PASS
Principle 3 – Management System	90.4 – PASS

7. The fishery did not score less than 80 against any Performance Indicator and no conditions have been prescribed. However, the assessment team has made two recommendations that would improve the performance of this fishery against the MSC Standard. These recommendations are non-binding, and can be briefly summarised:



- The client should encourage ICES to investigate the environmental influences that might explain recruit variability (and other stock dynamics) in North Sea saithe, and to explore whether including environmental factors such as climate variability (annual changes in North Sea temperature, for example) in predictions might better model recruitment in years when it is currently unknown (i.e. 2 or 3 years before the TAC year).
- The client should establish a system for gathering information about the location and nature of fishing activity (i.e. whether it is demersal, pelagic or semi-pelagic), with particular reference to the Natura 2000 sites in the unit of certification area.

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2 AUTHORSHIP AND PEER REVIEWERS

2.1 Assessment team

A brief biography of the assessment team members is given below. Full CVs of the team members can be downloaded from the MSC website or obtained on request from Intertek Moody Marine.

Jim Andrews

Jim is a marine biologist with over 20 years' experience working in marine fisheries and environmental management. He currently works as an independent fisheries and marine environmental consultant. His previous experience includes running the North Western and North Wales Sea Fisheries Committee as its Chief Executive from 2001 to 2005, and previously working as the SFC's Marine Environment Liaison Officer. During this time he was responsible for the regulation, management and assessment of inshore finfish and shellfish stocks along a 1,500km coastline. He has an extensive practical knowledge of both fisheries and environmental management and enforcement under UK and EC legislation. Jim has formal legal training & qualifications, with a special interest in the policy, governance and management of fisheries impacts on marine ecosystems. He has worked as an assessor and lead assessor on more than 20 MSC certifications within the UK, in Europe and in India since 2007. In 2008 he worked with the MSC and WWF on one of the pilot assessments using the new MSC Risk Based Assessment Framework, and has subsequently used the Risk Based Framework in three fishery assessments. Jim has carried out numerous MSC Chain of Custody assessments within the UK.

Dr Mike Pawson.

Mike Pawson retired as senior fisheries advisor at Cefas, Lowestoft, after 39 years carrying out biological research and providing scientific advice to Defra, the EC and other national and international organisations on fish stock abundance (marine teleosts, elasmobranchs, salmonids and eels), technical conservation measures and fisheries management regulations, and on related monitoring, sampling, survey and research programmes. Between 1974 and 1980, he initiated and led acoustic surveys for blue whiting and mackerel and trawl surveys in the North Sea (1975-1979), and spent 1 year working as a UNESCO Expert in Ichthyology in Tripoli, Libya. From 1980 to 1990, Mike designed and managed MAFF's coastal fisheries programme, implementing biological sampling, trawl surveys, a fishermen's logbook scheme and socio-economic evaluation of sea bass fisheries, and between 1990 and 2000 he led the Cefas Western demersal team, providing analytical assessments and management advice for 12 finfish stocks, including saithe via the ICES Northern Shelf WG. During this time he was co-ordinator of the Anglo-French English Channel Fisheries Study Group (1989-1997) and chairman of the ICES Southern Shelf Demersal WG (1996-98), and subsequently chaired the ICES Seabass Study Group (2000-04) and Elasmobranch Study Group (2001-02). He has initiated and managed EU-funded multi-national projects on methods for egg-production stock biomass estimation, bio-geographical identity of English Channel fish stocks, bio-economic modelling of Channel fisheries, development of assessment methods for elasmobranchs, marine recreational fishing in Europe etc.

Mike has provided scientific evaluation, quality assurance and advice to several national and EC-funded projects on fisheries biology, monitoring and assessment, and one of his major roles over the last 20 years has been to peer-review scientific papers and technical reports, including 40+ MSC assessment reports. Since 2009, Mike has been a member of several MSC assessment teams. All of Mike's work has been published in refereed Journals, in ICES and EC working group reports, and in contract reports.

Rainer Thomas

Rainer is a fisheries biologist with over 25 years' experience in marine and freshwater fisheries

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research and management in Germany, Suriname, Nigeria and Indonesia. He has worked on stock assessments in the North Atlantic and Baltic Sea for both pelagic and demersal species, as well as participating in international multi-disciplinary research cruises. In Suriname, Nigeria and Indonesia he worked with universities and the national Governments to design an oceanography institute building and to develop fish stock assessment procedures, and to implement aquaculture techniques between 1981 and 1992. From 1992 until 2003 he worked on fisheries and environmental research projects (e.g. herring migration) at the University of Kiel, and lectured in training courses on fish stock assessment procedures to postgraduate students. He acted as liaison officer for the diplomatic formalities for the German Research vessels at the Institute of Marine Science (IFM Kiel today GEOMAR) and was responsible for the logistics of the research cruises.

More recently he has been working as a freelance consultant providing advice on aquaculture management within the EU.

2.2 Peer Reviewers

Dr. Rüdiger Voss

Dr Voss is a specialist in investigating fish stock dynamics with special focus on recruitment variability of marine fish stocks. His work comprised field experiments, as well as modelling of population dynamics and drift of early life history stages of fish. During his employment at IFM-GEOMAR, Kiel, Germany (1996-2008), he contributed significantly to several EU-projects, e.g. Baltic CORE and STORE projects, BECAUSE, PROTECT, UNCOVER, as well as FACTS. All projects aimed at understanding population dynamics and the underlying processes, including analysis on data needs to answer relevant questions. Furthermore, he coordinated the field activities in the GLOBEC Germany project, assuring the successful collection of field data. Currently, he is engaged in improving Multispecies assessment contributing to the setup of the required basic database and performing area-disaggregated assessment. With respect to this he was member of the ICES Study Group on Multispecies Model Implementation in the Baltic. For his work in the frame of the ICES Working Group on Integrated Assessment of the Baltic Sea as well as the ICES Steering Group on Sustainable Use of the Ecosystem, he was integrating all relevant data sources, needed for sustainable management approaches. He is excellently integrated in the international scientific network and has very good contacts to the different national institutions responsible for fisheries data collection. Since 2008, he is a member of the cluster of excellence “The future ocean” at Kiel University as *Senior Research Scientist* at the Sustainable Fisheries Group, Department of Economics, University of Kiel. His main scientific interest is in improving fisheries (and ecosystem) management, by coupling of ecological and economic advice, using age-structured multi-species models.

John Nichols

Mr John Nichols is a retired UK government fisheries biologist with 42 years research experience in plankton ecosystems in the North Atlantic specializing in the taxonomy of North Atlantic & NW European plankton including phytoplankton, micro and meso-plankton, ichthyoplankton and young fish.. He has been a member of ICES working groups on herring, mackerel, horse mackerel, sardine and anchovy assessments; and mackerel and horse mackerel egg surveys. He was also a member of ICES study groups on herring larval surveys and plankton sampling.

He was scientist in charge of numerous research vessel surveys for fish stock assessment purposes and directly involved in the assessment of pelagic and western demersal fish stocks from 1994 to 2000.

He has been involved in the publication of over fifty scientific papers and reports more than half of which have been in peer reviewed journals, and the publication of two fish egg and larvae

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identification keys.

Since retirement from his government post he has participated in a total of 26 MSC assessments as the Principle 1 expert. The assessments include the Thames estuary herring, PFA North Sea Herring, NEA mackerel and Atlanto-Scandian herring, Hastings Fleet Dover sole, the north –east coast of England bass fishery, the SW mackerel hand line fishery, Portuguese sardine, a Newfoundland herring fishery, Canadian Pacific sablefish, various Norwegian pelagic fisheries, a North Sea plaice fishery and Faroese and Norwegian saithe fisheries. He has also been a peer reviewer for numerous MSC certification reports by various Certification bodies and has also carried out two MSC pre-assessments and numerous annual audits.

In 2010 he delivered a lecture on *The Importance of a Fisheries Interaction with the Ecosystem in the MSC Certification Process* at an international Safeseas conference in Portugal.

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3 GLOSSARY

ACFA	Advisory Committee on Fisheries and Aquaculture
ACOM	ICES' Advisory Committee
BLE	Bundesanstalt für Landwirtschaft und Ernährung (Federal Institute for Agriculture & Food). Haubachstr. 86, 22765 Hamburg
CAB	Conformity Assessment Body
CCTV	Closed Circuit Television
CFP	Common Fisheries Policy
CoC	Chain of Custody
DFFU	Deutsche Fischfang Union GmbH
DFPO	Danske Fiskeres Producent Organisation
EC	European Commission
ENGO	Environmental Non Governmental Organisation
EEZ	European Economic Zone
EFF	European Fisheries Fund
ETP	Endangered, Threatened and Protected species.
FIFG	Financial Instrument for Fisheries Guidance
FRS	Fisheries Research Services, Aberdeen
HCR	Harvest Control Urle
HUK	Erzeugergemeinschaft der Hochsee - und Kutterfischer GmbH (the client).
ICES	International Council for the Exploration of the Sea
IHF	Institute for Fisheries and Hydrobiology, University of Hamburg, Olbersweg 24, 22767 Hamburg
IMM	Intertek Moody Marine
IMR	Norwegian Institute of Marine Research, Nordnesgaten 50, 5005 Bergen, Norway
IPI	Inseparable or Partially Inseparable catches
ITQ	Individual Transferable Quota
IUU	Illegal, Unregulated and Unreported (fishing)
MLS	Minimum Landing Size
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
OSPAR	Oslo/Paris convention (for the Protection of the Marine Environment of the North-East Atlantic)
RAC	Regional Advisory Council
PO	Producer Organisation
RBF	Risk-Based Framework
REGNS	Report of the Regional Ecosystem Study Group of the North Sea
SAHFOS	Sir Alister Hardy Foundation for Ocean Science
SG	Scoring Guidelines
SFSAG	Scottish Sustainable Fisheries Accreditation Group
SSB	Spawning Stock Biomass
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	Total Allowable Catch
UN	United Nations
UoC	Unit of Certification
vTI	Johann Heinrich von Thünen-Institut (formerly: Bundesforschungsanstalt für Küsten und Binnen Fischerei), Palmallee 9, 22767 Hamburg
VMS	Vessel Monitoring System
VPA	Virtual Population Analysis
WGINOSE	Working Group on the Integrated Assessments of the North Sea
WGNSSK	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak



WWF
XSA

World Wildlife Foundation
Extended Survivor Analysis

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4 DESCRIPTION OF THE FISHERY

4.1 Unit of Certification (UoC) and scope of certification sought

The fishery proposed for certification is defined as:

Species:	Saithe (Seelachs / Köhler / Blaufisch) (<i>Pollachius virens</i> , Linneaus 1758)
Geographical Area:	North Sea ICES Divisions IVa, IVb & IIIa
Method of Capture:	Trawl
Stock:	North Sea
Management:	Managed under EU-Norway Agreement and by Norwegian Authorities.
Client Group:	Erzeugergemeinschaft der Hochsee - und Kutterfischer GmbH specified vessels (listed in Table 1)

Table 1: List of vessels in UoC.

Name	Vessel Registration	Length (m)	Gross Tonnage	Fishing Method
Antares	SAS211	21	129	Otter trawl
Bianca	NC312	40	455	Otter trawl
Christin-Bettina	SAS111	25	152	Otter trawl
Helgoland	NC302	30	299	Otter trawl
Iris	NC300	35	425	Otter trawl
J. von Cölln	NC308	40	459	Otter trawl
Seewolf	NC309	30	261	Otter trawl
Susanne	NC120	40	492	Otter trawl
Victoria	NC315	31.2	499	Otter trawl
Westbank	SAS110	20	107	Otter trawl

The geographic area of the UoC is illustrated below. Discussions are limited to that part of the North Sea where the German vessels listed above fish for saithe.

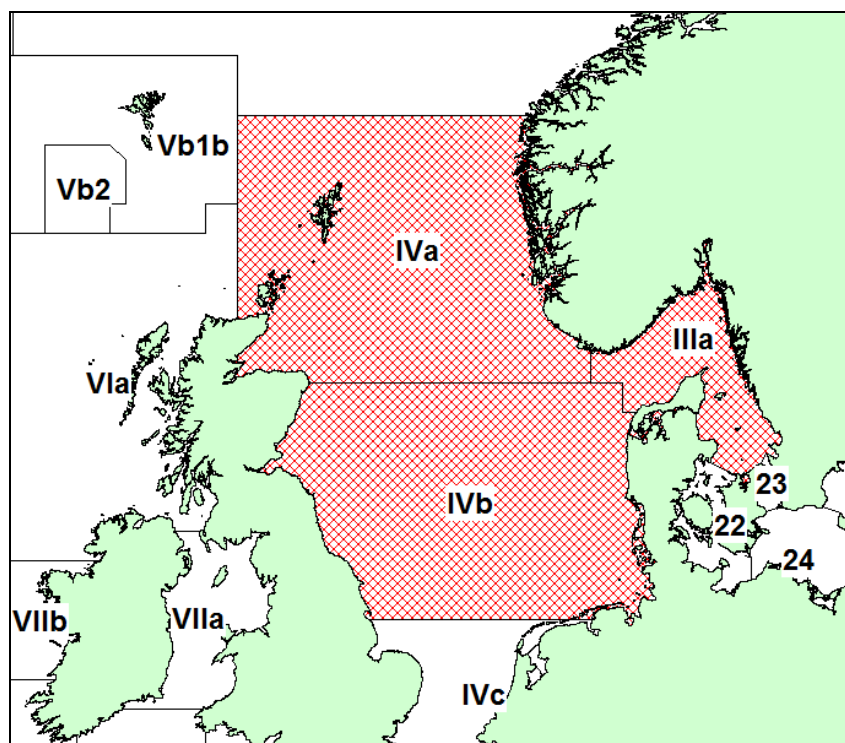


Figure 1: Map of the UoC area (shaded red).

4.1.1 Scope of Assessment with respect to MSC Standard

IMM considers that the fishery is within the scope set out in the MSC Certification Requirements v.1.2 at §27.4.4.

Specifically:-

- **Controversial unilateral exemptions §27.4.4.1** - there are currently no controversial unilateral exemptions.
- **Destructive fishing practices §27.4.4.2** – no destructive fishing practices are used in this UoC.
- **Controversial disputes §27.4.5** – there are understood to be mechanisms in place for resolving disputes between the fishery and the management system.
- **Previous failed assessments / certificate withdrawals §27.4.7** – this fishery was successfully assessed against the MSC Standard in 2007.
- **Inseparable or practically inseparable (IPI) catches §27.4.9** – there are no non-target IPI species in the fishery.
- **Enhanced fishery §27.4.12** – this is not an enhanced fishery.

The fishery is therefore eligible for assessment against the MSC Standard.

5 OVERVIEW OF THE FISHERY

5.1 Overview and history of the fishery

The North Sea saithe fishery is prosecuted by vessels from Norway and a number of EC Member States. The Norwegian fleet accounts for over 50% of landings. The EC share of the saithe TAC is taken by France (17%), Germany (11%), United Kingdom (8%), Denmark (6%), Sweden (2%) and Poland (1%).

The 2012 TAC for the saithe fishery in Sub-areas IV and VI and Division IIIa was 87,550t. The Erzeugergemeinschaft der Hochsee - und Kutterfischer GmbH fleet of vessels account for over 99% of German landings of saithe from the North Sea, amounting to landings of 9,405t in 2011. The 2012 TAC allocated to Germany for ICES areas IV and IIIa was 8,241t. In the period since 2002, landings in this UoC have been less than the allocated share of the TAC.

The main fishing areas for the German otter trawl fleet have varied in recent years. The fleet now tends to fish along the Norwegian trench and occasionally in the Skagerrak (see Figure 2). The change in fishing patterns in the North Sea itself are a response of the fleet to increasing fuel costs and fisheries regulations limiting days at sea, which have resulted in a shift from landing fish at the home port of Cuxhaven to the Danish ports of Hanstholm and Thyboron. This minimises steaming time between the fishing grounds and place of landing, and thus makes better use of the days at sea restrictions that apply to the fleet.

Trawling in the Skagerrak is reported to take place during October-November if and when saithe aggregate for a period of time before dispersing.

5.1.1 Recent TAC and landings data

The most recent TAC, quota allocations and landings by the UoC fleet are summarised in Table 2.

Table 2: Total Allowable Catch, quota and landings data for the UoC in 2011-12.

Total TAC in most recent fishing years	2011 TAC: 93,318t 2012 TAC: 79,320t
UoC share of TAC	2011 Fishing Year EC share: 43,842t Of which German share: 9,565t
Client share of TAC	HUK Quota for 2010 fishing year: 10,839.7t HUK Quota for 2011 fishing year: 9,495.5t
Green weight of catch taken by client group	HUK catch, 2010: 10,375t HUK catch, 2011: 9,405.5t

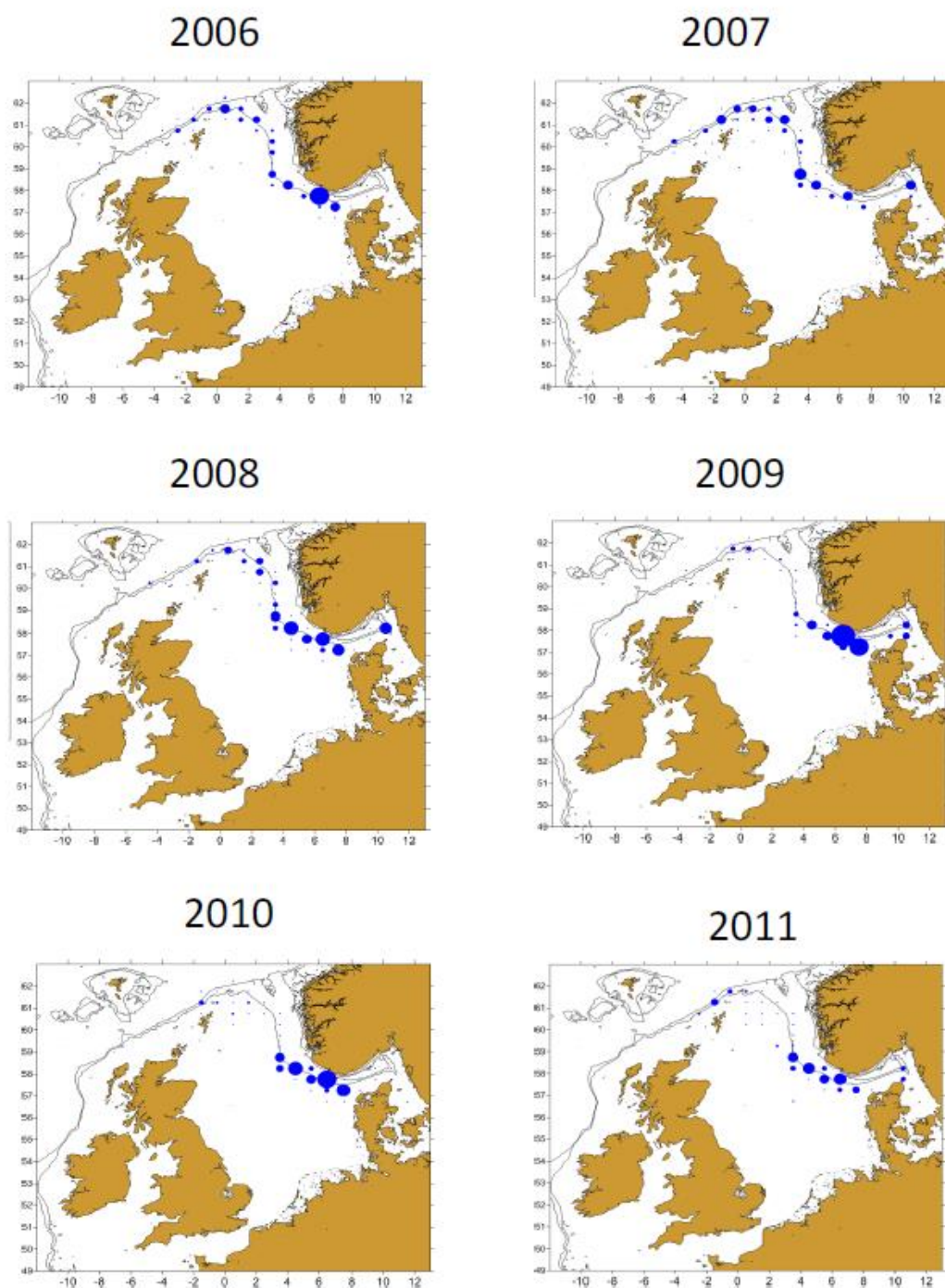


Figure 2: Spatial distribution of the German trawl fleet saithe catches, 2006-11 [Source: ICES, 2012c].

5.2 Principle One: Target Species Background

5.2.1 Biology of the target species

Juvenile saithe are mainly distributed in inshore nursery grounds, in sheltered bays and coastal waters along the west and south coasts of Norway, the coast of Shetland and the coast of Scotland (ICES 2006b). Around age 3 they migrate from the coastal areas to the northern part of the North Sea, mainly along the shelf edge between 57°N and 62°N, where the feeding grounds of the adult part of the stock are situated. Age at maturity is between 4 and 6 years, and spawning takes place in January-March at about 200 m depth along the shelf edge and the western edge of the Norwegian deeps (Fig. 3).



Figure 3: Spawning grounds of “North Sea” saithe (FRS Aberdeen)

Larvae and post-larvae are widely distributed in Atlantic water masses across the northern part of the North Sea, and the 0-groups appear along the coasts of Norway, Shetland and Scotland in May. The west coast of Norway is probably the most important nursery ground for saithe in the North Sea.

When saithe exceed 60-70 cm in length the diet changes from plankton (krill, copepods) to fish (mainly Norway pout, herring, sandeel, haddock and blue whiting). Large saithe (>70 cm) often aggregate in dense shoals in water depths of around 200 m, and tagging studies suggest that migrations are largely restricted to inshore – offshore movements, with feeding migrations extending far into the Norwegian Sea and across the Norwegian deeps to the coast.

Before 1999, saithe in Subarea IV and Division IIIa and saithe in Subarea VI were treated as separate stock units for management purposes. Present biological knowledge shows no evidence that saithe in Division IVa and VIa belong to separate stock units: there seems to be a similar recruitment pattern and the spawning areas in these divisions are not separated (ICES 2012b). The stock assessment area for ‘North Sea’ saithe therefore now covers Subarea IV (North Sea), Division IIIa (Skagerrak), and Subarea VI (West of Scotland and Rockall), though two TACs are set: one for Subarea IV and Division IIIa, and one for Subarea VI.

Tagging experiments by various countries have shown that there is some exchange between all saithe stock components in the north-east Atlantic (ICES 2012b). For example, a substantial migration of immature saithe from the Norwegian coast between 62° N and 66° N (part of the “north-east Arctic” stock) to the North Sea has been shown to occur (ICES 2012b). 0-group saithe, on the other hand, drift from the northern North Sea to the coast of Norway north of 62° N. ICES’ current advice is that

saithe stocks in both these assessment areas are at ‘full reproductive capacity’ and considered to be ‘harvested sustainably’.

5.2.2 Stock assessment

ICES’ assessment of the saithe stock in IV, IIIa and VI uses an age-based model (XSA) that incorporates three survey abundance indices (from two Norwegian and an international bottom-trawl survey) and three commercial indices (from France, Germany and Norway). Discards and by catch are not included in the assessment. The graphics below show the summary of the saithe stock assessment carried out in May 2012 (weights in thousand t).

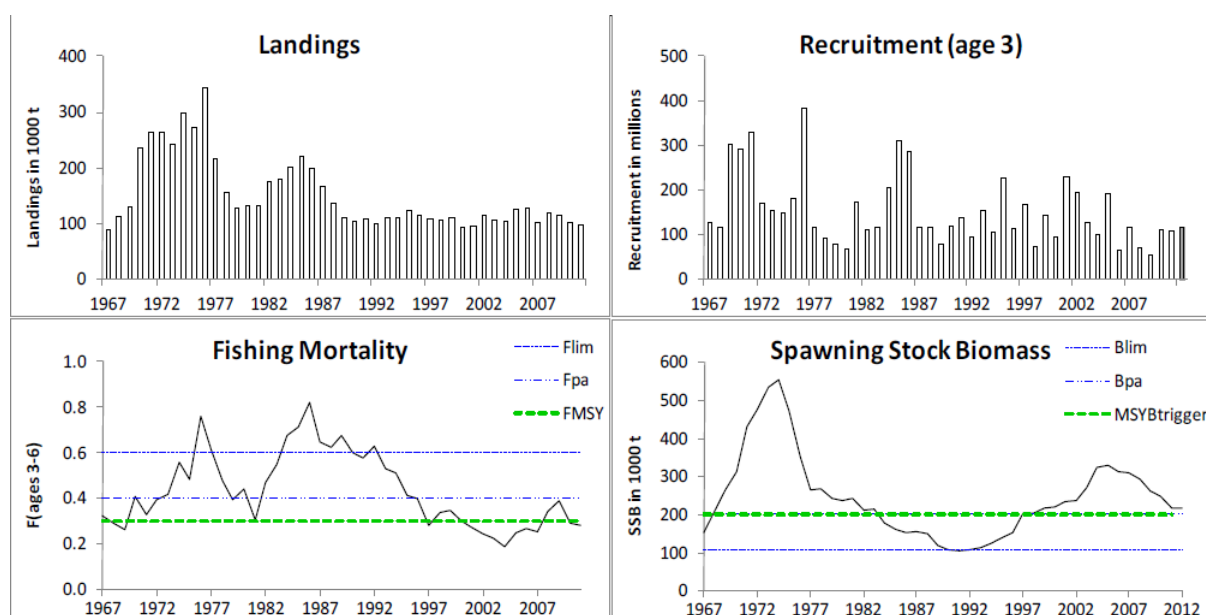


Figure 4: Summary statistics of the saithe stock assessment carried out by ICES in May 2012 (weights in thousand t). The predicted recruitment value (2012) is shaded (source ICES 2012a).

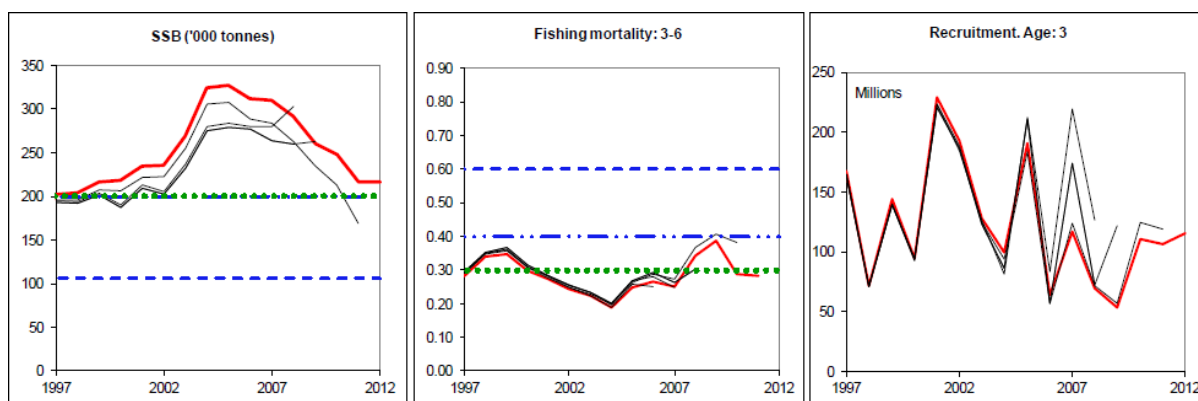
The assessment indicates that SSB has been above B_{pa} since 1997, but has declined since 2005 towards B_{pa} (=MSYBtrigger). Fishing mortality has fluctuated around F_{MSY} since 1997. Recruitment has been below the long-term average since 2006. This assessment estimates SSB in 2012 to be 30% higher than estimated in November 2011, and fishing mortality in 2010 is estimated to be 25% lower, but does not alter ICES’ perception of stock status. The change was caused mainly by the revision of age distribution in the Norwegian catches in 2010.

The reported landings have been lower than the TACs during the past nine years, but the reduction of the TAC in recent years has gradually lessened the difference between landings and TAC.

There are a number of sources of uncertainty in the assessment model: the age distribution of Norwegian catch data has been revised substantially for 2010 (which influences the biomass estimate in the whole assessment); there are conflicting signals between the individual scientific surveys, which have shortcomings in depth range or coverage of adult saithe, and commercial cpue indices are therefore used for tuning. However, the 2012 assessment is consistent with that carried out in

November 2011 and, during discussions with vTI scientists, it became apparent that it makes better use of commercial data and is considered to offer a more reliable assessment. The stock assessment takes account of the potential effect of the gear and location of fishing activity in relation to the age structure in the commercial catch data, and reference points are considered to be satisfactory, though they are statistically estimated and have no explicit biological basis.

The retrospective trends in the historical assessment results (final-year recruitment estimates included) are shown below. In particular, estimates of recruitment are considered very uncertain due to strong year effects in the surveys in the last three years. For this reason, ICES included the commercial cpue tuning fleets at ages 3–9 in the November 2011 assessment update, and also in the 2012 assessment.



ICES observes that the catch forecast is highly sensitive to the recruitment estimate for the terminal year, and intends to evaluate whether new survey information that becomes available in September forms a basis to update the advice. In the event, no new advice was published in 2012. vTI agreed with anecdotal reports from the fishing industry that there are signs of a strong year class coming through in 2012, noting that data from the Norwegian juvenile survey in coastal waters fit well with the XSA (model) output of estimates of recruits over that past 5-6 years.

ICES Advice for 2013

ICES advice is provided on the basis of the EU–Norway management plan, which uses the SSB at the beginning of the intermediate year (2012) to determine the status of the stock. Since SSB at the beginning of 2012 is above Bpa, and an $F = 0.3$ will give a larger change than 15%, paragraph 5 of the harvest control rule applies, resulting in a TAC of 100,684 t and an SSB in 2014 of 252,000 t.

In November 2012, ICES' response to a special request for advice on options to revise the Long-Term Management Plan for saithe in the North Sea was that all the harvest control rule (HCR) options result in less than 5% annual risks of the stock being below Blim in the short term (next 4 years) (see 5.2.3.1 Harvest Strategy).

In 2012, ICES put forward mixed-fisheries advice for the first time (ICES, 2012d, f), in which cod is the limiting species for the North Sea demersal fisheries in 2013 (EU fleets fishing for saithe have been managed under the effort regime of the EU cod management plan since 2009). Following the 'cod' scenario (full implementation of the cod management plan), the saithe management plan catch options would not be fully utilized.

Information from the fishing industry

Saithe has had growing importance for both the Danish and Scottish fleets. The fishers' survey



(Napier, 2012) and the fishing industry representatives see improved stock status in the last two years, after a period of low recruitment, which is rather more optimistic than the latest ICES assessment.

In November 2012 the assessment team concluded that the saithe stock fished by the UoC is within biologically safe limits and is being fished sustainably, and that uncertainties in the assessment have been identified and are being addressed through research and appropriate consideration in the stock model. The concerns that were raised in the June 2011 advice were artefacts of changes in the assessment methodology used by the ICES WGNSSK in May 2011, and the May 2012 assessment is consistent with that of November 2011.

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5.2.3 Management of the stock

5.2.3.1 Harvest Strategy

The harvest strategy for the North Sea saithe fishery is set within the EC-Norway management agreement for the North Sea and Skagerrak. The current management plan for this stock is designed to achieve the key objectives, which are to maintain the SSB above 106,000 t (B_{lim}) and set a TAC consistent with a fishing mortality that will maintain or return SSB to above 200,000 t ($MSYB_{trigger}$). The harvest strategy is to set a TAC consistent with $F=0.30$ if SSB is above 200,000 t; F between 0.20 and 0.30 if SSB is 106,000 - 200,000 t; or $F=0.10$ if SSB is below 106,000 t (B_{lim}).

This harvest strategy responds to the state of the stock in that it can respond to annual changes indicated by the stock assessment, and it is clearly designed to achieve the management plan objectives reflected in the target and limit reference points.

In November 2012, ICES' response to a special request for advice on options to revise the Long-Term Management Plan for saithe in the North Sea was that all the harvest control rule (HCR) options result in less than 5% annual risks of the stock being below B_{lim} in the short term (next 4 years). In the long-term, it is uncertain whether the stock will develop in accordance with the precautionary approach (i.e. with less than 5% risk of being below B_{lim}), and ICES advises that the HCR selected for management should be re-evaluated within 4 years (i.e. no later than 2016) and revised if necessary.

5.2.3.2 Harvest control rules and tools

The harvest control rule for the North Sea saithe fishery supports the strategy developed under the EU-Norway management plan. It uses the SSB at the beginning of the intermediate year to determine the level of fishing mortality to be applied to set a TAC for the following year. The exploitation rate is therefore reduced as limit reference points are approached.

Potential uncertainties are the accuracy of the assessment (which has been consistent apart from a methodological problem in May 2011 described in section 5.2.2) and the estimate of recruitment used in the catch forecast (TAC) for the coming year. Discarding and slippage are not taken into account in the stock assessment, but are regarded as minimal and unlikely to affect the outcome. The main uncertainty concerns the level of recruitment to the stock in the 2 or 3 most recent years used on the catch (TAC) forecast. However, the allowed adjustment in exploitation level from year to year according to the harvest control rule (in response to changes in SSB) is too small to be influenced by these uncertainties. The design of the harvest control rules clearly takes into account a wide range of uncertainties that can be managed, whilst environmentally-induced changes in saithe stock production are much slower to develop and will be implicitly dealt with in ICES' stock assessment.

Note that vessels fishing for saithe in the North Sea are subject to the effort control related to engine power and days at sea under the North Sea cod recovery programme, which reduces their potential to catch their saithe quota.

The exploitation levels of North Sea saithe have fluctuated around 0.3 (F_{MSY}), since 1997, SSB has remained above $MSYB_{trigger}$ since 1998, and TACs have not been exceeded since 2005 when the first long term management plan was introduced. This demonstrates that the tools are effective in controlling exploitation.

5.2.3.3 Information & monitoring

Comprehensive information on stock structure, abundance and productivity is available through the ICES North Sea saithe assessment, whilst information on fleet composition and fishery removals is

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available through national and international monitoring schemes (under the CFP and Norwegian authorities).

International landings statistics from the North Sea saithe fishery, and research survey and observer monitoring, are used by ICES to conduct an annual assessment of the stock's dynamics and its exploitation level. This assessment has been carried out since 1987 and generates the ICES advice which supports the harvest control rule, by tailoring annual TACs and quotas to stock (SSB) levels via control of F. Landings of all fleets are monitored in real time so that any potential overrun of national quotas is avoided.

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5.3 Principle Two: Ecosystem Background

5.3.1 Retained non-target species

Retained species are those that are caught along with saithe and landed ashore.

EC and Norwegian fishery regulations require that all vessels maintain a logbook recording their catch whilst at sea, and also report their landings. This provides information about the quantity of non-target species retained by the fishery.

The species of fish capture and retained (or discarded) by the fishery are also recorded by independent fishery observers from the von Thunen Institut (vTI). Over the previous period of certification (2007-12), data from 32 observer trips have been provided, covering 5 of the vessels in the client fleet of 10. The observers have recorded all of the species caught during these trips from sub-samples of fish landed on deck. The results provide fishery-independent verification of the official catch and landings data, and are summarised in Table 3 below.

The overall pattern is that the saithe trawl catches are very “clean”, with relatively few other species recorded, and only cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*) formed more than 1% of the total catch. It is understood that whilst the identity and abundance of all species in the catch are recorded, biological measurements are only made for certain key species (saithe, cod and haddock).

Under Principle 2, the MSC standard requires that the “main” retained species (those that account for 5% or more of total landings) are used in scoring, failing which it is incumbent on us to use species that are considered particularly sensitive. This would include cod, which is severely depleted in the North Sea and subject to a recovery plan, and any species of which catches taken by the client fleet represent a significant proportion of overall mortality.

Annual landings of individual species by the client fleet can be estimated by raising the quantities of each species recorded caught on observer trips in Table 3 by the ratio of saithe recorded to the total landings of saithe by the UoC. Based on data for 2011, when the species composition was similar to the 6-year mean shown in Table 3, and for which the most recent international landings statistics are available, the estimated UoC landings of cod (353 t), haddock (188 t), hake (81 t), pollack (76 t), ling (52 t) and monkfish (9 t) represent respectively 0.8%, 0.4%, 0.1%, 0.8%, 0.1% and 0.4% of the total international landings of these species taken either from the North Sea and Skagerrak or the appropriate stock unit, as reported in ICES Advice for 2012. All other species in the catch are assumed to represent similar or lower levels of the respective populations.

In 2008 the client fishery launched its own “*Stopp Discard*” project, which was established to monitor the effectiveness of new fishing gear designed to minimise the capture of non-target species, and in particular the capture of smaller individuals that would have to be discarded. As a result of this EU-funded work, the client fleet now operates with a much larger mesh trawl than before.

Table 3: Catch of target and non-target species in the saithe trawl fishery recorded on 32 observer trips over the period 2007-2012. Species making up more than 1% of the catch in that period are highlighted.

Common name	Scientific name	2007		2008		2009		2010		2011		2012		Total catch 2007-12	Proportion of catch
		kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	Σkg	%
Target Species															
Saithe	<i>Pollachius virens</i>	160,260	96.19	465,957	96.77	335,933	94.42	266,367	89.61	189,292	91.85	128,844	93.70	1,546,653	93.76
Non-target Species															
atlantic mackerel	<i>Scomber scombrus</i>			213		40		8		118		18		398	0.02
atlantic wolffish	<i>Anarhichas lupus</i>	65		173		71		153		477		73		1,012	0.06
beaked redfish	<i>Sebastes mentella</i>			3		14								17	
blue whiting	<i>Micromesistius poutassou</i>			59										59	
cod	<i>Gadus morhua</i>			6,700		8,737		16,350		7,102		3,699		44,000	2.67
cuckoo ray	<i>Raja naevus</i>			7											
cusk	<i>Brosme brosme</i>			67		62		49		8		21		266	0.02
fanfish	<i>Pterycombus brama</i>					3								3	
garfish	<i>Belone belone</i>							1						1	
golden perch	<i>Sebastes marinus</i>			1		12		2						15	
greater fork-beard	<i>Phycis blennoides</i>			1										1	
grey gurnard	<i>Eutrigla gurnardus</i>			33		6		7		53		0		99	0.01
haddock	<i>Melanogrammus aeglefinus</i>			3,694		6,817		8,827		3,772		757		25,057	1.52
herring	<i>Clupea harengus</i>			24		8		45		13				90	0.01

Common name	Scientific name	2007		2008		2009		2010		2011		2012		Total catch 2007-12	Proportion of catch
		kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	Σkg	%
hake	<i>Merluccius merluccius</i>			1,211		846		2,046		1,633		798		7,586	0.46
horse mackerel	<i>Trachurus trachurus</i>			3		1		50		20				74	
common dab	<i>Limanda limanda</i>					5		41						46	
lemon sole	<i>Microstomus kitt</i>	1		84		56		40		56		7		244	0.01
ling	<i>Molva molva</i>			1,354		950		575		1,044		2,025		6,936	0.42
lumpfish	<i>Cyclopterus lumpus</i>			65		570		16		23				674	0.04
megrim	<i>Lepidorhombus whiffiagonis</i>			20						22				42	
monkfish	<i>Lophius piscatorius</i>			454		569		234		177		191		1,893	0.11
nephrops	<i>Nephrops norvegicus</i>			0						0				1	
norway pout	<i>Trisopterus esmarki</i>													0	
plaice	<i>Pleuronectes platessa</i>	0		2		6		81		234		1		324	0.02
pollack	<i>Pollachius pollachius</i>	6,021		980		908		1,940		1,533		951		12,334	0.75
poor cod	<i>Trisopterus minutus</i>			1										1	
rough dab	<i>Hippoglossoides platessoides</i>			3		0		12		3				17	
roundnose grenadier	<i>Coryphaenoides rupestris</i>			1		1								2	
sandeel	<i>Ammodytidae</i>									2				1	
scaldfish	<i>Arnoglossus laterna</i>			1										1	
smooth hound	<i>Mustelus mustelus</i>											4		4	
spurdog	<i>Squalus acanthias</i>							7		17		4		1	

Common name	Scientific name	2007		2008		2009		2010		2011		2012		Total catch 2007-12	Proportion of catch
		kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	Σkg	%
squid	<i>Loligo spec.</i>			15								4		19	
surmullet	<i>Mullus surmuletus</i>							0							
starry skate	<i>Raja radiata</i>			147		8		2		28		4		190	0.01
three bearded rockling	<i>Gaidropsarus vulgaris</i>					1								1	
tope	<i>Mustellus mustellus</i>											4		4	
torbay sole	<i>Glyptocephalus cynoglossus</i>	1		37		10				21		2		71	
turbot	<i>Psetta maxima</i>			2				10		5				17	
twaite shad	<i>Alosa fallax</i>											3		3	
white halibut	<i>hippoglossus hippoglossus</i>			100		109		166		42		55		491	0.03
whiting	<i>Merlangius merlangus</i>			86		94		216		437		57		890	0.05
Total catch during cruises with scientific observer onboard		166,348		481,498		355,836		297,247		206,129		137,523		1,649,536	100
Catch of non-target species during cruises with scientific observer onboard		6,330		15,546		19,870		30,886		16,790		8,659		102,883	6.24

5.3.1.1 North Sea Cod

North Sea cod stocks are currently depleted and subject to a Cod Recovery Plan (EC Regulation 1342/2008). This applies to all fishing vessels that may catch cod, including the saithe trawl fleet. The fleet is required to fish to the north of 56°N, and to operate within the constraints of a small cod quota. There is evidence from ICES that the Cod Recovery Plan is starting to work, with levels of F continually falling and the SSB increasing from a low point in 2008 (ICES, 2012e).

The UoC fleet employs various measures to reduce their impacts on cod. The trawls are reported to have a mesh size of 125-128mm, which exceeds legislative requirements and reduces the catch of juvenile fish; and Kutterfisch also launched their own “Stopp Discard” project, which has eliminated discarding from this fleet.

Observer reports from Kutterfisch saithe trawlers throughout the past 4 years of certification indicate that cod form a consistently small proportion of the catch (and see Table 3). All of this catch is landed, including any unfit for human consumption that might otherwise be discarded, and landings are made within the small (150t) cod quota allocated to the Kutterfisch saithe trawling vessels, which is generally not fully utilised. Total international cod landings from the North Sea in 2011 were 34,983t. The Kutterfisch saithe trawl fleet quota thus represents around 0.4% of cod landings¹.

Fish landings in Germany are closely monitored by BLE to ensure compliance with quota allocations and conformity with the “catch plan” that vessels are required to prepare each year. BLE report that, in late 2007 (prior to certification of the fishery), the saithe trawl fishery was closed because the projected cod by-catch from ongoing saithe trawling was likely to exceed the German cod quota for that year. This was the only occasion that such action has been required.

It is clear that, under present circumstances, the activity of the saithe trawl fleet under assessment results in a very low incidence of cod capture, and that this is managed according to the requirements of the North Sea Cod Recovery Plan, which is showing signs of success.

5.3.1.2 Other species

The observer data summarised in Table 3 indicate that haddock, hake, pollack, ling and monkfish are the only species that contribute more than a negligible proportion of the overall catch. Though it is estimated that catches of these species represent less than 1% of the respective landings by all fisheries from the North Sea and Skagerrak, we provide brief summaries of their stock status below.

North Sea haddock

The North Sea haddock stock is assessed using an age-based XSA by ICES, which provides advice set against MSY and precautionary approach-based biological reference points (ICES, 2012h). Though recent recruitment has been moderate, and the stock has been declining steadily since 2003, it is currently within all safe reference levels ($F \approx F_{MSY}$; $SSB > MSY$ Btrigger) and retains full reproductive capacity. An EU–Norway management plan has been implemented and ICES has endorsed it as being consistent with the MSY and precautionary approaches.

*Ling *Molva molva**

There is no quantitative stock assessment for ling in the North Sea, where its stock status is inferred from trends in catch per unit of effort in the Norwegian long-line fisheries. There has been a sustained positive trend since 2000, but the status of the stock is unknown in the absence of biological reference

¹ Note that two of the Kutterfisch saithe trawl fleet specifically target cod for part of the year when they are not fishing for saithe, and catch more than this during that period, within their quota allocations made under the cod recovery plan. This activity does not form part of this assessment.

points.

Monkfish *Lophius piscatorius*

The anglerfish stock is subject to a trends-based assessment using abundance indices from directed Irish and Scottish anglerfish surveys. Trends in both abundance and biomass appeared to peak about 2007 – 2008 and have since been declining.

Hake *Merluccius merluccius*

The northern hake stock is subject to a length-based analytical assessment, but ICES has not been able to agree on biological reference points with which to ascertain stock status, apart from an estimate for F_{MSY} . Following an EU stock-recovery plan introduced in 2004, SSB has been increasing steadily and estimates of F have showed a sustained decline over the past 5 years (though they remain above F_{MSY}).

Pollack *Pollachius pollachius*

There is no analytical assessment nor any biological reference points for pollack, and the state of the stock is unknown. However, total international landings from the North Sea have been relatively stable at c. 1500 – 2000 t over the past 20 years.

5.3.2 Discarded non-target species (also called “bycatch” and “discards”)

For the purposes of an MSC assessment, discarded species are considered to be those that are captured in the fishery but are then returned to the sea rather than being retained. In simple terms, these are the species that are thrown over the side of a fishing vessel as the catch is being sorted at sea.

Discarding from fishing vessels can occur for a variety of reasons. Some species are discarded because they have no market value; fish that have been damaged during the fishing process may be discarded for the same reason; other fish may be discarded if they are too small to meet minimum legal size requirements under fisheries legislation; “high grading” may occur if landing quotas for particular species are stringent; and fish may be discarded if the vessel has no quota allocation to allow them to be landed.

The UoC fleet employs various measures to reduce the need for discarding. The trawls are reported to have a mesh size of 125-128mm, which exceeds legislative requirements and reduces the catch of small fish. Much of the UoC’s saithe fishery takes place within Norwegian waters, where discarding of saithe, cod and other commercial species is prohibited. Though discarding is not presently regulated in EC waters (although the current CFP reform is addressing this issue), the Kutterfisch “Stopp Discard” project has eliminated discarding from this fleet wherever it operates.

The assessment team noted that all of the fish that are caught by the Kutterfisch vessels are landed against the vessel quota. This includes landings of fish that are unsuitable for human consumption, which are then processed for fishmeal ashore.

The effectiveness of the measures employed by the UoC fleet can be seen in Table 3. Even on observer trips when vessels are operating in EC waters (where discarding is currently permissible) no discarding has been recorded.

5.3.3 Interactions with Endangered, Threatened and Protected Species

The MSC define Endangered Threatened & Protected (ETP) species as those that are recognised by national ETP legislation and those species that are listed in Appendix 1 of the Convention on International Trade in Endangered Species (CITES)². The species that fall within the scope of this definition include the species listed in Annex II of the EC Habitats Directive (92/43/EC) and the Wild Birds Directive (2009/147/EC). The species listed in this legislation which could be vulnerable to capture in North Sea trawl fisheries are:-

- Bottlenose dolphins (*Tursiops truncatus*)
- Harbour porpoise (*Phocoena phocoena*)
- Harbour seals (*Phoca vitulina*)
- Grey seals (*Halichoerus grypus*)
- Basking shark (*Cetorhinus maximus*)
- Marine turtles (several species)

Recent EC Regulation (44/2012) prohibits EU vessels from fishing for, retaining or transshipping certain fish species, including:-

- Basking shark
- Great white shark (*Carcharodon carcharias*)
- Porbeagle shark (*Lamna nasus*)
- Angel shark (*Squatina squatina*)
- Common skate (*Dipturus batis*)
- Undulate ray (*Raja undulata*)
- White skate (*Rostroraja alba*)
- Guitarfishes (Rhinobatidae)

In 1998 the EC introduced measures to protect cetaceans from marine fisheries (EC Regulation, 88/98 subsequently amended by Regulations 812/2004 and 809/2007). Whilst principally directed at drift net fisheries, these measures also apply to trawl fisheries. They require, *inter alia*, that observers are carried on fishing vessels of more than 15m overall length to monitor cetacean by-catch, and that Member States establish appropriate means for recording bycatch incidence.

There are currently conservation concerns about the spurdog (*Squalus acanthias*). Whilst this species is not formally protected under legislation, a zero TAC has been set for spurdogs over the past few years, thereby prohibiting landings but not fishing. This protection has been maintained in EC Regulation 43/2012.

The legislation briefly summarised above determines the context against which the effect of this fishery on ETP species must be assessed.

Over the previous period of certification (2007-12), independent observers on 32 trips covering 5 of the vessels in the client fleet of 10 have recorded all of the species caught during these trips from sub-samples of fish landed on deck. Catches of ETP species in the saithe trawl fleet during these observer trips have been negligible (see Table 3). Raising these catch observations to the level of the fleet landings for the past 3 years suggest that less than 500kg of spurdog are caught by the fishery annually.

During 2011 there was a record from an observer trip of 3 twaite shad (*Alosa fallax*), which are listed

² Certification Requirements v1.2 at §CB3.11.1

in Annex V of the Habitats Directive. This record gives an indication of both the low level of incidental capture of ETP species in this fishery and also confidence that the observers are likely to detect even minor interactions with ETP species. vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery.

It is clear from the above that there have been no interactions between this fishery and any species that is listed in CITES Appendix 1, the EC Habitats Directive, the EC Birds Directive, or which are protected under fisheries legislation.

5.3.4 Interactions with marine habitats

The MSC Scheme requires that fisheries should be unlikely to cause serious or irreversible harm to habitats. Serious harm in this context means gross changes in habitat types or abundances, and disruption in the role of the habitats. Irreversibility means changes that represent some sort of regime shift from which it may not automatically recover. When assessing habitat impacts, the full extent of the habitats has to be taken into account, and not just the part of the habitats that overlap with the fishery (hence the habitat Component of the fishery is assessed on a bioregional basis, in common with the other Principle 2 components).³

These requirements mean that fisheries which have an impact on marine habitats can attain the MSC standard, providing that these impacts are neither serious nor irreversible. This section considers the potential impact of the German North Sea Saithe Trawl fishery, the habitats which may be affected by its operation, and the potential significance of the impacts.

Mobile fishing gear, such as otter trawls, can have an impact on seabed habitats. These impacts have been studied globally and in detail in the North Sea (see, for instance the review by Jennings & Kaiser, 1998; and also Frid *et al*, 1999). These studies indicate that the impact of fishing gear on seabed habitats is determined by several factors. The type of fishing activity and its intensity are very important, as is the sensitivity of the seabed. Some seabed habitats (such as biogenic reefs) are highly sensitive to even a low level of fishing activity; whilst other habitats (such as mobile sandy areas) are comparatively robust. Certain fishing methods (such as dredging and trawling using heavy gear) have a high impact on the seabed, whilst other fishing methods (such as static gear and pelagic trawls) have little or no impact on the seabed. The intensity of fishing is another important factor – intense fishing on a relatively robust habitat might have a significant adverse effect; whilst low fishing pressure in more sensitive areas might generate less concern.

The German otter trawl fishery uses fishing gear that is designed to be towed across gravel, sandy and muddy seabeds (see Figure 5). The groundropes have rubber bobbins (approx 30cm diameter) and the fleet does not use “rockhopper” groundropes or tickler chains. Nevertheless, the otter boards are designed to make contact with the seabed, and have the potential to disturb the seabed. The client reports that, after a long period of use, the bottom few cm of the otterboards become shiny, a result of the interaction with the seabed.

The client fleet has experimented with the use of benthopelagic gear, using otter boards that can be towed above the seabed, but has found that this gear was impractical to use. Over the past few years the weight of the otter boards used by the UoC fleet has been reduced to around 1.3t. By altering the location of the warp attachment, these otter boards can also be fished off the seabed to catch saithe at night, when they are typically 10-12m above the seabed (see interview I1, section 12.1.1).

³ See MSC CR v1.2 at §CB3.14.

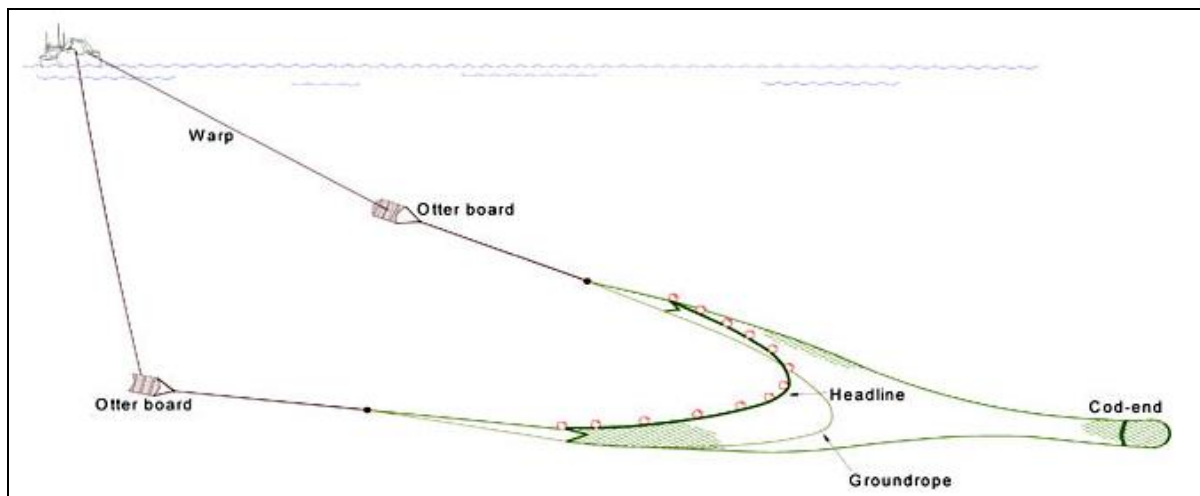


Figure 5: Diagram of a typical demersal otter trawl, showing key components of the fishing gear [Source: FAO, 2012].

The distribution of seabed habitats in the North Sea is well documented (see Figure 6). Comparison of this map with the distribution of fishing activity by the German saithe trawl fleet (Figure 2) indicates that the fishery is prosecuted over a relatively small proportion of the soft (mud / sand / gravel) seabed habitats in the northern North Sea.

Aggregated sediment map of the North Sea

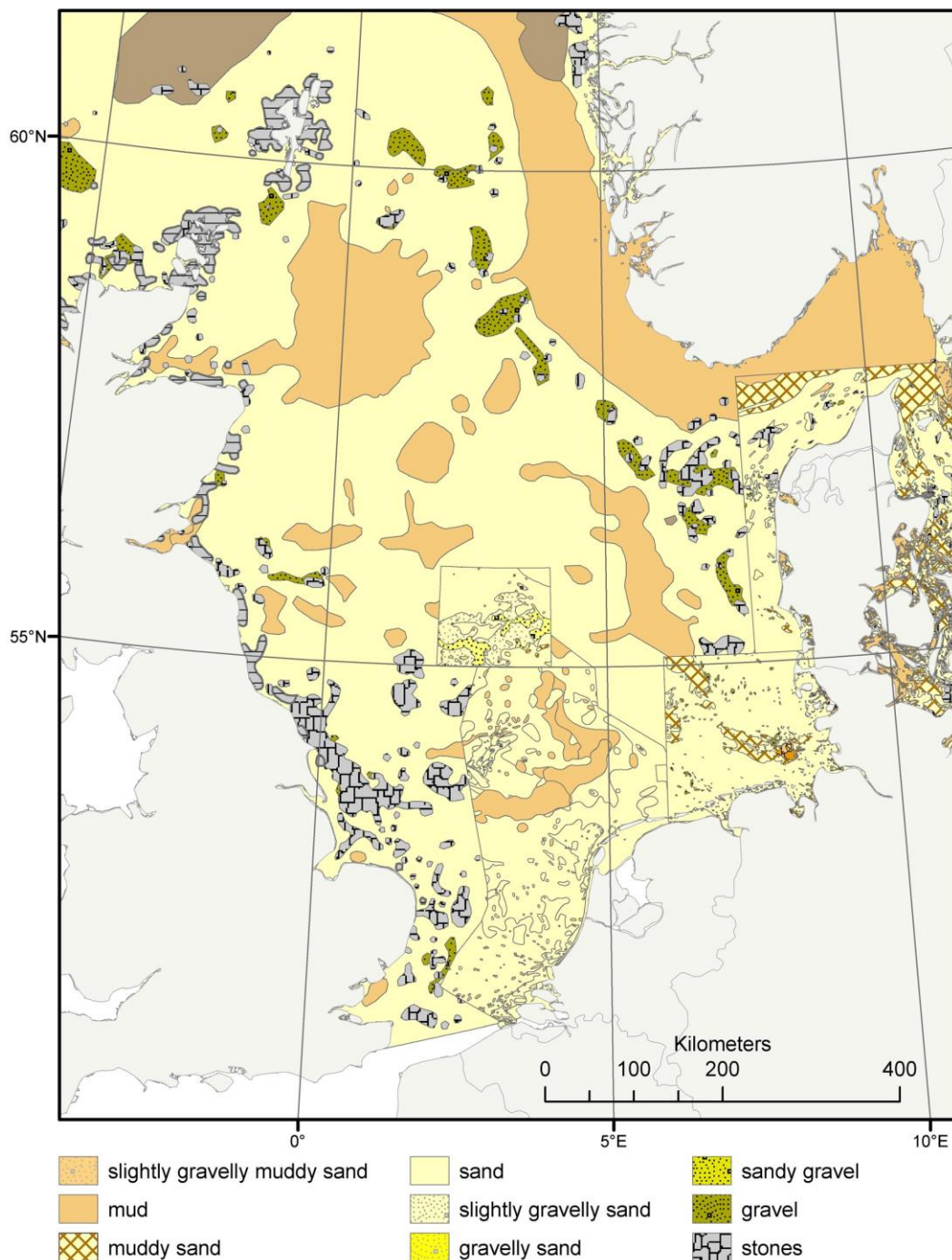


Figure 6: Aggregated sediment map of the North Sea [Source: Digital Atlas of the North Sea (Schluter & Jerosch, 2009)].

The significance of the effect of the fishery on marine habitats can be most objectively assessed by considering its impact on habitats that have been identified as sensitive, threatened and / or declining. To make this assessment, the assessment team has used two sources of information: the sea areas that are statutorily designated as “Natura 2000” sites under the EC Habitats Directive and EC Birds Directive in order to protect habitats and species; and the list of benthic habitats and species that has been identified by the OSPAR Commission (to which both the European Community and the German Government are contracting parties).

Interactions with habitats in Natura 2000 sites

There are a number of Natura 2000 sites in the unit of certification area. The location of these sites in the North Sea is shown in Figure 7. These sites have been identified and proposed on the basis of the best available information, and are intended to protect those marine habitats which are considered to be most likely to suffer severe or irreversible harm from human activities, including fishing.

A comparison of the distribution of fishing areas in the German North Sea Saithe Trawl Fishery (Figure 2) and the map of Natura 2000 sites below shows that there is an overlap with two Natura 2000 sites in the Skagerrak:-

- **Bratten** is a Natura 2000 site in Swedish waters. This site has been notified for protection by the Swedish Government because it supports many rare and fragile seabed species inhabiting reef habitats including the cold-water coral *Lophelia pertusa*; and the site also contains submarine structures made by leaking gases (“pockmarks”) (European Environment Agency, 2012b; Länsstyrelsen i Västra Götaland, 2012).
- **Skagens Gren og Skagerrak** is a site extending from the Danish coast northwards into the Skagerrak. It has been designated to protect a range of coastal habitats (various types of vegetated sand dune); subtidal sandbanks; and harbour porpoises (European Environment Agency, 2012c).

The nature of the saithe fishing activity that is conducted in the Skagerrak was discussed with the client before the potential interaction with Natura 2000 sites had been identified. It is reported that fishing in this area takes place only occasionally, in years when there are large pelagic aggregations of saithe between October and November.

Providing that fishing in this area is pelagic, there should be no adverse interaction between the fishery and the Bratten Natura 2000 site. There is little or no risk of interaction between the habitats in the Skagens Gren of Skagerrak Natura 2000 site, and available information indicates that the fishery does not adversely interact with harbour porpoises. Records indicate that the habitats that might be affected by the trawl fishery in both of these areas are in good condition, so if there had been any interaction, it appears to have had little or no effect (European Environment Agency 2012b, 2012c).

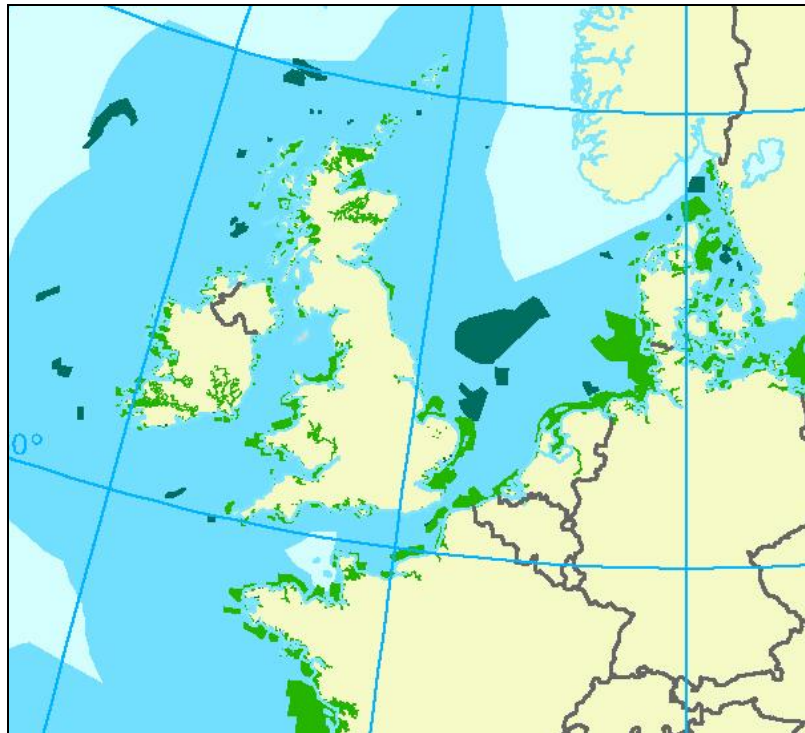


Figure 7: Location of marine Natura 2000 protected sites in Europe [Source: European Environment Agency, 2012].

Interactions with OSPAR habitats

In 2008, the OSPAR Commission identified 16 benthic marine habitats and species that were considered to be threatened or declining (OSPAR, 2012). These are:-

- Carbonate mounds
- Deep sea sponge aggregations
- Intertidal mudflats
- Intertidal mudflats - sub-type estuarine
- Intertidal mudflats - sub-type marine
- Intertidal *Mytilus edulis* beds on mixed and sandy sediments
- Littoral chalk communities
- *Lophelia pertusa* reefs
- Maerl beds
- *Modiolus modiolus* horse mussel beds
- Oceanic ridges with hydrothermal vents/fields
- *Ostrea edulis* beds
- *Sabellaria spinulosa* reefs
- Seamounts
- Seapens and burrowing megafauna communities
- *Zostera* beds including *Z. marina* and *Z. noltii* beds

The distribution of these species and habitats is available in map form for all of the North Sea (NBN Gateway, 2012). Having inspected all of these maps, it appears that only two of the OSPAR habitats occur close to the areas fished by the German North Sea Trawl Fishery. These are the cold water

coral (*Lophelia pertusa*) reefs; and the seapens and burrowing megafauna communities (see Figure 8 & Figure 9). A comparison of these figures with the known pattern of fishing activity by the German otter trawl fleet (Figure 2) indicates little, if any, overlap between these habitats and the fishery, and also that the habitats extend throughout and beyond the UoC area.

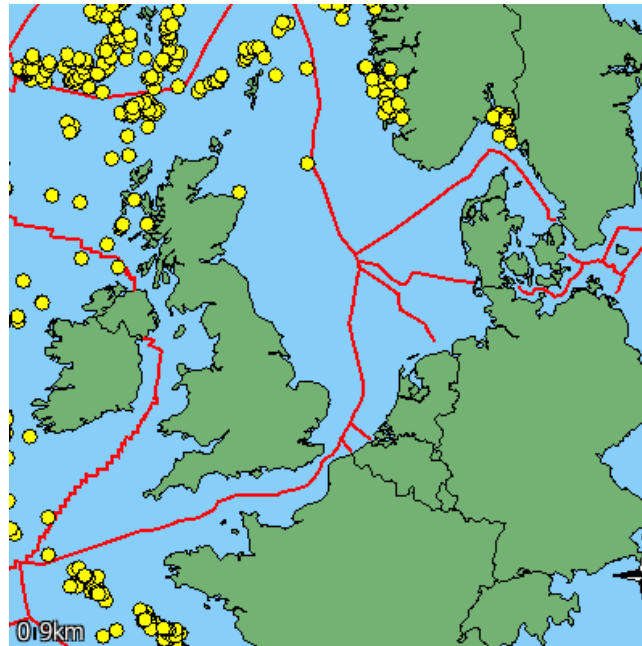


Figure 8: Distribution of *Lophelia pertusa* reefs. [Source: NBN Gateway, 2012]

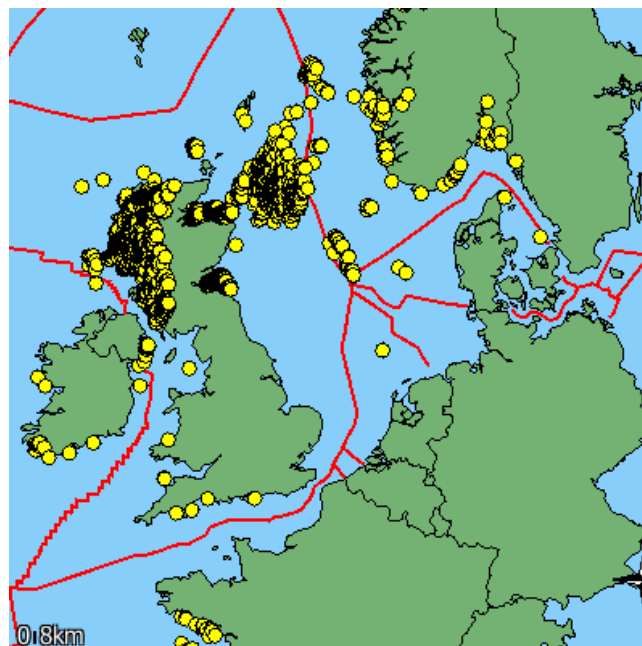


Figure 9: Distribution of sea pens and burrowing megafauna. [Source: NBN Gateway, 2012]

5.3.5 Ecosystem interactions

The North Sea is a semi-enclosed water body, situated on the continental shelf of Northwest Europe. Bounded by a number of countries, this relatively shallow sea (generally shallower than 200m) is strongly affected by both saline inflows from the north, and from freshwater inputs from the major rivers of the continent. It is a highly productive ecosystem, in which the highest values of primary productivity occur in the coastal regions (influenced by terrestrial nutrient inputs), on the Dogger Bank, and at tidal fronts.

The North Sea is the focus of a range of human activities, including fishing, dredging, oil and gas exploration, and shipping, and is a recipient for discharges from sources on land or offshore. In recognition of the potential impacts on the ecosystem, the Ministers at the 3rd Conference in The Hague in 1990 requested that OSPAR and ICES should establish a North Sea Task Force, with one of the tasks being to produce a Quality Status Report for the North Sea. This was completed in 1993 and identified fisheries as having major impacts on the North Sea ecosystem.

A range of information exists on elements of the North Sea ecosystem, including considerable knowledge on the oceanography, plankton and fish distribution and abundance. Certain types of data, notably those related to fisheries, physical oceanography, plankton and nutrients, are measured throughout the North Sea, with many programmes covering several decades of observation. Other data, including biological effects (ecotoxicology), sediment chemistry (contaminants), species introductions, hazardous algal blooms in coastal waters and benthos surveys tend to be more localized (for example concentrated in coastal waters) or cover a more limited period of time, i.e., years rather than decades.

The process of linking these components of the North Sea ecosystem is tasked to the ICES Regional Ecosystem Study Group for the North Sea (REGNS) (ICES, 2005), which met in May 2004 to develop a methodological approach for undertaking an Integrated Ecosystem Assessment of the North Sea. The process aims to bring together information from a range of other ICES Working Groups and organisations (including OSPAR and SAHFOS).

The feeding habits of saithe have been examined through data collected during annual research surveys and during the two ‘years of the stomach’ programmes (1981, 1991). These studies underlie the Multispecies VPA programme developed for the North Sea by the ICES Multispecies Assessment Working Group, which estimates the predation mortalities for 9 commercially important fish stocks based upon key fish predators, and by seabirds and seals (Sparre, 1984).

More recently, Cefas have published an ecosystem model to support an ecosystem approach to fisheries management in the North Sea (Mackinson and Daskalov, 2007). Detailed mass-balance trophic models of the North Sea have been developed using the Ecopath with Ecosim methodology (Daskalov & Mackinson, 2004). The net result of these studies has been to demonstrate that saithe are a high-trophic level predator in the North Sea ecosystem. The main effect that the removal of saithe from the North Sea by fishing is likely to be a reduction in predation on prey species, and a trophic cascade leading to impacts on other components of the ecosystem seems unlikely.

The impact of fishing gears on benthos and the geochemistry of the seabed of the North Sea has been the focus of many studies. The most notable impact is through the activities of the beam-trawl fleet, though demersal otter trawling cannot be disregarded. Comparisons of historical and modern data on benthic abundance and diversity have shown potential local effects (Frid et al, 2002), and more



regional changes in sessile, scavenger and predator species (Rumohr & Kukawski, 2000). These changes result from a combination of the physical impact of fishing and additional potential food for scavenging and predator species in fishing grounds that have been disturbed by fishing gear.

Though it is very difficult to separate the effects of commercial fisheries from natural fluctuations in reproductive success and predator-prey interactions, models suggest that trawling reduces biomass, production, and species richness. The impacts of trawling is greatest in areas with low levels of natural disturbance, and least in areas with high rates of natural disturbance. For the North Sea, models suggest that the bottom-trawl fleet reduced benthic biomass and production by 56% and 21%, respectively, compared with an unfished situation (Hidding et al, 2006). It should, however, be noted that the German North Sea Saithe Trawl fishery tends to take place on seabed habitats that are relatively resilient, and covers a relatively small area (see section 5.3.4 above).

The effect of the fishery on marine habitats and ecosystems in the North Sea is managed by EC Member States under a range of legislation and international agreements, including the EC Habitats Directive, EC Birds Directive, OSPAR Convention, Convention on Biological Diversity, Bern Convention and Bonn Convention. Collectively, these Conventions and Regulations create a framework for managing ecosystem impacts, and this approach is being developed further under the EC Water Framework Directive (2000/60/EC) and EC Marine Strategy Framework Directive (2008/56/EC), which aim to achieve good ecological and environmental status throughout the EC.

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5.4 Principle Three: Management System Background

5.4.1 Management Background and Legal Framework

The North Sea saithe fishery straddles the EU and Norwegian fishing zones, and is managed under an international agreement between the EC and Norway that has been in force since 1999. The management plan for the fishery is reproduced here:-

Management plan

In 2008 EU and Norway renewed the existing agreement on “a long-term plan for the saithe stock in the Skagerrak, the North Sea and west of Scotland, which is consistent with a precautionary approach and designed to provide for sustainable fisheries and high yields. The plan shall consist of the following elements:

1. Every effort shall be made to maintain a minimum level of Spawning Stock biomass (SSB) greater than 106 000 tonnes (B_{lim}).
2. Where the SSB is estimated to be above 200 000 tonnes the Parties agreed to restrict their fishing on the basis of a TAC consistent with a fishing mortality rate of no more than 0.30 for appropriate age groups.
3. Where the SSB is estimated to be below 200 000 tonnes but above 106 000 tonnes, the TAC shall not exceed a level which, on the basis of a scientific evaluation by ICES, will result in a fishing mortality rate equal to $0.30 - 0.20 * (200\,000 - SSB) / 94,000$.
4. Where the SSB is estimated by the ICES to be below the minimum level of SSB of 106,000 tonnes the TAC shall be set at a level corresponding to a fishing mortality rate of no more than 0.1.
5. Where the rules in paragraphs 2 and 3 would lead to a TAC which deviates by more than 15% from the TAC the preceding year the Parties shall fix a TAC that is no more than 15% greater or 15% less than the TAC of the preceding year.
6. Notwithstanding paragraph 5 the Parties may where considered appropriate reduce the TAC by more than 15% compared to the TAC of the preceding year.
7. A review of this arrangement shall take place no later than 31 December 2012.
8. This arrangement enters into force on 1 January 2009.”

The EC and the Norwegian Government meet annually in December to review the management measures enforced under this agreement, to determine the TAC for saithe for the coming year, and to agree any additional management measures that are necessary to ensure that the fishery is sustainable. The outcome of these meetings is transposed into management measures via Norwegian and EC legislation.

Within the EU fisheries zone, the saithe fishery is regulated through the EU Common Fisheries Policy (CFP), which came into being in 1983. It has been reviewed regularly and the current basic fisheries regulation (No.2371/2002) was adopted by the Council of Ministers on 20 December 2002. The CFP is currently under review, and a new Regulation is due to be agreed in early 2013 (European Commission, 2013).

The CFP Regulation sets out the strategic aims of the CFP and enables the Council of Ministers, or in certain cases the Commission, to make more detailed Regulations. The principal Regulations relevant

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to the saithe fishery are those that set the TAC and quotas for fishing fleets (EC Regulation 44/2012); specify technical restrictions for fishing activity (such as limits on trawl mesh size); and restrict fishing activity in the North Sea to encourage the recovery of cod stocks (EC Regulation 1342/2008). Outside the CFP framework, other EC legislation dealing with habitats and species protection is also relevant to fisheries management and to fishermen (see section 5.3.3 of this report).

EC Regulations are directly applicable in each Member State and throughout EC waters, meaning that all vessels from Member States and all vessels fishing in EC waters are legally required to abide by their provisions. Implementation of the CFP at a national level is carried out by each Member State's fishery enforcement agency. Member States Fisheries enforcement authorities co-operate in policing the fishery (e.g. satellite monitoring, landing recording etc). National Governments may also make their own domestic legislation to support the enforcement of EC Regulations.

The European Commission's fisheries inspectorate monitors the national enforcement process and its results. The Commission can also request fishery related data from Member States.

Within the Norwegian fisheries zone, the EU-Norway saithe agreement is implemented through national legislation. The Norwegian Government has regulations in force to prohibit the discarding of certain fish species, and also to govern the landing and trans-shipment of fish in Norwegian waters (Fiskeridirektoratet, 2009a).

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5.4.2 Consultation, roles and responsibilities

The saithe fishery is managed by a range of organisations, ranging from the international to the local level, and it provides opportunities for participation from a wide range of organisations. The key features of the management systems and processes relating to this fishery are summarised here.

5.4.2.1 Management regime

The management of this fishery is based upon a system of regular stock assessments and management review, carried out by many different organisations working together. The overall system is summarised in Figure 10 and explained below.

Scientific advice lies at the core of the management regime. This advice is provided by the ICES Advisory Committee (ACOM) which draws on the work on stock biology and marine science carried out by international scientists from relevant research laboratories and institutions. The specific working group dealing with various issues relevant to the North Sea saithe fishery is the Working Group on the North Sea and Skagerrak (WGNSSK), which may draw on the work of many other ICES working groups, study groups and workshops on, for example, surveys, reference points, recruitment processes and North Sea ecology.

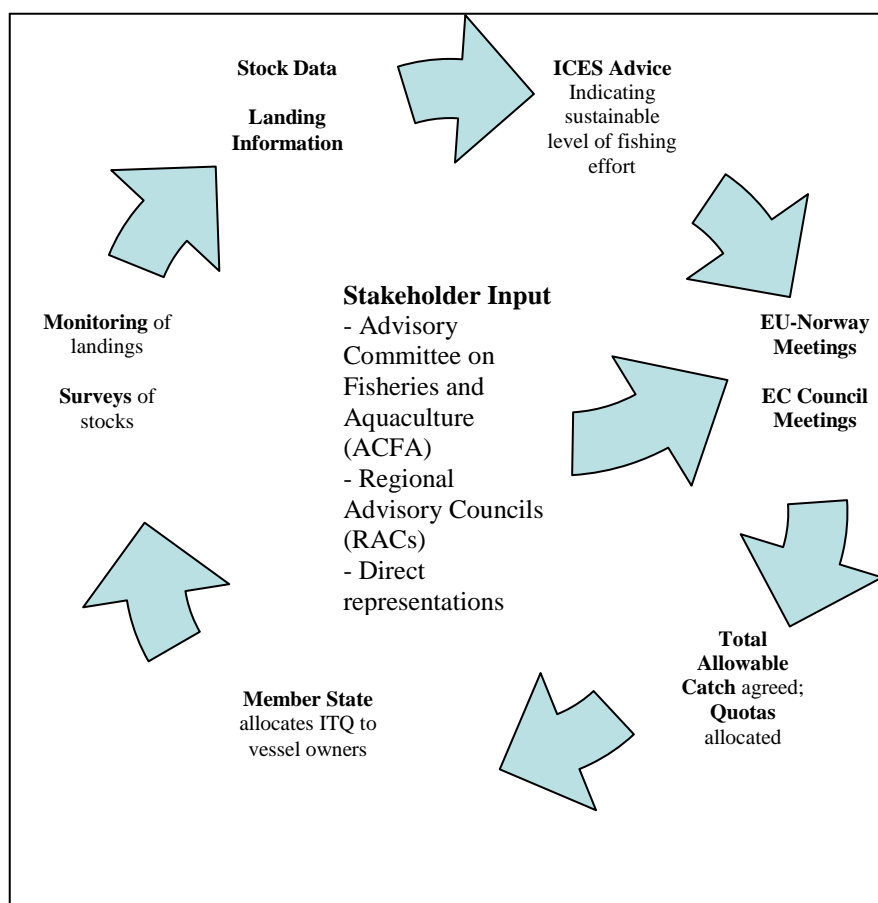


Figure 10: Diagram of the procedure for administering the management of the North Sea Saithe Fishery.

ACOM reviews and evaluates the assessments carried out by ICES Working Groups, and then provides advice on the status of target and non-target stocks to the European Commission. Where relevant (as for saithe), the advice is considered at a joint meeting between officials of the EU and Norway. ICES advice, translated into Commission proposals, is brought into the annual EU Council of Ministers for decision-making on management measures, in particular TACs and quotas for the following year. TACs and quotas for this fishery are set in this regulation for EU member states and the quota allocated to Norway is recorded.

The annual EU TAC is divided according an agreed dividing key among member states. Within EU member states, Fisheries Departments divide the national quota agreed each year between their various vessel-owners. In Germany, this quota is allocated to Producer Organisations (such as the client group). Vessel owners can swap quota with other operators. This allows individual vessels to operate with some flexibility without exceeding national quotas or the overall TAC.

Compliance with the quota system is monitored carefully. At the start of the year, all relevant German vessels have to submit an annual fishing plan to the BLE, who monitor the uptake of the quota against the fishing plan as the year progresses. Vessels have to report landings to the National Authorities who in turn report aggregate national information to the European Commission. If the stage is reached when the national quota is near to being taken, the Member State authority is required to make a decision to close the fishery of that Member State, working with the industry to achieve this. The client fleet operates according to this system.

The management regime for the fishery allows for regular and ongoing review of its performance. This occurs at every level of the system, with policy documents formulated at a European Commission level as a result of initiatives at national, sub-national and European levels. These policies and resulting operational plans and practices are then subject to wide consultation before ratification, and prescribed monitoring and evaluation processes after ratification. These systems also include formal consultation and review processes involving all EC Member State fisheries administrations, and committees such as ACOM, STECF (the committee by which the European Commission seeks expert opinion on fisheries), and the Regional Advisory Councils (RACs) dealing with regionally specific technical issues (of which the body specifically incorporating industry and NGO's interests for the North Sea is the North Sea RAC).

Data gathered by management institutions also informs the management regime, and the work of the management organisations in every Member State is itself subject to review. The data that are used to inform the management regime includes the register of vessels, fleet activity (days at sea & VMS data), inspection and monitoring of landings, and catch monitoring (through scientific observer programmes).

5.4.2.2 Consultation

Extensive consultative processes are in place at national and European levels to debate policy, plans and management, and recent years have seen the introduction of more formal procedures to incorporate a wider stakeholder community within such consultations.

At a European level, key institutions are the Advisory Committee on Fisheries and Aquaculture (ACFA)- which comprises a contact group at the European level for all stakeholders at national and regional levels – and the RACs, which provide a regional forum for advising the EC about fisheries management issues. The North Sea RAC is involved in the management of the saithe fishery (see Figure 11). The client for this assessment is a member of the North Sea RAC, and thus directly engaged in the management and consultation framework for the fishery.

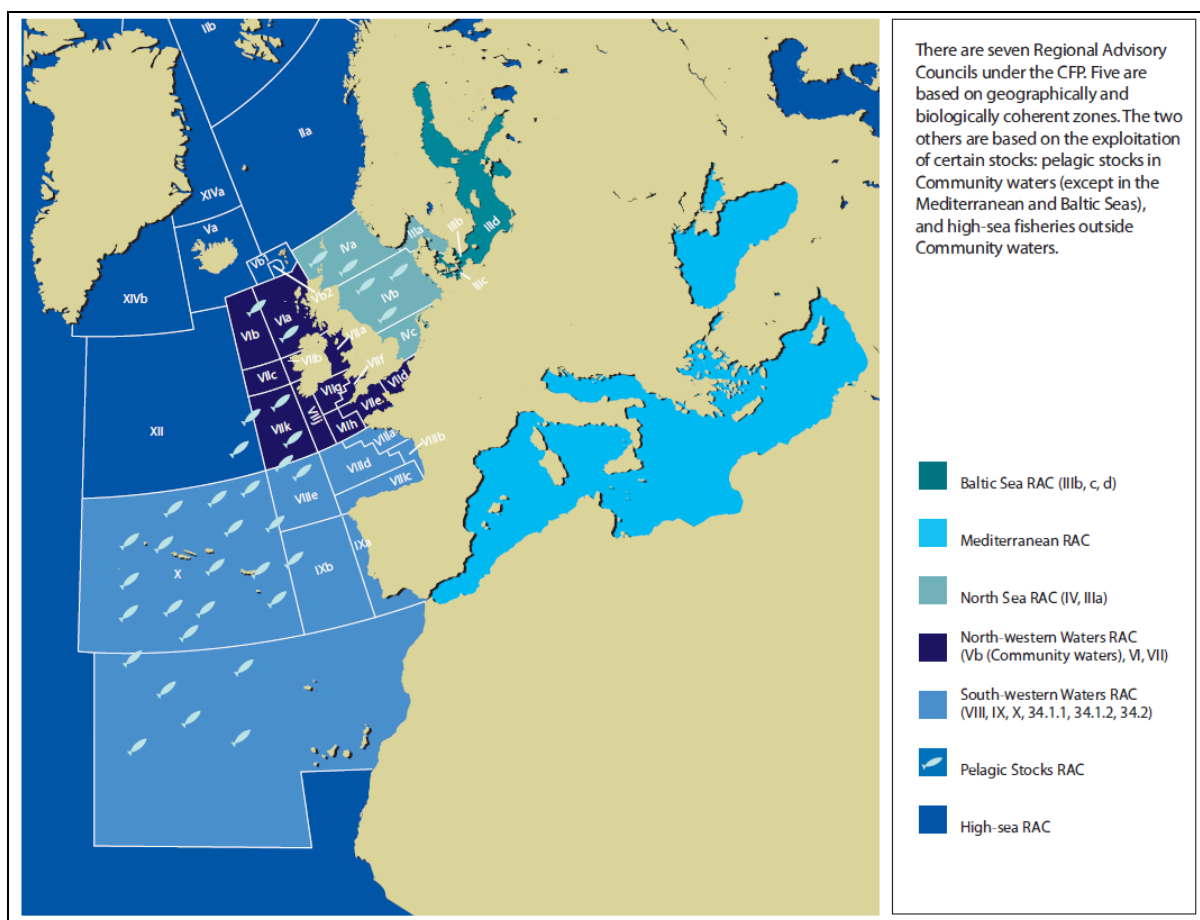


Figure 11 Map showing the extent of the Regional Advisory Councils (RACs) established under the EC CFP in 2002 (from EC, 2009(c))

At a national level, Member State administrations operate formal consultation procedures combining mailings on current issues and proposed changes to management systems and meetings with key stakeholders. In Germany, the BLE work closely with the client fleet to manage quota uptake and to discuss management issues associated with the fishery (such as the recent implementation of the new “electronic logbook” equipment required under EC Regulations).

5.4.3 Long-term management objectives

The overall long-term objectives for the North Sea saithe fishery are set by the EC-Norway management agreement for the North Sea and Skagerrak.

The current management plan for this stock was renewed in 2008. This plan specifies stock levels and reference points, providing a transparent framework for agreeing annual TACs for saithe. The key objectives of the plan are:-

- Maintaining the SSB above 106,000 t (B_{lim});
- Setting a TAC consistent with a fishing mortality of 0.30 if SSB is above 200,000 t, between 0.20 and 0.30 if SSB is 106,000 - 200,000 tonnes and 0.10 if SSB is below 106,000 t.

ICES reviewed this management plan in 2008 and concluded that it was consistent with the precautionary approach, and subsequently reviewed the plan again in 2012 to reach a similar conclusion (ICES, 2012g). Further information about the management plan, stock assessment and reference points is set out under section 5.2 of this report.

The EC-Norway agreement is supported by management objectives set out in the CFP (2371/2002) which introduces the concepts of precautionary management, sustainability and the conservation of biodiversity. An additional set of management objectives arise from the North Sea Cod Recovery Plan and EC Regulation (1342/2008). These require that management of the saithe fishery should minimise impacts on cod stocks in the North Sea. Similar measures are being developed for the Skagerrak (European Commission, 2012b)

The management regime also includes measures that are relevant to MSC Principle 2. These can be seen in EC legislation. The EC CFP regulation (2371/2002) contains provisions to enable fisheries to be managed in order to protect marine ecosystems (at Article 8(1)); the Green Paper on the review of the CFP takes this commitment further (European Commission, 2009c).

5.4.4 Incentives for sustainable fishing

Economic and social incentives are provided by the management regime through the allocation of resources (quota) at a level compatible with sustainable fishery management. This regime is supported by a legal regime that provides an additional incentive to comply with management measures, through the penalties that can be imposed for non-compliance with the CFP. Administrative, technical and quota-related offences can all result in legal action, prosecution and fines. These measures all contribute to sustainable fishing and ecosystem management, and are regularly reviewed as part of the ongoing process of fisheries management established by the CFP and the EU-Norway agreement.

The EC and Member States provide funding to the fishing industry. Until recently this was provided via the Financial Instrument for Fisheries Guidance (FIFG), which was superseded by the European Fisheries Fund (EFF) in 2007. Concerns have been raised by some NGOs that FIFG represented a subsidy to the industry. However the actual aims of FIFG were to “*achieve a balance between fisheries resources and their exploitation*”. The purpose of the EFF is to both support the industry as it adapts its fleet to make it more competitive and also to promote measures to protect and enhance the environment. One of the main objectives of the EFF is to “*promoting environmentally-friendly fishing and production methods*”. It is, therefore, clear that the objectives of both FIFG and EFF are consistent with MSC Principles, and that there are no subsidies that would encourage unsustainable

fishing.

Within Norwegian waters, there is a ban on discarding the main commercial fish species, including saithe (Fiskeridirektoratet, 2009b). Similar measures are being discussed for EC waters as part of the 2012 CFP review.

The client group's own internal policy is firmly committed to reducing unsustainable practices, both through the operation of its vessels, and through representations to the EC to encourage the introduction of further management measures. The client took action to discourage discarding with its "*Stopp Discard*" project, and has adopted measures (such as large mesh trawls and lighter weight trawl doors) which help to minimise any adverse effects of the fishery.

5.4.5 Fishery-specific objectives

The administration of the fishery provides a mechanism for transposing the overall objectives of the EC-Norway Saithe Agreement into a specific quota allocation for each vessel operating in the fishery. This mechanism is briefly summarised here.

Clear long-term objectives are set out in the management plan for this stock (summarised in section 5.4.3), which embrace a precautionary approach and determine management policy for the fishery.

Short-term management objectives are determined for the fishery annually when fishing opportunities (TACs) for the coming year are set in the light of the long-term objectives for the fishery. The overall TAC for the stock is then shared as a quota between Norway and the EC.

The quota that is allocated to the EC under the EC-Norway Agreement is shared among the EC Member States. The quota allocation between EC Member States is largely pre-determined, according to the principle of "Relative Stability", which means that proportional allocations of TAC to Member States are consistent from year to year. . Quota allocations can be "swapped" between Member States.

At the national level, the quota is shared between vessels on the basis of historic rights and other quota entitlements through national allocations. These allocations determine the fishing opportunities for each vessel prosecuting the North Sea saithe stock. Again, opportunities arise for "swapping" quota between vessels, subject to certain rules.

Resources are allocated in Germany by the BLE. After annual quotas have been agreed by the EC, the BLE issues a "Verteilungsplan" ("Distribution Scheme") indicating the quota for each fishing vessel for each target species and ICES fishing area. The fishing vessel operator is then required to agree an "Operatives Programm" ("Operational Programme") with BLE, agreeing to these regulations and setting out the fishing plan for the coming year.

Compliance with these objectives is measured by the EC and Member States, through monitoring of landings, surveillance of fishing fleets, inspections of vessels at sea, and monitoring of vessels during fishing trips. Information gathered by monitoring the fishery is used to inform future management decisions.

5.4.6 Decision making processes

Both the EC CFP process and the EC-Norway Agreement represent established decision-making

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processes that result in measures and strategies that deliver fishery specific objectives – such as setting annual TACs that are compatible with precautionary management of the stock.

Decisions are based upon the best available information, provided by ICES and stakeholder groups. Performance of the fishery relative to these objectives is measured monthly through landings data, which provides near real-time recording of catch levels and quota uptake. The ICES WGNSSK working group monitors and reports annually on the performance of the fishery in terms of SSB and F relative to reference points, as well as reporting on unrecorded mortality.

The decision-making process provides a mechanism for responding to all relevant issues, through opportunities for stakeholder engagement, and through a broad suite of management objectives that are set out in the CFP. Stakeholders have the opportunity to participate in the management of the fishery at national and EC levels. The North Sea RAC provides a formal mechanism for key stakeholders to participate directly in the management of this fishery.

The transparency of the decision-making process has been further facilitated in recent years by the publication of Commission proposals for fishing opportunities several months in advance of EC Council decisions. These proposals include an assessment of policy trends, and an explanation of the method for determining TACs (European Commission, 2012).

Tried and tested procedures exist to reduce harvest in response to annual scientific advice and ongoing monitoring results. These measures can be quickly implemented. This was demonstrated for herring in 1996 when the TAC was halved in the middle of a fishing year after scientists advised that the biomass had fallen to a level well below B_{lim} , and for the German saithe fishery in 2007 when landings of cod from the Unit of Certification were threatening to exceed the quota set under the cod recovery plan..

There is evidence that the management system has successfully responded to stock status in EC fisheries generally. Since 2003 there has been a steady reduction in the number of fish stocks that are overfished, a corresponding increase in the number of stocks that are considered to be inside safe biological limits, and a fall in the incidence of scientific advice to stop fishing (European Commission, 2012).

The outcome of meetings of the Council of Ministers clearly demonstrates that all of this information is taken into account, and explains the basis for management actions. This information is formally reported.

5.4.7 Compliance and enforcement

Enforcement of Regulations is carried out by EC Member State Governments and the Norwegian Government. Within Germany, the BLE is responsible for the enforcement of EC and national fisheries legislation. BLE fishery officers monitor fish landings, record vessel movements (from VMS satellite monitoring), and monitor compliance with technical measures governing fishing gear. These tasks are carried out by the Norwegian authorities within Norwegian waters.

The European Commission's Fisheries Inspectorate monitors national enforcement processes, and records its results. The Commission can also request fishery-related information from Member States. Member States collaborate with each other and the EC to ensure that EC Regulations are enforced at sea, beyond Member State Territorial Waters. Member States' Fisheries Patrol Vessels and Aircraft, as well as the VMS system, provide information on the activity of vessels at sea.

In April 2005 the EC Council of Ministers agreed to set up the Community Fisheries Control Agency (Council Regulation (EC) No 768/2005). The Agency was created to undertake operational co-ordination to help Member States fulfil their control and inspection obligations. It strengthened the uniformity and effectiveness of enforcement by pooling EU and national means of fisheries control and monitoring resources and co-ordinating enforcement activities. This operational co-ordination has helped to tackle the shortcomings in enforcement resulting from the disparities in the means and priorities of the control systems in the Member States. The Agency has not changed the obligations of the Member States in enforcing CFP measures or those of the European Commission in ensuring that Member States fulfil these obligations. The CFCA is instead providing a coordinating role working to encourage collaborative enforcement by Member States that is specifically targeted at particular fishing activities.

Within the Norwegian fisheries zone, vessels of all nationalities are required to comply with Norwegian fisheries regulations and are subject to regular inspection by the Norwegian Navy. These regulations include requirements to notify the Norwegian authorities in advance of any plans to make fish landings, and also to make themselves available for inspection at nominated points in the Norwegian sector before leaving. The Norwegian authorities collaborate with other nations to control fishing in this area.

Vessels breaching fisheries regulations can be prosecuted. Offences taking place in Norwegian waters are heard in Norwegian Courts; offences detected in EC waters are heard by Member State courts. Stringent penalties, defined by legislation, can be imposed on offenders in each jurisdiction.

At present the client fleet makes most of its landings to ports in Denmark. Landings are inspected by the Danish authorities to ensure that they comply with logbook records of the catch aboard the vessel (an error of up to 10% between logbook records and actual landing weight is permissible). The catch is also inspected to ensure that fish comply with EC MLS requirements.

The assessment team has contacted the relevant enforcement bodies associated with this fishery. No evidence of any incidents of non-compliance by the client fleet has been brought to our attention.

5.4.7.1 Illegal, Unregulated and Unreported (IUU) Fishing

The bodies responsible for managing this fishery have recently taken steps to reduce the incidence of IUU fishing. Until recently, the responsibility for addressing IUU fishing lay with the “flag state”, which was required to take action if one of its registered vessels was found to be carrying out IUU fishing. There have been growing concerns about the effectiveness of this approach. New measures now apply in the Unit of Certification area, which enable concerted international action against IUU fishing through the application of “port state measures”.

The EC has made a Regulation under the CFP to address IUU fishing specifically (Council Regulation 1005/2008). This came into force on 1st January 2010, and sets out a legally enforceable framework based upon a catch certification scheme that will distinguish legally caught fish from IUU fish. These requirements mean that all fish have to be accompanied by paperwork that unambiguously identifies its provenance.

The Norwegian Government has also taken action against IUU fishing. It has supported work by the FAO to address this issue, and recently reached agreement with the EC to develop the catch certification scheme and systems for strengthening administrative cooperation (EC, 2009a). The Faroe Islands have also reached a similar agreement (EC, 2009b).

This suite of measures means that any vessels that are engaged in IUU fishing can be readily identified, prevented from landing fish in the UoC area, and prosecuted for breaching Port State Measures (PSM). PSMs are now being enforced by the relevant authorities throughout the UoC area and in all of the EC Member States, including Germany.

5.4.8 Research Planning

Research into this fishery is largely undertaken by national fisheries scientists working together under the auspices of ICES, which facilitates cooperation, collaboration and consistency in fisheries research and advice. ICES reports on current stock status and, through its working and study groups, identifies priorities for future research.

The ICES working groups routinely gather and analyse information on stock status, and also investigate specific issues such as recruitment and larval survival. The ICES working groups also develop and review assessment methodologies used in the fishery. Other issues such as climate change, associated changes to plankton, and ecosystem effects of fisheries are also investigated by ICES study groups and workshops.

The results of ICES research and stock assessments are condensed into management advice by ACOM. This advice is submitted to the Norwegian Government and the EC to guide future management of the stock in advance of annual negotiations of TACs and fishing opportunities.

All of the results of ICES research are disseminated to interested parties in a timely fashion through reports and publications, all of which are readily available from the ICES website.

5.4.9 Monitoring and Evaluation of Management Performance

The management regime for this fishery incorporates measures that allow for review of both the EC-Norway Management Plan, as well as for the EC CFP.

The TAC allocation for the saithe fishery made under the EC-Norway Management Plan is reviewed annually, in the light of ICES advice. The TAC is adjusted in response to this advice. This annual review is subject to internal scrutiny, and through ICES advice on the status of stocks and performance of the short and long-term management system are also subject to external review (WGNSSK, 2012).

Within the CFP, regular internal review of the management system occurs at every level. At the EC level, policy documents are reviewed internally and by Member States. The resulting policies, operational plans and practices are then subject to wide consultation before implementation, and regular evaluation. These systems also include formal consultation and review processes involving all EC Member State fisheries administrations, and committees such as ACOM, STECF, ACFA dealing with industry concerns at a European level, and the RACs dealing with specific technical and management issues (of which the body specifically incorporating this fishery's interests is the North Sea RAC).

There is also on-going and extensive review of stock assessment and data gathering methodologies at ICES level and at the level of the contributing laboratories and research institutions. Within ICES, a methods working group keeps methods for fish stock assessment under regular review. In addition, other study and working groups exist to review the precautionary approach, discards, biological sampling, reference points, and recruitment variability.



ICES can, and does, involve external scientists in extensive review of its methodologies if considered necessary, and working group stock assessments are subject to external review. The North Sea RAC, where a range of interested stakeholders come together, also provides an opportunity for review of management advice and decisions.

The EC CFP is subject to decadal review. The 2012 review of the CFP is underway whilst this assessment is being carried out. At the time of writing, the EC has consulted its Member States (and national Government have in turn carried out public consultations with national stakeholders). Member States have made representations to the EC. The EC Council of Ministers agreed on their approach to reform in June 2012, and this approach was considered by the European Parliament in September 2012. The European Parliament is due to adopt its position on CFP reform in January 2013, and this will lead to the formulation of a new CFP for the next ten years. This reform process subjects the management regime to intense internal and external scrutiny.

In summary, the management system is subject to internal review at all levels while key parts of the management system are subject to rather less frequent external review.

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6 EVALUATION PROCEDURE

6.1 Harmonised Fishery Assessment

There are currently six MSC-certified saithe fisheries in the North Sea, including the German North Sea Saithe Trawl Fishery. These are the DFPO Denmark North Sea and Skagerrak Saithe, Euronor Saithe, German North Sea Saithe, Norway North Sea Saithe, Scapêche and Compagnie de Pêche de St Malo saithe, and UK Fisheries / DFFU / Doggerbank Group Saithe fisheries. There is also another North Sea saithe fishery under assessment (the Scottish Sustainable Fisheries Accreditation Group (SFSAG) Saithe fishery).

These MSC-certified fisheries and the fishery under assessment overlap with the fishery under assessment, and the assessment team is required to ensure that the outcome of the overlapping assessments is consistent (these requirements are set out in the MSC Certification Requirements at §27.4.13 and in Annex CI).

The actions we have taken to harmonise this assessment with the other MSC-certified saithe fisheries in the North Sea are summarised below.

- **Assessment tree** – this fishery is being assessed using the default assessment tree, which has also been used on all of the other North Sea Saithe fisheries that have been assessed since the default assessment tree was introduced.
- **Consistency of outcomes** – the assessment team has examined the Public Certification Reports and the most recent Surveillance Audit reports for all of the other North Sea Saithe fisheries in order to ensure that the outcome of this assessment is consistent with those of overlapping fisheries using the same type of fishing gear. Our key finding with respect to consistency of outcomes concerns stock status, and is summarised below:-
 - **Stock Status Outcome** – during the period 2011-2012 there were several discussions between the Conformity Assessment Bodies responsible for different MSC certified North Sea saithe fisheries in response to concerns about the status of the saithe stock. The most recent of these discussions took place on 6th January 2012, and led to several of the certified fisheries rescoring PIs 1.1.1 and 1.1.3. Subsequent ICES advice showed that the SSB of the saithe stock was 30% higher than thought in November 2011, with fishing mortality correspondingly lower. Where there have been subsequent surveillance audits, these two PIs have been re-scored and there is no apparent need for a condition relating to stock status any longer.

The outcome of this assessment is consistent with that of the most recent overlapping assessments, and there are no significant areas of difference between this and other overlapping assessments which required any meetings or formal discussions between CABs to ensure harmonisation.

Any differences between the scores that are awarded for this fishery and those for other North Sea saithe fisheries will be due to differences between the fishing gear and fishing practices of the respective fleets of vessels.

6.2 Previous assessments

This fishery was awarded an MSC certificate in October 2008. Certification was subject to three conditions, all of which were closed at the 4th surveillance audit in 2012. A summary of the conditions and progress with them is presented in Table 4 below.

Table 4: Summary of Previous Assessment Conditions

Condition	Closed? (Y/N)	Justification
Uncertainties in the assessment.	Yes	<p>This stock is now managed in line with the ICES and EU implementation of the MSY approach. The stock assessment and management approach have been scrutinised by WKBENCH and WGNSSK in 2011 and 2012.</p> <p>There is good evidence that information (or the lack of it) has been used in a precautionary manner in the management of the saithe stock. Uncertainties are addressed in the stock assessment, and recommendations for the annual TAC take account of these uncertainties and an appropriate degree of precaution.</p> <p>The original score of 75 was revised to a score of 100 at the 4th Surveillance audit.</p>
By-Catches	Yes	<p>Over the period of certification, data from 32 independent observer trips have been provided, covering 5 of the vessels in the client fleet of 7. The observers have recorded all of the species caught during these trips from sub-samples of fish landed on deck.</p> <p>The overall pattern is that the saithe trawl catches are very “clean”, with relatively few other species recorded, and with numbers of individuals of each non-target species also very low (the most abundant non-target species typically make up less than 1% of the catch).</p> <p>The original score of 75 was revised to a score of 90 at the 4th surveillance audit.</p>
North Sea Cod By catches	Yes	<p>The North Sea Cod Recovery Plan remains in force and constrains the activity of the saithe trawl fleet. The fleet is required to fish in areas north of 56°N, and to operate within the constraints of a small cod quota. There is evidence from ICES that the cod recovery plan is starting to work, with levels of F continually falling and the SSB increasing from a low point in 2008.</p> <p>The fleet employs various measures to reduce their</p>

Condition	Closed? (Y/N)	Justification
		<p>impacts on cod. The trawls are reported to have a mesh size of 125-128mm, which exceeds legislative requirements and reduces the catch of juvenile fish; and Kutterfisch also launched their own “Stopp Discard” project, which has eliminated discarding from this fleet. All cod that are caught by the Kutterfisch vessels, including any unfit for human consumption that might otherwise be discarded, are landed against the vessel cod quota.</p> <p>The total Kutterfisch cod quota is 150t per year, and is generally not fully utilised. Total international cod landings from the North Sea in 2011 were 34,983t. The Kutterfisch quota thus represents around 0.4% of cod landings.</p> <p>Fish landings in Germany are closely monitored by BLE to ensure compliance with quota allocations and conformity with the “catch plan” that vessels are required to prepare each year.</p> <p>The original score of 75 was revised to a score of 100 at the 4th surveillance audit.</p>

6.3 Assessment Methodologies

The MSC Certification Requirements (v1.2 at §27.8.11-27.8.13) specify that the assessment methodology shall be stated in the assessment report. This information is set out in the table below.

Table 5: Summary of Assessment methodology used.

Item	Detail
Version of MSC Certification Requirements	Version 1.2, 10 th January 2012
Version of Full Assessment Reporting Template	Version 1.2
Default Assessment Tree Used	Yes
Adjustments made to Assessment Tree	Not applicable.

6.4 Evaluation Processes and Techniques

6.4.1 Site Visits

A site visit for this fishery was conducted in October 2012. The itinerary of the site visit is set out below.

Table 6: Site visit itinerary.

Date	Location	Individuals contacted
17 th October 2012	Cuxhaven	
	Kutterfischer GmbH – client for the fishery	Jörg Petersen Kai-Arne Schmidt
	State Fisheries Inspectorate	Hans Hashagen, Fisheries Inspector
18 th October 2012	Hamburg	
	Bundesanstalt für Landwirtschaft und Ernährung	Sabine Manthey-Ehrich
	Johann Heinrich von Thünen-Institut	Alexander Kempf Kai Panten Jens Ulleweit

6.4.2 Consultations

A record of meetings held is included in Appendix X. All aspects of the fishery and its management were discussed in these meetings.

6.4.3 Evaluation Techniques

This assessment was announced through direct email sent by Intertek Moody Marine to stakeholders, notification on the MSC website, Fishery Updates sent by the MSC to interested parties globally, and an advertisement placed in Fishing News International.

The MSC Principles and Criteria set out the requirements of certified fishery. The certification methodology adopted by the MSC involves the interpretation of these Principles and Criteria into specific Performance Indicators and Scoring Guideposts against which the performance of Fishery can be measured. In order to make the assessment process as clear and transparent as possible, these identify the level of performance necessary to achieve 100, 80 (a pass score), and 60 scores for each Indicator.

This assessment used the Standard Assessment Tree set out in MSC Certification Requirements v1.2. Use of this assessment tree has been the subject of stakeholder consultation (direct e-mail from IMM; notification on the MSC website; and notification via the MSC Fishery Updates). No comments were received from any stakeholders on the use of this assessment tree.

For each Performance Indicator, the performance of the fishery is assessed as a ‘score’. In order for the fishery to achieve certification, an overall score of 80 is considered necessary for each of the three Principles, 100 represent ideal best practice and 60 a measurable shortfall. A fishery cannot be certified if a score below 60 is recorded. As it is not considered possible to allocate precise scores, a



scoring interval of five is therefore used in evaluations. Scores are allocated based on the consensus opinion of the assessment team.

6.4.4 Risk Based Framework

The Risk Based Framework has not been used for this fishery.

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7 TRACEABILITY

7.1 Eligibility Date

The target⁴ eligibility date for this fishery is 8th October 2013, the date on which the existing period of certification will end.

7.2 Traceability within the Fishery

Intertek Moody Marine has evaluated the key elements of traceability within the fishery as required by MSC Certification Requirements at §27.12.1, below.

a) Tracking & tracing systems

The vessels operating in the Unit of Certification are tracked at all times by satellite VMS systems. The vessels are also required to report the fishing location, the type of fishing gear used, and the quantity of fish caught daily using the EC electronic logbook system. These reports are reconciled with fishery observer data and landings records. There is therefore a high degree of confidence that the fishing activity carried out by the vessels under assessment is tracked and recorded by independently verifiable mechanisms.

b) Catch segregation and labelling

The catch is sorted at sea, and stored in fish boxes that are labelled with the date of capture and fishing location.

c) Risk of vessels fishing outside the UoC

The saithe quota allocation for ICES Division IIIa and Sub-area IV matches the UoC area. The location of all catches and their origin has to be recorded by each fishing vessel. Vessel activity is monitored using VMS equipment. The risk of a vessel fishing undetected outside the UoC area is therefore very low.

d) On-board processing

Fish are gutted at sea and landed whole. There is no processing of the fish at sea.

e) Trans-shipment and first point of landing

There is no trans-shipment of fish at sea. All of the catch is landed, currently to Hanstholm or Thyboron in Denmark.

f) Risk of substitution of certified fish with non-certified fish prior to and at the point of landing.

At certain times of year some of the vessels may fish for other species of fish and in other areas using other types of fishing gear. EC Regulations prohibit vessels from carrying more than one type of gear at any time. The traceability systems in place for monitoring areas of fishing and the type of fishing gear used mean that any saithe caught during this activity are clearly identified and segregated from MSC-certified fish.

The risk of substitution of certified fish with non-certified fish and comingling of MSC and non-MSC product is therefore considered to be very low.

⁴ This date will become an "Actual Eligibility Date" in the Public Certification Report.



7.3 Eligibility to Enter Further Chains of Custody

Intertek Moody Marine has evaluated the eligibility of fish from this fishery to enter into further chains of custody as required by MSC Certification Requirements at §27.12.2, below.

a) Eligibility to enter further certified chains of custody

Tracking and traceability information for this fishery is considered sufficient for product to be eligible to enter further chains of custody.

b) Parties eligible to use the fishery certificates

The only company eligible to use the fishery certificate is Erzeugergemeinschaft der Hochsee - und Kutterfischer GmbH. The only vessels eligible to operate within the fishery are those specified in this report or listed in the current MSC Certificate for the fishery.

c) Eligible points of landing

The eligible points of landing are Hanstholm and Thyboron in Denmark.

d) Point of change of ownership from which Chain of Custody certification is required

The point of change of ownership for product from the fishery will be acceptance of fish by customers into their own storage and processing facilities. All merchants and processors wishing to sell MSC certified fish that has been purchased from this fishery will therefore require their own Chain of Custody certification.

7.4 Eligibility of Inseparable or Practically Inseparable (IPI) stock(s) to Enter Further Chains of Custody

No IPI stocks are involved in this assessment.

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8 EVALUATION RESULTS

8.1 Principle Level Scores

The performance of this fishery in relation to MSC Principles 1, 2, and 3 is summarised in the table below.

Table 7: Summary of MSC Principle level scores for the German North Sea Saithe Trawl Fishery.

Final Principle Scores	
Principle	Score
Principle 1 – Target Species	91.3 – PASS
Principle 2 – Ecosystem	90.3 – PASS
Principle 3 – Management System	90.4 – PASS

8.2 Summary of Scores

The scores assigned to each Performance Indicator for this fishery are shown in Table 8.

8.3 Summary of Conditions

The fishery has scored more than 80 for all Performance Indicators. No conditions of certification are therefore necessary.

8.4 Recommendations

Recommendations do not have to be implemented to maintain certification and, accordingly, the action taken and timescales are at the discretion of the client. The certification team's recommendations are that:

1. Testing of stock assessment (PI 1.2.4).

The ICES' annual assessment of the North Sea saithe stock was examined at the 2011 benchmark workshop, where changes were recommended to the age ranges used in the cpue tuning indices from surveys and the commercial fishery, problems with Norwegian catch-at-age data in 2010 were resolved, and it was considered that the XSA model used was considered to be entirely appropriate and robust for the North Sea saithe stock. However, there is no evidence from the recent ICES working group reports or from the assessment that any alternative modelling procedures have been explored, in particular to help to resolve the major deficiency in the assessment (and in catch forecasts and TACV setting); the lack of a stock/recruitment relationship or any explanation for the fluctuations in recruitment and subsequently in SSB and the need to assume mean recruitment for recent years in catch forecasts.

Whilst this does not represent a failure against any SG, it is **recommended** that the client encourages ICES to investigate the environmental influences that might explain recruit variability (and other stock dynamics) in North Sea saithe, and to explore whether alternative models and / or the inclusion of environmental factors such as climate variability (annual changes in North Sea temperature, for example) in predictions might better model recruitment in years when it is currently unknown (i.e. 2 or 3 years before the TAC year).

2. Habitat Impact Management (PI 2.4.2)

There are presently some deficiencies in the information available about the implementation of the habitat management strategy in the vicinity of the Bratten Natura 2000 site, which prevent the fishery from meeting all of the SG100 requirements for this PI.

It is therefore **recommended** that the client should establish a system for gathering information about the location and nature of fishing activity (i.e. whether it is demersal, pelagic or semi-pelagic), with particular reference to the Natura 2000 sites in the unit of certification area.

Progress with the implementation of this recommendation would be monitored annually, and could lead to an improved score against this PI.

8.5 Determination, Formal Conclusion and Agreement

The fishery attained a score of 80 or more against each of the MSC Principles and did not score less than 60 against any Indicators.

The assessment team has concluded that the German North Sea Saithe Trawl Fishery (as defined in this report) should therefore be re-certified according to the Marine Stewardship Council Principles and Criteria for Sustainable Fisheries.

Table 8 Scores for the German North Sea Saithe Trawl Fishery. Scores shaded green attain the unconditional pass level. Yellow shading indicates a conditional pass. Red shading indicates a fail.

Prin- ciple	Wt (L1)	Component	Wt (L2)	PI No.	Performance Indicator (PI)	Wt (L3)	Weight in		Score	Contribution to Principle Score
One	1	Outcome	0.5	1.1.1	Stock status	0.5	0.25	0.333 0.1667	100	25.00 16.67
				1.1.2	Reference points	0.5	0.25	0.333 0.1667	80	20.00 13.33
				1.1.3	Stock rebuilding			0.333 0.1667		0.00 0.00
		Management	0.5	1.2.1	Harvest strategy	0.25	0.125		100	12.50 12.50
				1.2.2	Harvest control rules & tools	0.25	0.125		90	11.25 11.25
				1.2.3	Information & monitoring	0.25	0.125		90	11.25 11.25
				1.2.4	Assessment of stock status	0.25	0.125		90	11.25 11.25
		Two	1	Retained species	0.2	2.1.1	Outcome	0.333	0.0667	
2.1.2	Management					0.333	0.0667		95	6.33 6.33
2.1.3	Information					0.333	0.0667		85	5.67 5.67
Bycatch	0.2		2.2.1	Outcome	0.333	0.0667		100	6.67 6.67	
			2.2.2	Management	0.333	0.0667		100	6.67 6.67	
			2.2.3	Information	0.333	0.0667		100	6.67 6.67	
ETP species	0.2		2.3.1	Outcome	0.333	0.0667		100	6.67 6.67	
			2.3.2	Management	0.333	0.0667		80	5.33 5.33	
			2.3.3	Information	0.333	0.0667		85	5.67 5.67	
Habitats	0.2		2.4.1	Outcome	0.333	0.0667		80	5.33 5.33	
			2.4.2	Management	0.333	0.0667		90	6.00 6.00	
			2.4.3	Information	0.333	0.0667		85	5.67 5.67	
Trophic function	0.2		2.5.1	Outcome	0.333	0.0667		85	5.67 5.67	
			2.5.2	Management	0.333	0.0667		90	6.00 6.00	
			2.5.3	Information	0.333	0.0667		100	6.67 6.67	
Three	1	Governance and policy	0.5	3.1.1	Legal & customary framework	0.25	0.125		100	12.50 12.50
				3.1.2	Consultation, roles &	0.25	0.125		85	10.63 10.63
				3.1.3	Long term objectives	0.25	0.125		90	11.25 11.25
				3.1.4	Incentives for sustainable fishing	0.25	0.125		80	10.00 10.00
	Fishery specific management system	0.5	3.2.1	Fishery specific objectives	0.2	0.1		90	9.00 9.00	
			3.2.2	Decision making processes	0.2	0.1		90	9.00 9.00	
			3.2.3	Compliance & enforcement	0.2	0.1		100	10.00 10.00	
			3.2.4	Research plan	0.2	0.1		90	9.00 9.00	
3.2.5			Management performance	0.2	0.1		90	9.00 9.00		

Overall weighted Principle-level scores			Either	Or
Principle 1 - Target species	Stock rebuilding PI not scored		91.25	
	Stock rebuilding PI scored			76.25
Principle 2 - Ecosystem			90.33	
Principle 3 - Management			90.38	

9 INFORMATION SOURCES

9.1 Stakeholder meetings attended

Information used in the main assessment has been obtained from interviews and correspondence with stakeholders in this fishery, notably:

1. Jörg Petersen & Kai-Arne Schmidt, Kutterfischer GmbH, 17th October 2012, Cuxhaven
2. Hans Hashagen, State Fisheries Inspector, 17th October 2012
3. Sabine Manthey-Ehrich, BLE, 18th October 2012, Hamburg.
4. Alexander Kempf, Kai Panten, Jens Ulleweit vTI, 18th October 2012, Hamburg

9.2 Other information sources

Published information and unpublished reports used during the assessment are listed below:

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9.4 Standards and Guidelines used

1. MSC Principles and Criteria
2. MSC Certification Requirements v1.221010 January 2012



10 APPENDIX 1: SCORING AND RATIONALES

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10.1 Principle 1

Evaluation Table PI 1.1.1

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
SG	Issue	Met? (Y/N)	Justification/Rationale	
60	a	Y	It is likely that the stock is above the point where recruitment would be impaired.	
			See SG80(a)	
80	a	Y	It is highly likely that the stock is above the point where recruitment would be impaired.	
			ICES estimates that current SSB is 217,000t, above the precautionary approach biomass level (B _{pa}) of 200,000 t which has been set at a level which affords a high probability of maintaining SSB above Blim (106,000t). It is, therefore, highly likely that the current level of the spawning stock is above the point where recruitment would be impaired.	
	b	Y	The stock is at or fluctuating around its target reference point.	
			The stock has been above the target reference point (B _{pa} / B _{msy trigger}) and has fluctuated around F _{MSY} since 1998.	
100	a	Y	There is a high degree of certainty that the stock is above the point where recruitment would be impaired.	
			Recent evaluations by ICES show that the stock's SSB is currently above the B _{pa} and well above Blim, though this reference point is estimated statistically and is not based on a stock-recruitment relationship that indicates clearly the levels of SSB below which recruitment is likely to be reduced. Though there is a high degree of certainty that the current level of the spawning stock is above the point where recruitment would be impaired, this may be less certain under unfavourable environmental conditions.	
	b	Y	There is a high degree of certainty that the stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years .	
			The stock has been above the target reference point (B _{pa} / B _{msy trigger}) and fishing mortality has fluctuated around F _{MSY} since 1998. ICES consider that the stock is being harvested sustainably and has full reproductive capacity, and there is a high degree of certainty that the stock has been above its target reference point over recent years.	
References		ICES (2012a, b, e)		
Stock Status relative to Reference Points				
		Type of reference point	Value of reference point	Current stock status relative to reference point
Target reference point		[e.g. B _{msy}] B _{pa} / MSY B _{trigger}	[Include value specifying units. SSB = 200,000 t	[Include current stock status in the same units as the reference point e.g. 90,000/B _{msy} =0.9] SSB in 2012 = 216,941t = 1.08 B _{pa}

PI 1.1.1	The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Limit reference point	[e.g. Blim] B _{lim}	[Include value specifying units. e.g. 50,000t total stock biomass] SSB = 106,000t	[Include current stock status in the same units as the reference point e.g. 90,000/Blim=1.8] SSB in 2012 - 216,941t = 2.06 Blim
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 1.1.2

PI 1.1.2		Limit and target reference points are appropriate for the stock	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Generic limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.
			See SG80(a)
80	a	Y	Reference points are appropriate for the stock and can be estimated.
			The limit and target reference points for North Sea saithe, defined and agreed as a part of the current EU / Norway management plan, are based on good historic data and reflect the population's production dynamics. The stock has been consistently estimated since 1998 to be within safe biological limits according to these reference points, which are agreed by ICES and comply with international standards, MSY and a precautionary approach to management.
	b	Y	The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.
			Although the Blim reference point is estimated statistically, and is not based on a stock-recruitment relationship that indicates clearly the levels of SSB below which recruitment is likely to be reduced, recruitment during periods when SSB has been near to Blim has not been significantly lower than during periods of higher SSB levels. The limit fishing mortality level ($F=0.6$) is based on the lowest level in the time series, which is estimated would lead to the SSB falling below Blim in the long term.
	c	Y	The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome.
			The stock has been above $MSYB_{trigger}$ (=Bpa) since 1998, during which time estimated fishing mortality has fluctuated around F_{MSY} . This suggests that the target reference point is such that the stock is maintained at a level consistent with B_{MSY} .
100	b	N	Key low trophic level species, the target reference point takes into account the ecological role of the stock.
			Not applicable. North Sea Saithe have a trophic level of 4.36 (low trophic level species are <3.5; www.fishbase.org).
100	b	N	The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of precautionary issues .
			Although the Blim reference point is estimated statistically, rather than being based on a clear stock-recruitment relationship, recruitment during periods when SSB has been near to Blim has not been significantly lower than during periods of higher SSB levels. Nevertheless, this introduces uncertainty, and ICES is seeking a re-evaluation of the management plan reference points which would include a re-evaluation of both Blim and Flim. It is clear, therefore, that the current level is not set with due consideration of all the precautionary issues that might contribute to reduced recruitment (which appear to be chiefly environmental effects).

PI 1.1.2		Limit and target reference points are appropriate for the stock	
SG	Issue	Met? (Y/N)	Justification/Rationale
	c	N	<p>The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome, or a higher level, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.</p> <p>The stock has been above $MSYB_{trigger}$ (=Bpa) since 1998, when estimated fishing mortality has fluctuated around F_{MSY}. These reference points form an integral part of the management plan and ICES' advice on the exploitation of the stock. Though this suggests that the target reference point is such that the stock is maintained at a level consistent with B_{MSY}, there is a lack of information that indicates maintaining the stock at this level takes into account relevant precautionary issues such as the ecological role of the stock.</p>
References		ICES (2012 a, b, e).	
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 1.1.3

PI 1.1.3		Where the stock is depleted, there is evidence of stock rebuilding	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a		Where stocks are depleted rebuilding strategies which have a reasonable expectation of success are in place.
			Not Applicable: stock is not depleted.
	b		A rebuilding timeframe is specified for the depleted stock that is the shorter of 30 years or 3 times its generation time. For cases where 3 generations is less than 5 years, the rebuilding timeframe is up to 5 years.
			Not Applicable: stock is not depleted.
	c		Monitoring is in place to determine whether they are effective in rebuilding the stock within a specified timeframe.
			Not Applicable: stock is not depleted.
80	a		Where stocks are depleted rebuilding strategies are in place.
			Not Applicable: stock is not depleted.
	b		A rebuilding timeframe is specified for the depleted stock that is the shorter of 20 years or 2 times its generation time . For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.
			Not Applicable: stock is not depleted.
	c		There is evidence that they are rebuilding stocks, or it is highly likely based on simulation modelling or previous performance that they will be able to rebuild the stock within a specified timeframe.
			Not Applicable: stock is not depleted.
100	a		Where stocks are depleted, strategies are demonstrated to be rebuilding stocks continuously and there is strong evidence that rebuilding will be complete within the specified timeframe .
			Not Applicable: stock is not depleted.
	b		The shortest practicable rebuilding timeframe is specified which does not exceed one generation time for the depleted stock.
			Not Applicable: stock is not depleted.
References			
OVERALL PERFORMANCE INDICATOR SCORE:			NA
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 1.2.1

PI 1.2.1		There is a robust and precautionary harvest strategy in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	The harvest strategy is expected to achieve stock management objectives reflected in the target and limit reference points. See SG80(a)
	b	Y	The harvest strategy is likely to work based on prior experience or plausible argument. The harvest strategy for the North Sea saithe fishery, set within the EC-Norway management agreement for the North Sea and Skagerrak, specifies stock levels and reference points, the key objectives being to maintain the SSB above 106,000 t (Blim) and set a TAC consistent with a fishing mortality that will maintain or return SSB to above 200,000 t (MSYBtrigger). This has been achieved since 1998.
	c	Y	Monitoring is in place that is expected to determine whether the harvest strategy is working. Collection of international landings statistics and biological sampling from the North Sea saithe fishery, in accordance with Norwegian and EU CFP requirements, and research survey and observer monitoring are used by ICES to conduct an annual assessment of the stock's dynamics and its exploitation level. This is used to determine whether the harvest strategy is working.
80	a	Y	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. The harvest strategy for the North Sea saithe fishery, set within the EC-Norway management agreement for the North Sea and Skagerrak, is responsive to the state of the stock. This is achieved by setting a TAC consistent with $F=0.30$ if SSB is above 200,000 t; F between 0.20 and 0.30 if SSB is 106,000 - 200,000 t; and $F=0.10$ if SSB is below 106,000 t (Blim). The objective is to maintain or return SSB to above 200,000 t (MSYBtrigger), and this has been achieved since 1998. The elements of the harvest strategy therefore do work together towards achieving management objectives reflected in the target and limit reference points.
	b	Y	The harvest strategy may not have been fully tested but monitoring is in place and evidence exists that it is achieving its objectives. Collection of international landings statistics from the North Sea saithe fishery, and research survey and observer monitoring, are used by ICES to conduct an annual assessment of the stock's dynamics and its exploitation level. This has shown that SSB has been above 200,000 t (MSYBtrigger), and F around 0.3, since 1998, which demonstrates that the harvest strategy is achieving its objectives.
100	a	Y	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in the target and limit reference points.

PI 1.2.1		There is a robust and precautionary harvest strategy in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
			The harvest strategy for the North Sea saithe fishery is set within the EC-Norway management agreement for the North Sea and Skagerrak. The current management plan for this stock is designed to achieve the key objectives, which are to maintain the SSB above 106,000 t (Blim) and set a TAC consistent with a fishing mortality that will maintain or return SSB to above 200,000 t (MSYBtrigger). The harvest strategy is to set a TAC consistent with $F = 0.30$ if SSB is above 200,000 t; F between 0.20 and 0.30 if SSB is 106,000 - 200,000 t; or $F = 0.10$ if SSB is below 106,000 t (Blim). This harvest strategy is responsive to the state of the stock in that it can respond to annual changes indicated by the stock assessment, and it is clearly designed to achieve the management plan objectives reflected in the target and limit reference points.
	b	Y	<p>The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.</p> <p>The performance of the harvest strategy has been fully evaluated through ICES' annual assessments of the stock's dynamics and its exploitation level, based on analysis of international landings statistics and research survey and observer monitoring of the North Sea saithe fishery. This has shown that SSB has been above 200,000 t (MSYBtrigger), and F around 0.3, since 1998, which demonstrates that the harvest strategy is achieving its objectives and is clearly able to maintain the stock at target levels.</p>
	d	Y	<p>The harvest strategy is periodically reviewed and improved as necessary.</p> <p>The harvest strategy for the North Sea saithe fishery is set within the EC-Norway management agreement for the North Sea and Skagerrak, which was reviewed and evaluated by ICES in 2008 and was found to be in accordance with the precautionary approach.</p> <p>In November 2012, ICES' response to a special request for advice on options to revise the Long-Term Management Plan for saithe in the North Sea was all the harvest control rule (HCR) options result in less than 5% annual risks of the stock being below Blim in the short term (next 4 years). In the long-term, it is uncertain whether the stock will develop in accordance with the precautionary approach (i.e. with less than 5% risk of being below Blim), and ICES advises that the HCR selected for management should be re-evaluated within 4 years (i.e. no later than 2016) and revised if necessary.</p>
References		ICES 2012 b, d, e.	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 1.2.2

PI 1.2.2		There are well defined and effective harvest control rules in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>Generally understood harvest rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.</p> <p>See SG80(a)</p>
	c	Y	<p>There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.</p> <p>See (c)</p>
80	a	Y	<p>Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>The harvest control rule for the North Sea saithe fishery supports the strategy developed under the EU–Norway management plan. It is quite blunt, using the SSB at the beginning of the intermediate year to determine the status of the stock, which determines the level of fishing mortality to be applied to set a TAC for the following year. Thus, $F = 0.30$ if SSB is above 200,000 t; F between 0.20 and 0.30 if SSB is 106,000 - 200,000 t; and $F = 0.10$ if SSB is below 106,000 t (Blim). The exploitation rate is therefore reduced as limit reference points are approached, and the harvest control rules are clearly consistent with maintaining the SSB above, and the fishing mortality below, the management plan and MSY targets.</p>
	b	Y	<p>The selection of the harvest control rules takes into account the main uncertainties.</p> <p>See SG100(b)</p>
	c	Y	<p>Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.</p> <p>See SG100(c)</p>
100	b	N	<p>The design of the harvest control rules takes into account a wide range of uncertainties.</p> <p>The harvest control rule for the North Sea saithe fishery uses ICES' estimate of SSB at the beginning of the intermediate year to determine the status of the stock, which determines the level of fishing mortality to be applied to set a TAC for the following year. Potential uncertainties are the accuracy of the assessment (which has been consistent apart from a methodological hiccup in May 2011) and the estimate of recruitment used in the catch forecast (TAC) for the coming year. Discarding and slippage are not taken into account in the stock assessment, but are regarded as minimal and unlikely to affect the outcome. The main uncertainty concerns the level of recruitment to the stock in the 2 or 3 most recent years used on the catch (TAC) forecast. Though the design of the harvest control rules clearly takes into account a wide range of uncertainties that can be managed, and environmentally-induced changes in saithe stock production are much slower to develop and will be implicitly dealt with in ICES' stock assessment, uncertainty about the level of recruitment used in the catch forecast (TAC) for the coming year is not taken account of quantitatively. Furthermore, the allowed adjustment in exploitation level from year to year according to the harvest control rule (in response to changes in SSB) may be</p>

PI 1.2.2		There are well defined and effective harvest control rules in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p>too small to respond fully to such influences. This criterion is, therefore, only partially satisfied.</p> <p>Note that vessels fishing for saithe in the North Sea are subject to the effort control related to engine power and days at sea under the North Sea cod recovery programme, which reduces their potential to catch their saithe quota.</p>
	c	Y	<p>Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the harvest control rules.</p> <p>The main tool used to implement the harvest control rule is the annual TAC, from which national and fleet quota allocations are set. Under this system, exploitation levels of North Sea saithe have fluctuated around 0.3 (F_{MSY}), since 1997, SSB has remained above $MSY_{trigger}$ since 1998, and TACs have not been exceeded since 2005 when the first long term management plan was introduced. This demonstrates that the tools are effective in controlling exploitation.</p>
References		ICES (2012 a, c, g)	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 1.2.3

PI 1.2.3		Relevant information is collected to support the harvest strategy	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.
			A full analytical assessment is available for the North Sea saithe stock, plus supporting background biological information (distributions, migrations, age structure, growth etc), which informs on stock structure and productivity. Together with information on the fleet composition of vessels exploiting saithe in the North Sea, this supports the harvest strategy.
	b	Y	Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.
			All catches of North Sea saithe by Norwegian and EU vessels are recorded in on-board log books and landings are monitored at all registered landings ports. ICES' annual aged-based assessments of the stock's dynamics and its exploitation level, based on analysis of international landings statistics and research survey and observer monitoring of the North Sea saithe fishery, provide information on stock abundance and fishery removals that supports the harvest control rule.
80	a	Y	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.
			The saithe occurring in the ICES Sub-areas IV and VI and Division IIIa are regarded as an appropriate management unit, though some mixing may occur with saithe in adjacent areas. Each of the five main exploiting countries undertakes a biological sampling programme for saithe and provides information on catch at age used in ICES' analytical assessment of the North Sea saithe stock, and supporting background biological information (distributions, migrations, growth etc) informs on stock structure and productivity. Together with information on the fleet composition of vessels exploiting saithe in the North Sea, this adequately supports the harvest strategy.
	b	Y	Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule , and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.
			Collection of accurate and verifiable international landings statistics from the North Sea saithe fishery, and research survey and observer monitoring, are used by ICES to conduct an annual assessment of the stock's dynamics and its exploitation level. This assessment has been carried out since 1987 and generates the ICES advice which supports the harvest control rule, by tailoring annual TACs and quotas to stock (SSB) levels via control of fishing mortality (F). Landings of all fleets are monitored in real time so that any potential overrun of national quotas is avoided.
	c	Y	There is good information on all other fishery removals from the stock.

PI 1.2.3		Relevant information is collected to support the harvest strategy	
SG	Issue	Met? (Y/N)	Justification/Rationale
			The behaviour of saithe, which move from inshore nursery areas to the main fishery are at age 3, means that very few saithe that are not of a marketable size are taken in any fishery. For this reason, ICES does not include discards in the North Sea saithe assessment, which is considered to adequately reflect removals from the stock by all fisheries.
100	a	N	<p>A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.</p> <p>As explained above, comprehensive information on stock structure, abundance and productivity is available through the ICES North Sea saithe assessment, whilst information on fleet composition and fishery removals is available through national and international monitoring schemes (under the CFP and Norwegian authorities). The one weakness is the lack of a clear relationship between SSB and recruitment, and the inability to predict the latter which is clearly influence by environmental factors rather than stock dynamics. Hence the need to use average values for 2 or 3 recent years in the catch forecasts. However, North Sea saithe is far from being alone in this respect, and it could be said that there is a comprehensive range of information available, as far as this is possible.</p>
	b	Y	<p>All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.</p> <p>Given the evidence that there is a negligible level of unaccounted fishing mortality in the main fisheries taking North Sea saithe, and the high level of monitoring of fishing vessels' activities and landings, the main source of uncertainty is in the stock assessment and catch forecasts (particularly recent recruitment, see above). Though revision of the age distribution of Norwegian catch data has influenced the estimates of biomass in the assessment, this has not affected the consistency of advice, and commercial cpue indices are used for tuning in view of the conflicting signals between the scientific surveys. Therefore, there is a good understanding of uncertainties in the assessment, which has been managed accordingly.</p>
	References		ICES, 2012 a, c)
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 1.2.4

PI 1.2.4		There is an adequate assessment of the stock status	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	b	Y	The assessment estimates stock status relative to reference points.
			ICES' annual assessment of the North Sea saithe stock estimates the dynamics of SSB and F trends and has been used to identify and set corresponding values for management reference points use by the EU / Norway management plan; in this case Blim at 106,000 t, Bpa=MSYBtrigger at 200,000 t and F _{MSY} at 0.3. The 2012 assessment was an update assessment; the last benchmark assessment was in January 2011.
	c	Y	The assessment identifies major sources of uncertainty.
			The annual ICES advice clearly identifies three main sources of uncertainty: the age structure of the stock; recruitment estimates; and fishery-dependent and independent stock indices. The stock assessment has recently included a revision of the age distribution of Norwegian catch data, which has influenced the estimates of biomass in the assessment but not affected the robustness of the assessment, and commercial cpue indices are now used for tuning.
80	a	Y	The assessment is appropriate for the stock and for the harvest control rule.
			ICES used an extended survivor's analysis (XSA) for its annual assessment of the North Sea saithe stock, which is considered appropriate for many demersal stocks and provides estimates of SSB and F that support the harvest control rule under the EU–Norway management plan. This uses the estimate of SSB at the beginning of the intermediate year to determine the level of F (and the corresponding TAC) that will apply to ensure that the stock remains at or returns to the management target (MSYBtrigger).
	c	Y	The assessment takes uncertainty into account .
			The ICES' stock assessment has been developed to minimise the main sources of uncertainty (age distributions in catch data, and conflicting signals from survey and commercial abundance indices), though it does not allow for the scale of these uncertainties in its output (which is deterministic). For example, the estimate of SSB in the 2012 assessment was 30% higher and fishing mortality was 25% lower than the values in the November 2011 updated assessment. This was in large part due to a change in the age range of commercial cpue indices used to tune the assessment. Though there is no provision to estimate or predict recruitment for year classes subsequent to the year class appearing at age 3yr in the last assessed year, catch forecasts assume the long-term mean recruitment for intermediate years, given that there is no overall trend in recruitment through the time series. The assessment can, therefore, be considered to take uncertainty into account.
	e	Y	The assessment of stock status is subject to peer review.

PI 1.2.4		There is an adequate assessment of the stock status	
SG	Issue	Met? (Y/N)	Justification/Rationale
			ICES' annual assessment of the North Sea saithe stock is peer reviewed at two levels. ACOM provide an independent review of the WGNSSK saithe assessment before giving advice based on its findings. Inter-annually, working group members and ICES methods working group evaluate the suitability of analytical models for use with the available assessment data, developing and improving as thought necessary. The North Sea saithe stock assessment was last subjected to a benchmark review in 2011, followed by the benchmark assessment by the working group in June 2011 which was subsequently updated in November 2011.
100	a	Y	<p>The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery.</p> <p>ICES' annual assessment of the North Sea saithe stock meets internationally recognised standards of reliability and quality control and provides appropriate estimates of SSB and F that support the harvest control rule under the EU–Norway management plan. This uses the estimate of SSB at the beginning of the intermediate year to determine the level of F (and the corresponding TAC) that will apply to ensure that the stock remains at or returns to the management target (MSYBtrigger). The main shortcoming is the assessment's inability to predict recruitment into the fishery (saithe up to 3 years old are relatively inaccessible, both to the fishery and surveys), which means that TACs are set without knowing the availability of new recruits to the fishable stock in the coming year. Nevertheless, the assessment takes into account the major features relevant to the biology of the species and the nature of the fishery and is appropriate for the stock and for the harvest control rule.</p>
	c	N	<p>The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.</p> <p>Whilst ICES' annual assessment of the North Sea saithe stock takes account of most sources of uncertainty, it provides point estimates of SSB and F that can be compared with reference levels, but not in a probabilistic way.</p>
	d	N	<p>The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.</p> <p>ICES' annual assessment of the North Sea saithe stock is evaluated by ACOM and by WGNSSK members and the ICES methods working group. The 2011 benchmark workshop examined all input data, in particular the cpue tuning indices from surveys and the commercial fishery, and recommended changes to the appropriate age ranges for each of the surveys. The XSA model was considered to be entirely appropriate and robust for the North Sea saithe stock. Problems with Norwegian catch-at-age data in 2010 have been resolved, and the assessments carried out in November 2011 and May 2012 are consistent and appear to be robust. There is no evidence from the recent ICES working group reports or from the 2011 benchmark assessment that any alternative modelling procedures were explored in any detail.</p>
	e	Y	The assessment has been internally and externally peer reviewed.

PI 1.2.4		There is an adequate assessment of the stock status	
SG	Issue	Met? (Y/N)	Justification/Rationale
			ICES' annual assessment of the North Sea saithe stock is peer reviewed internally by working group members and ICES methods working group to evaluate the suitability of analytical models for use with the available assessment data. ACOM provide an independent review of the WGNSSK saithe assessment, and independent experts participated in the benchmark review in 2011.
References		ICES (2012 a, c, g).	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			
RECOMMENDATION NUMBER (if relevant)			1

10.2 Principle 2

Evaluation Table: PI 2.1.1

PI 2.1.1		The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>Main retained species are likely to be within biologically based limits (if not, go to scoring issue d below).</p> <p>Catches in the saithe trawl fishery contain very few non-target species, which typically make up less than 1% of the catch. There are no “main” retained species (>5% of total landings) and the only species that is considered particularly sensitive, is cod (2.67% of UoC catch 2007-2012).</p>
	c	Y	<p>If main retained species are outside the limits there are measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.</p> <p>North Sea cod stocks are currently depleted and subject to a Cod Recover Plan (EC Regulation 1342/2008), which applies to the saithe trawl fleet. The UoC fleet employs various measures to reduce their impacts on cod: trawls have a mesh size of 125-128mm, which reduces the catch of juvenile fish; and Kutterfisch also launched their own “Stopp Discard” project, which has eliminated discarding from this fleet.</p> <p>All of the cod caught by Kutterfisch saithe trawlers is landed, and landings are made within the small (150t) cod quota allocated to the Kutterfisch vessels, which represents around 0.4% of total international cod landings from the North Sea.</p> <p>It is clear that, under present circumstances, the activity of the UoC results in a low incidence of cod capture, and that the North Sea Cod Recovery Plan is starting to show signs of success, with levels of F continually falling and the SSB increasing from a low point in 2008.</p>
	d	NA	<p>If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery.</p>
80	a	Y	<p>Main retained species are highly likely to be within biologically based limits (if not, go to scoring issue c below).</p> <p>A relatively small number of non-target species are caught in the fishery, all of which are retained. Only two species make up more than 1% of catch (cod and haddock). Many of the species recorded on observer trips are caught very rarely (such as garfish and twaite shad).</p> <p>There are no “main” retained species (>5% of total landings) and the only species that is considered particularly sensitive, is cod (2.68% of UoC catch 2007-2012).</p>
	c	Y	<p>If main retained species are outside the limits there is a partial strategy of demonstrably effective management measures in place such that the fishery does not hinder recovery and rebuilding.</p>

PI 2.1.1		The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p>North Sea cod stocks are currently depleted and subject to a Cod Recovery Plan (EC Regulation 1342/2008), which applies to the saithe trawl fleet. The UoC fleet employs various measures to reduce their impacts on cod: trawls have a mesh size of 125-128mm, which reduces the catch of juvenile fish; and Kutterfisch also launched their own “Stopp Discard” project, which has eliminated discarding from this fleet.</p> <p>All of the cod caught by Kutterfisch saithe trawlers is landed, and landings are made within the small (150t) cod quota allocated to the Kutterfisch vessels, which represents around 0.4% of total international cod landings from the North Sea.</p> <p>Fish landings in Germany are closely monitored by BLE to ensure compliance with quota allocations and conformity with the “catch plan” that vessels are required to prepare each year. BLE report that, in late 2007 (prior to first certification of the fishery), the saithe trawl fishery was closed because the projected cod by-catch from ongoing saithe trawling was likely to exceed the German cod quota for that year. This was the only occasion that such action has been required.</p> <p>It is clear that, under present circumstances, the activity of the UoC results in a low incidence of cod capture, and that the North Sea Cod Recovery Plan is starting to show signs of success, with levels of F continually falling and the SSB increasing from a low point in 2008.</p>
100	a	N	<p>There is a high degree of certainty that retained species are within biologically based limits and fluctuating around their target reference points.</p> <p>Catches in the saithe trawl fishery contain a limited number of non-target species, only two of which (cod and haddock) make up more than 1% of the catch. The most important is cod (2.68% of UoC catch 2007-2011), which is depleted in the North Sea and considered particularly sensitive. Catches of several other species (i.e. haddock, hake, pollack, ling and monkfish) represent less than 1% of the total international landings of these species taken either from the North Sea and Skagerrak or the appropriate stock unit, but the stock status is known only for haddock and hake.</p>
	b	N	Target reference points are defined for retained species
			Target reference points are set for both North Sea cod and haddock, but not for other non-negligible species in the retained catch.
References		Section 5.3.1; ICES (2012 e, h).	
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.1.2

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>There are measures in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>Catches in the saithe trawl fishery contain very few non-target species, which typically making up less than 1% of the catch. There are no “main” retained species (>5% of total landings) and the only species that is considered particularly sensitive, is cod (2.68% of UoC catch 2007-2012). North Sea cod stocks are currently depleted and subject to a Cod Recover Plan (EC Regulation 1342/2008), which applies to the saithe trawl fleet. The UoC fleet also employs other measures to reduce their impacts on cod: trawls have a mesh size of 125-128mm, which reduces the catch of juvenile fish; and Kutterfisch also launched their own “Stopp Discard” project, which has eliminated discarding from this fleet.</p>
	b	Y	<p>The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).</p> <p>See SG80(b)</p>
80	a	Y	<p>There is a partial strategy in place, if necessary that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>See SG60(a). Cod catches by the saithe trawl fishery are subject to the Cod Recover Plan (EC Regulation 1342/2008), which constrains exploitation to a level that is considered by ICES to ensure that the international fishery does not hinder the recovery and rebuilding of the North Sea cod stock. All of the cod caught by Kutterfisch saithe trawlers is landed, and landings are made within the small (150t) cod quota allocated to the Kutterfisch vessels, which represents around 0.4% of total international cod landings from the North Sea.</p>
	b	Y	<p>There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.</p> <p>Fish landings in Germany are closely monitored by BLE to ensure compliance with quota allocations and conformity with the “catch plan” that vessels are required to prepare each year. BLE report that, in late 2007 (prior to first certification of the fishery), the saithe trawl fishery was closed because the projected cod by-catch from ongoing saithe trawling was likely to exceed the German cod quota for that year. This was the only occasion that such action has been required. At present, the activity of the UoC results in a low incidence of cod capture, all of the cod caught by Kutterfisch saithe trawlers is landed, and landings are made within the small (150t) cod quota allocated to the Kutterfisch vessels, which represents around 0.4% of total international cod landings from the North Sea.</p>
	c	Y	There is some evidence that the partial strategy is being implemented successfully .

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
			It is clear that the activity of the UoC results in a low incidence of cod capture, and that the North Sea Cod Recovery Plan is starting to show signs of success, with levels of F continually falling and the SSB increasing from a low point in 2008.
100	a	Y	<p>There is a strategy in place for managing retained species.</p> <p>Catches in the saithe trawl fishery contain a limited number of non-target species, few of which make more than 1% of the catch.</p> <p>The most important component of the catch of non-target species is cod (2.68% of UoC catch 2007-2011), which is depleted in the North Sea, and cod catches by the saithe trawl fishery are subject to the Cod Recovery Plan (EC Regulation 1342/2008), which constrains exploitation to a level that is considered by ICES to ensure that the international fishery does not hinder the recovery and rebuilding of the North Sea cod stock. All of the cod caught by Kutterfisch saithe trawlers is landed, and landings are made within the small (150t) cod quota allocated to the Kutterfisch vessels, which represents around 0.4% of total international cod landings from the North Sea.</p> <p>Landings of haddock, hake, pollack, ling and monkfish are controlled by the same system of TACs and quotas, aimed at sustainable exploitation, and are minimised by the client's strategy to target adult saithe, in particular the use of 120+mm mesh cod ends.</p>
	b	N	<p>Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.</p> <p>Although there is clear evidence that the fishery retains only very small amounts of non-target species (see Table 3), there is little information available about the stock status of many of these species, so this PI is not unambiguously met.</p>
	c	Y	<p>There is clear evidence that the strategy is being implemented successfully.</p> <p>It is clear that, under present circumstances, the activity of the UoC results in a low incidence of capture and retention of non-target species.</p> <p>With reference to cod, there is clear evidence that the North Sea Cod Recovery Plan is starting to show signs of success, with levels of F continually falling and the SSB increasing from a low point in 2008.</p> <p>Frequent monitoring trips by observers demonstrate that mesh sizes >120 mm are always used and that catches of most other species represent less than 1% of the total international landings of these species taken either from the North Sea and Skagerrak or the appropriate stock unit.</p> <p>The cod recovery plan and the reports of observer trips provide clear evidence that the strategy for minimising capture of non-target species is being implemented</p>

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
			successfully.
	d	Y	<p>There is some evidence that the strategy is achieving its overall objective.</p> <p>Catches of cod by Kutterfisch saithe trawlers have comprised 2.68% of the total UoC catch averaged over 2007-2012, all cod caught is landed, and landings have been made within the small (150t) cod quota allocated to the Kutterfisch vessels. This represents around 0.4% of total international cod landings from the North Sea. Fish landings in Germany are closely monitored by BLE to ensure compliance with quota allocations and conformity with the “catch plan” that vessels are required to prepare each year. BLE report that, in late 2007 (prior to first certification of the fishery), the saithe trawl fishery was closed because the projected cod by-catch from ongoing saithe trawling was likely to exceed the German cod quota for that year. This was the only occasion that such action has been required.</p> <p>It is clear that, under present circumstances, the activity of the UoC results in a low incidence of cod capture, and that the North Sea Cod Recovery Plan is starting to show signs of success, with levels of F continually falling and the SSB increasing from a low point in 2008. Combined with the use of large mesh codends, this management regime results in very low catches of other retained species (there is no discarding at sea), the most important of which are considered by ICES to remain within safe biological limits or are showing positive abundance trends.</p>
References		Section 5.3.1.	
OVERALL PERFORMANCE INDICATOR SCORE:			95
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.1.3

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Qualitative information is available on the amount of main retained species taken by the fishery.
			See SG80(a)
	b	Y	Information is adequate to qualitatively assess outcome status with respect to biologically based limits.
			See SG80(b)
	c	Y	Information is adequate to support measures to manage main retained species.
			See SG80(c)
80	a	Y	Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery.
			All UoC vessels maintain an EC logbook recording their catch whilst at sea, and also report their landings of target and non-target species retained by the fishery. The species of fish captured and retained by the fishery are also recorded by independent fishery observers from the von Thunen Institut (vTI). Over the previous period of certification (2007-12), data from 32 independent observer trips have been provided, covering 5 of the vessels in the client fleet of 10.
	b	Y	Information is sufficient to estimate outcome status with respect to biologically based limits.
			Logbook records and observer reports show the quantities of non-target species retained by the fishery, from which the proportions of retained species can be determined. Though there are no “main” retained species (>5% of total landings by the UoC), cod (2.68% of UoC catch 2007-2011) is considered particularly sensitive, and is subject to ICES stock assessments in the North Sea, from which outcome status with respect to biologically based limits is estimated.
	c	Y	Information is adequate to support a partial strategy to manage main retained species.
			ICES stock assessment for North Sea cod is used to advise on management measures. These show that the cod stock is depleted and have been used to implement and monitor the effects of a Cod Recover Plan (EC Regulation 1342/2008), which constrains exploitation to a level that is considered by ICES to ensure that the international fishery does not hinder the recovery and rebuilding of the North Sea cod stock.
	d	Y	Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator score or the operation of the fishery or the effectiveness of the strategy)

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
			EC and Norwegian fishery regulations require that all vessels maintain a logbook recording their catch whilst at sea, and also report their landings. Together with observer trips, this will continue to provide information about the quantity of non-target species retained by the fishery. Most retained species comprise less than 1% of total landings by the UoC, and the more important species (cod, haddock, hake, ling, pollack, monkfish) are subject to ICES stock assessments in the North Sea. This information will provide indication of any increase in risk level due to operation of the fishery or effectiveness of the management strategy.
100	a	N	<p>Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.</p> <p>Logbook records and observer reports (which can be cross-validated) show the quantities of non-target species retained by the fishery and, though most retained species comprise less than 1% of total landings by the UoC, the more important species (cod, haddock, hake, ling, pollack, monkfish) are subject to ICES stock assessments in the North Sea. This information can be used to indicate the consequences of any changes in catches by the UoC on the status of exploited populations in the North Sea.</p> <p>Despite this, there is insufficient information about the status of all retained fish species to enable all consequences for their respective populations to be ascertained, and this SG is not therefore met.</p>
	b	N	<p>Information is sufficient to quantitatively estimate outcome status with a high degree of certainty.</p> <p>Logbook records and landings declarations show the quantities of species retained by the fishery, and the more important species (cod, haddock, hake, ling, pollack, monkfish, most of which comprise < 1% of total landings by the UoC,) are subject to ICES stock assessments in the North Sea. This information is used by ICES to indicate the status of exploited populations in the North Sea with a high degree of certainty.</p> <p>This SG is not met because of the limited understanding of the population status of <u>all</u> retained species, even if there is good information about the quantities retained in this fishery.</p>
	c	N	<p>Information is adequate to support a comprehensive strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.</p> <p>ICES stock assessments for stocks of cod, haddock, hake, ling, pollack and monkfish in the North Sea are used as the basis for advice (both strategic and tactical) on management measures. Together with landing statistics and research survey data, the output can be used to evaluate whether the strategy is achieving its objective in terms of exploitation level and stock biomass/reproductive success with a high degree of certainty in most cases.</p> <p>Again, this SG is not met because of the limited understanding of the population status of <u>all</u> retained species, even if there is good information about the quantities retained in this fishery.</p>

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
	d	Y	Monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species. Logbook records and landings declarations show the quantities of species retained by the fishery, and can be compared to total international landings (and stock size estimates in many cases) to assess ongoing mortalities of all retained species.
References		Section 5.3.1.	
OVERALL PERFORMANCE INDICATOR SCORE:			85
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.2.1

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a		Main bycatch species are likely to be within biologically based limits (if not, go to scoring issue b below).
			The UoC fleet employs various measures to minimise discarding: the trawls have a mesh size of 125-128 mm; much of the fishery takes place within Norwegian waters, where discarding of certain species at sea is prohibited; and Kutterfisch’s “Stopp Discard” project has eliminated discarding from this fleet wherever it operates.
			Observers confirm that, even when vessels are operating in EC waters where discarding is currently permissible, the level of discarding by Kutterfisch vessels is nil.
			As a consequence, all of the fish that are caught by the Kutterfisch vessels are landed, including fish that are unsuitable for human consumption, which are then processed for fishmeal ashore.
		There are, therefore, no by-catch (discard) species in this fishery.	
	b		If main bycatch species are outside biologically based limits there are mitigation measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding.
		See text at SG60(a)	
c		If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the bycatch species to be outside biologically based limits or hindering recovery.	
		See text at SG60(a)	
80	a		Main bycatch species are highly likely to be within biologically based limits (if not, go to scoring issue b below).
			See text at SG60(a)
	b		If main bycatch species are outside biologically based limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding.
			See text at SG60(a)
100	a		There is a high degree of certainty that bycatch species are within biologically based limits.
			See text at SG60(a)
References		Section 5.3.2; MSC Certification Requirements v1.2 §CB3.8.3.	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.2.2

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There are measures in place, if necessary, which are expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.
			The UoC fleet employs various measures to minimise discarding: the trawls have a mesh size of 125-128 mm; much of the fishery takes place within Norwegian waters, where discarding of commercial species is prohibited; and Kutterfisch's "Stopp Discard" project has eliminated discarding from this fleet wherever it operates. As a consequence, all of the fish that are caught by the Kutterfisch vessels are landed, including fish that are unsuitable for human consumption, which are then processed for fishmeal ashore.
	b	Y	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).
			There are no by-catch (discard) species in this fishery.
80	a	Y	There is a partial strategy in place, if necessary, for managing bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.
			There are no by-catch (discard) species in this fishery.
	b	Y	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or the species involved.
			There are no by-catch (discard) species in this fishery.
	c	Y	There is some evidence that the partial strategy is being implemented successfully.
			The effectiveness of the measures employed by the UoC fleet to minimize discarding has been demonstrated by observer trips, which show that, even when vessels are operating in EC waters where discarding is currently permissible, the level of discarding recorded is negligible.
100	a	Y	There is a strategy in place for managing and minimising bycatch.
			The UoC fleet employs a strategy that minimises by-catch and discarding: using large mesh nets and implementing Kutterfisch's "Stopp Discard" project. These have eliminated discarding from this fleet wherever it operates.
	b	Y	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.
			SeeSG80(c)
	c	Y	There is clear evidence that the strategy is being implemented successfully.
			SeeSG80(c)
	d	Y	There is some evidence that the strategy is achieving its objective.

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Observer trips show that, even when vessels are operating in EC waters where discarding is currently permissible, the level of discarding is negligible.
References		Section 5.3.2	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.2.3

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Qualitative information is available on the main bycatch species affected by the fishery.
			The UoC fleet employs various measures to minimise discarding, and there are no by-catch (discard) species in this fishery. Observers show that, even when vessels are operating in EC waters where discarding is currently permissible, the level of discarding is negligible.
	b	Y	Information is adequate to broadly understand outcome status with respect to biologically based limits
			SeeSG100(b)
	c	Y	Information is adequate to support measures to manage bycatch.
			SeeSG100(c)
80	a	Y	Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery.
			SeeSG100(a)
	b	Y	Information is sufficient to estimate outcome status with respect to biologically based limits.
			SeeSG100(b)
	c	Y	Information is adequate to support a partial strategy to manage main bycatch species.
			Observer trips show that, even when vessels are operating in EC waters where discarding is currently permissible, the level of discarding is negligible. The UoC's strategy for minimizing by catch is clearly working.
	d	Y	Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).
			Observer trips are carried out each year on a large proportion of the Client fleet, which will enable information to be collected to detect any increase in risk to by-catch species (i.e. does the level of discarding continue to be negligible).
100	a	Y	Accurate and verifiable information is available on the amount of all bycatch and the consequences for the status of affected populations.
			Observer trips (32 , 2007-2012) show that the level of discarding by the UoC is negligible. There are, therefore, no consequences for by-catch species.
	b	Y	Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty .
			Observer trips (32 , 2007-2012) show that the level of discarding by the UoC is negligible. There are, therefore, no by-catch species.
	c	Y	Information is adequate to support a comprehensive strategy to manage bycatch, and evaluate with a high degree of certainty whether a strategy is achieving its objective .

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Observer trips show that, even when vessels are operating in EC waters where discarding is currently permissible, the level of discarding is negligible. The UoC's strategy for minimizing by catch is clearly achieving its objective.
	d	Y	Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.
			Observer trips are carried out each year on a large proportion of the Client fleet, which will enable information to be collected to detect any increase in mortalities of all by-catch species (which is currently negligible).
References		Section 5.3.2	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.3.1

PI 2.3.1		<p>The fishery meets national and international requirements for the protection of ETP species</p> <p>The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species</p>	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species.
			See SG 100(a)
	b	Y	Known direct effects are unlikely to create unacceptable impacts to ETP species.
			See SG100(b)
80	a		The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.
			See SG100(a)
	b	Y	Direct effects are highly unlikely to create unacceptable impacts to ETP species.
			See SG100(b)
	c	Y	Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.
			See SG100(c)
100	a	Y	<p>There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species.</p> <p>The MSC definition of ETP species covers those that are recognised by national ETP legislation and those species that are listed in Appendix 1 of CITES, and include species listed in Annex II of the EC Habitats Directive (92/43/EC) and the Wild Birds Directive (2009/147/EC). None of the listed species (bottlenose dolphin, harbour porpoise, harbour and grey seals, basking, great white, porbeagle and angel shark, common skate, undulate ray, white skate, guitarfishes (Rhinobatidae) or marine turtles (several species) has been recorded caught in the UoC fishery in the last 5 years. vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery.</p> <p>Data from 32 observer trips over the previous period of certification (2007-12) show that none of the teleost or elasmobranch species mentioned above were recorded caught during this period, though spurdog were recorded in small numbers. During 2011 there was a record from an observer trip of 3 twaite shad (<i>Alosa fallax</i>), which are listed in Annex V of the Habitats Directive.</p> <p>This information indicates that there is a very low level of incidental capture of ETP species in this fishery and that there is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species.</p>
	b	Y	There is a high degree of confidence that there are no significant detrimental direct effects of the fishery on ETP species.

			Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery and there is, therefore, a high degree of confidence that there are no significant detrimental direct effects of the fishery on ETP species.
	c	Y	<p>There is a high degree of confidence that there are no significant detrimental indirect effects of the fishery on ETP species.</p> <p>Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery, and that the level of discarding at sea is negligible. There is, therefore, a high degree of confidence that there are no significant indirect effects of the fishery on ETP species.</p>
References			Section 5.3.3.
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.3.2

PI 2.3.2		The fishery has in place precautionary management strategies designed to:	
		<ul style="list-style-type: none"> • Meet national and international requirements; • Ensure the fishery does not pose a risk of serious harm to ETP species; • Ensure the fishery does not hinder recovery of ETP species; and • Minimise mortality of ETP species. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>There are measures in place that minimise mortality, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.</p> <p>The UoC fleet employs various measures to minimise by-catch: the trawls have a mesh size of 125-128 mm; much of the fishery takes place within Norwegian waters, where discarding of commercial species is prohibited; and Kutterfisch's "Stopp Discard" project has eliminated discarding from this fleet. As a consequence, the fishery's operation is very selective for the target species (saithe: >90% of the catch) and the by-catch is minimal. These measures are co-incidentally expected to be highly likely to achieve national and international requirements for the protection of ETP species.</p>
	b	Y	<p>The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).</p> <p>Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery and it appears, therefore, that these measures do work.</p>
80	a	Y	<p>There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, that is designed to be highly likely to achieve national and international requirements for the protection of ETP species.</p> <p>The UoC fleet employs a strategy to minimise by-catch: large mesh size; targeted fishing on saithe and elimination of discarding. As a consequence, the fishery's operation is very selective for the target species (saithe: >90% of catch) and the design of these measures is co-incidentally expected to be highly likely to achieve national and international requirements for the protection of ETP species.</p> <p>In addition to the client's actions, there is legislation in place to protect ETP species throughout EU and Norwegian waters which acts to discourage capture and / or disturbance of these species by fishing activities.</p>
	b	Y	<p>There is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved.</p> <p>See SG60(b)</p>
	c	Y	<p>There is evidence that the strategy is being implemented successfully.</p> <p>Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. It appears, therefore, that the strategy is being implemented successfully.</p>
100	a	N	<p>There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality that is designed to achieve above national and international requirements for the protection of ETP species.</p>

PI 2.3.2		The fishery has in place precautionary management strategies designed to: <ul style="list-style-type: none"> • Meet national and international requirements; • Ensure the fishery does not pose a risk of serious harm to ETP species; • Ensure the fishery does not hinder recovery of ETP species; and • Minimise mortality of ETP species. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Though the UoC fleet employs various measures to minimise by-catch and eliminate discarding from this fleet, and its operation is very selective for the target species (saithe), benefits in terms of managing the fishery's impact on ETP species are co-incidental and the measures are not specifically designed to achieve or exceed national and international requirements for the protection of ETP species.
	b	N	The strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work. See SG100(a)
	c	N	There is clear evidence that the strategy is being implemented successfully. See SG100(a)
	d	N	There is evidence that the strategy is achieving its objective. See SG100(a)
References		Section 5.3.3.	
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.3.3

PI 2.3.3		Relevant information is collected to support the management of fishery impacts on ETP species including:	
		<ul style="list-style-type: none"> • Information for the development of the management strategy; • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Information is sufficient to qualitatively estimate the fishery related mortality of ETP species.
			Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. This information is sufficient to qualitatively estimate the fishery-related mortality of ETP species.
	b	Y	Information is adequate to broadly understand the impact of the fishery on ETP species.
			Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. This information is adequate to broadly understand the impact of the fishery on ETP species.
	c	Y	Information is adequate to support measures to manage the impacts on ETP species.
			Observer data show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. This information is adequate to support measures to manage the impact of the fishery on ETP species, should they be necessary.
80	a	Y	Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.
			Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. This information is sufficient to estimate quantitatively the fishery-related mortality and the impact of fishing by the UoC on ETP species.
	b	Y	Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.
			Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. This information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.
	c	Y	Information is sufficient to measure trends and support a full strategy to manage impacts on ETP species.

PI 2.3.3		Relevant information is collected to support the management of fishery impacts on ETP species including: <ul style="list-style-type: none"> • Information for the development of the management strategy; • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Observer data show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. This information is collected annually and is sufficient to measure trends and support a full strategy to manage impacts on ETP species, should they be necessary.
100	a	N	Information is sufficient to quantitatively estimate outcome status of ETP species with a high degree of certainty.
			Data from 32 observer trips over the previous period of certification (2007-12) show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. This information is sufficient to estimate quantitatively the impact of fishing by the UoC on ETP species, but not to estimate outcome status of ETP species. However, of the ETP species considered, only spurdog appears to be potentially threatened by this fishery, and information compiled and analysed by ICES is sufficient to quantitatively estimate its status (highly depleted) with a high degree of certainty.
	b	N	Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
			Though vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery, and data from 32 observer trips show a very low level of incidental capture of ETP species, this information is insufficient to estimate the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
	c	Y	Information is adequate to support a comprehensive strategy to manage impacts, minimise mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.
			Observer data show a very low level of incidental capture of ETP species in this fishery, and vTI scientists have confirmed that they have no records of capture of cetaceans, marine birds or other marine mammals in the saithe trawl fishery. This information is collected annually and is sufficient to support a comprehensive strategy to manage impacts, minimise mortality and injury of ETP species (should it become necessary), and to evaluate with a high degree of certainty whether a strategy is achieving its objectives.
References		Section 5.3.3.	
OVERALL PERFORMANCE INDICATOR SCORE:			85
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.4.1

PI 2.4.1		The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis and function	
SG	Issue	Met? (Y/P/ N)	Justification/Rationale
60	a	Y	The fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.
			See SG80(a)
80	a	Y	The fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.
			The fishery is prosecuted over a relatively small proportion of the soft seabed habitats in the northern North Sea (Figure 6). The scale of any impacts of the trawl gear used by the UoC vessels on the seabed in this area is therefore unlikely to be significant at the bioregional level.
			The distribution of sensitive seabed habitats in the UoC area has been examined (Figure 8 & Figure 9). There is very little overlap between these habitats and the fished areas (Figure 2), and the habitats have a wide distribution outside the UoC area.
			There are two Natura 2000 sites in the vicinity of the area where the UoC vessels operate (Figure 7). Saithe trawling takes place in one of these sites (Bratten), but only when the saithe are aggregating in midwater shoals and the gear is fished pelagically, which avoids interactions with marine benthos in this area. This conclusion is supported by the assessment that the two Natura 2000 sites in the area are in good condition.
100	a	N	Because there is a good understanding of both the distribution and character of marine habitats and the distribution of fishing activity, it is possible to conclude that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.
			There is evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.
References			Section 5.3.4.
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.4.2

PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.
			See SG100(a)
	b	Y	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).
			See SG80(b)
80	a	Y	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.
			See SG100(a)
	b	Y	There is some objective basis for confidence that the partial strategy will work, based on information directly about the fishery and/or habitats involved.
			Information is available about the distribution of fishing activity carried out by the German North Sea Saithe trawl fishery (Figure 2), the distribution of marine habitats (Figure 6), the location of Natura 2000 sites (Figure 7) and the location of other sensitive marine habitats (Figure 8 & Figure 9). Information is also available describing permanent and temporary closures which prevent trawling in certain areas.
			This objective and independent information provides confidence that the activity of the vessels under assessment does not impinge upon sensitive marine habitats, and thus that the strategy in place for habitat protection will work.
	c	Y	There is some evidence that the partial strategy is being implemented successfully.
			The designation of marine Natura 2000 sites provides some evidence that the management strategy is being implemented successfully.
100	a	Y	There is a strategy in place for managing the impact of the fishery on habitat types.
			The EC Natura 2000 network of protected sites and its supporting legislation represents a formal strategy for protecting vulnerable and endangered marine habitats and species from all human activities, including fishing.
			The Natura 2000 network comprises Special Protection Areas classified under the Birds Directive 79/409/EEC and Special Areas of Conservation designated under the Habitats Directive 92/43/EEC. These Directives mean that EC Member States are bound by law to both designate and protect Natura 2000 sites on land and at sea.
			Details on the establishment of a marine network of conservation areas under Natura 2000 can be found in the " <i>Guidelines for the establishment of the Natura 2000 network in the marine environment. Application of the Habitats and Birds Directives</i> ". The EC has issued guidance to Member States concerning how fisheries should be managed in Natura 2000 sites in its document " <i>Fisheries</i>

PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p><i>Measures for Marine Natura 2000 sites</i>".</p> <p>The CFP has been used as the basis for protecting marine habitats outside Natura 2000 sites, and thus forms part of the strategy for managing the impacts of fishing on marine habitats where this is necessary. Article 2 of the CFP provides that it is to apply a precautionary approach in taking measures to minimise the impact of fishing activities on marine ecosystems. As an example, EC Regulation 602/2004 prohibits trawling in certain areas to the north west of Scotland in order to protect <i>Lophelia</i> reefs. There is no similar Regulation in force for the UoC area.</p> <p>Together, the Natura 2000 network and the CFP represent a strategy for managing the impacts of this fishery on habitat types.</p>
	b	N	<p>Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or habitats involved.</p> <p>There is no evidence that the effectiveness of the management strategy has been tested for this fishery.</p> <p>The assessment team has proposed a recommendation that would provide evidence to confirm that site-specific information is being gathered to record the location, timing and nature of fishing activity (if any) in the Bratten Natura 2000 site. This information would test whether the management strategy is working, and also whether it is being implemented successfully (see item (c) below).</p>
	c	N	<p>There is clear evidence that the strategy is being implemented successfully.</p> <p>There is presently insufficient fishery or site specific information available to meet the requirements of this scoring guidepost.</p> <p>The assessment team has proposed a recommendation that would improve the scoring against this guidepost (see item (b) above).</p>
	d	Y	<p>There is some evidence that the strategy is achieving its objective.</p> <p>There is evidence from assessments carried out by the European Environment Agency that the Natura 2000 sites within the UoC area are in good condition. This provides some evidence that the EC strategy for marine habitat protection is achieving its objectives.</p>
References		Section 5.3.4.	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.4.3

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There is basic understanding of the types and distribution of main habitats in the area of the fishery.
			See SG100(a)
	b	Y	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear.
			See SG80(b)
80	a	Y	The nature, distribution and vulnerability of all main habitat types in the fishery are known at a level of detail relevant to the scale and intensity of the fishery.
			See SG100(a)
	b	Y	Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear.
			The nature of the impacts of towed trawls on benthic marine habitats are well documented globally. Studies that are relevant to the UoC under assessment have been carried out for otter trawls in the North Sea.
			The spatial extent of the interaction between the UoC and benthic habitats can be assessed by comparison of maps of fishing activity (Figure 2) and maps showing the location of marine habitats (Figure 6 - Figure 9). The information about the spatial extent of vessel activity is derived from VMS satellite tracking data which provides independent, accurate, and ongoing information about the timing and location of use of the fishing gear.
	c	Y	Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).
			Any changes in the operation of the fishery would be immediately detected by the VMS tracking of the trawl fleet. This would reveal any movement of fishing activity into areas where there may be vulnerable marine habitats.
100	a	Y	Further information about the increase in risk to habitats in the UoC would be provided by the ongoing monitoring of the status of marine habitats within Natura 2000 sites, which represent the most vulnerable and important marine habitats in Europe.
			Combined, these monitoring programmes would detect any increase in risk to habitats in the UoC area.
100	a	Y	The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.

			The overall distribution of habitat types in the North Sea is known (Figure 6) and the distribution and range of vulnerable habitat types is also known (Figure 8 & Figure 9). The most vulnerable habitats have been identified and are protected within Natura 2000 sites (Figure 7).
	b	N	<p>The physical impacts of the gear on the habitat types have been quantified fully.</p> <p>The physical impacts of the saithe trawl gear on the habitats in the UoC area are understood but have not been quantified fully.</p>
	c	N	<p>Changes in habitat distributions over time are measured.</p> <p>Although changes in habitat distribution are measured in parts of the UoC area (such as within Natura 2000 sites), changes in distribution are not measured over the entire area, so this scoring guidepost is not met.</p>
References		Section 5.3.4.	
OVERALL PERFORMANCE INDICATOR SCORE:			85
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.5.1

PI 2.5.1		The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
60	a	Y	The fishery is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
			See SG80(a)
80	a	Y	The fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
			<p>An ecosystem model of the North Sea was recently published by Cefas. This considers the relationship between different trophic levels, predators and prey. This model identifies saithe as an important predator which does not form a major prey item for other species such as pinnipeds or cetaceans. The removal of saithe by the fishery is therefore highly unlikely to have serious or irreversible effects on higher trophic level species.</p> <p>ICES have recently produced mixed-fisheries advice for the North Sea. This suggests that the saithe TAC is in excess of the level that would be set in order to avoid bycatch from the overall North Sea saithe fishery adversely affecting cod stocks. However this advice is based on average levels of cod bycatch throughout the North Sea; evidence from the UoC under assessment indicates that the retention and discarding of cod in this fishery is very low, and that adverse effects on the cod stock are highly unlikely (see PI 2.1.1 and 2.2.1).</p>
100	a	P	There is evidence that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
			There is evidence that the fishery as it is presently managed is highly unlikely to disrupt the ecosystem because the TAC keeps the saithe stock stable, and it is therefore unlikely that the stock will become depleted and the fishery adversely affect the structure and function of the ecosystem. However, this evidence is not conclusive, because the current ecosystem models are still under development and have not been tested sufficiently.
References		Section 5.3.5.	
OVERALL PERFORMANCE INDICATOR SCORE:			85
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.5.2

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There are measures in place, if necessary.
			See SG80(a)
	b	Y	The measures take into account potential impacts of the fishery on key elements of the ecosystem.
			See SG80(b)
	c	Y	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).
			See SG100(c)
80	a	Y	<p>There is a partial strategy in place, if necessary.</p> <p>The main ecosystem effects of the fishery are likely to result from the removal of the target species (and any associated removals of non-target species) and effects on marine habitats.</p> <p>The effect of fishery removals is addressed under the TAC and quota management system for saithe and other fish species that has been established by the EC and Norwegian Government, and implemented via relevant management agreements. TACs are set for all species at a level compatible with MSY (or the transition to MSY); and all fishery-related mortality is taken into account to ensure that impacts on fish stocks (and hence the North Sea ecosystem) are within appropriate limits.</p> <p>Habitat protection measures established by the EC Natura 2000 network represent a strategy to prevent serious or irreversible harm to marine ecosystems in the UoC area.</p> <p>Other measures (such as the trawling restrictions established by the EC cod recovery plan) provide additional management constraints on fishing activity which have the potential to benefit marine ecosystems.</p>
	b	Y	The partial strategy takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p>With respect to the potential effect of the fishery on the North Sea ecosystem via the removal of target and non-target fish species, the relevant management strategies takes account of the best available information on fish stocks and fishery-related removals from the area.</p> <p>The identification and protection of marine habitats through the Natura 2000 sites within the EC EEZ is based upon the best available information about the distribution and vulnerability of marine habitats.</p> <p>These aspects of the strategy for managing the effects of the saithe fishery on fish stocks and marine habitats are designed to avoid serious or irreversible harm, and area intended to achieve an outcome consistent with the SG80 level of performance.</p>
	c	Y	<p>The partial strategy is considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).</p> <p>See SG100(c)</p>
	d	Y	<p>There is some evidence that the measures comprising the partial strategy are being implemented successfully.</p> <p>See SG100(d)</p>
100	a	N	<p>There is a strategy that consists of a plan, in place.</p> <p>There is no ecosystem management plan in place for this fishery.</p>
	b	N	<p>The strategy, which consists of a plan, contains measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem.</p> <p>This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.</p> <p>There is no strategy in the form of a plan in place to address all of the impacts of the fishery.</p> <p>Some recent developments in multispecies management and integrated assessment might ultimately result in the requirements of this scoring guidepost being met, but they do not presently satisfy its requirements.</p>
	c	Y	<p>The measures are considered likely to work based on prior experience, plausible argument or information directly from the fishery/ecosystems involved.</p>

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p>There are strategies in place to govern fishing activity (such as a TAC, closed areas, and technical measures determining net mesh size); other strategies to protect marine habitats (such as the CFP and Natura 2000 network); and also measures implemented by the client fleet which determine the location of fishing activity.</p> <p>Information from the fishery indicates that there are low levels of capture of non-target species or ETP species; that it does not affect vulnerable marine habitats. The function of the ecosystem is understood and the fishery is considered highly unlikely to have adverse effects upon it.</p>
	d	Y	<p>There is evidence that the measures are being implemented successfully.</p> <p>Surveillance of the fishery ensures that technical measures and effort controls are observed. VMS monitoring ensures that spatial and temporal closures are respected, and provides ongoing monitoring of the overlap between the fishery and vulnerable marine habitats. Management of the saithe fishery has resulted in a relatively stable stock, and it is unlikely that there have been perturbations in the ecosystem due to fluctuations in the saithe stock. Collectively, this provides evidence that the measures and strategies that govern this fishery and which serve to minimise ecosystem impacts are being implemented successfully.</p>
References		Section 5.3.5.	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 2.5.3

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Information is adequate to identify the key elements of the ecosystem (e.g., trophic structure and function, community composition, productivity pattern and biodiversity). See SG80(a)
	b	Y	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, and have not been investigated in detail . See SG80(b)
80	a	Y	Information is adequate to broadly understand the key elements of the ecosystem. The Cefas ecosystem model and other work provide a broad understanding of the key elements of the ecosystem, including trophic structure, predator-prey interactions and competition between species.
	b	Y	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail . A detailed investigation of the interactions between the key ecosystem elements in the North Sea was published by Cefas in 2008. More recently, ICES has published mixed-species advice for North Sea fisheries which considers the effect of the saithe fishery on the stocks and fisheries of the other main commercial species in the North Sea.
	c	Y	The main functions of the Components (i.e., target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known . See SG100(c)
	d	Y	Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred. There is sufficient information available from independent sources about the impacts of the fishery on retained and discarded non-target species, ETP species and marine habitats to allow the effect of the fishery on the ecosystems to be inferred using the ecosystem model that has been developed for the North Sea.
	e	Y	Sufficient data continue to be collected to detect any increase in risk level (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures). There is an established and ongoing observer programme that would detect any change in the effect of the fishery on non-target or ETP species. VMS monitoring of vessels would also detect changes in the pattern of fishing activity relative to areas with vulnerable marine habitats.
100	b	Y	Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated .

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p>The interactions between the fishery and non-target species including ETP species have been investigated. Interactions between trawl fisheries and seabed habitats in the North Sea have also been investigated.</p> <p>The interactions between North Sea fisheries and ecosystems have been investigated using the Ecopath with Ecosim model. These investigations have examined the effect of different fishing methods on different species, including saithe, and the consequent effects of changes in the population of target species on their predators and prey.</p> <p>All of the main interactions between the fishery and ecosystem elements can both be inferred from existing informaiton, and have been investigated.</p>
	c	Y	<p>The impacts of the fishery on target, Bycatch and ETP species are identified and the main functions of these Components in the ecosystem are understood.</p>
			<p>The impacts of the fishery on the target, bycatch and ETP species can be identified from landings data and independent observer records. The level of non-target species in the catch is very low, and there have been no observations of any effect on ETP species. The functions of the species that are affected by the fishery are understood from ecosystem models of the North Sea.</p>
	d	Y	<p>Sufficient information is available on the impacts of the fishery on the Components and elements to allow the main consequences for the ecosystem to be inferred.</p>
			<p>There is good information available on the impacts of the fishery on ecosystem components from the catch data provided both by the fleet and form observer records; landings data which provides an indication of the overall scale of impacts; VMS data and habitat maps which enable impacts on benthic habitats to be inferred, and the ecosystem models that are being developed for the North Sea.</p>
	e	Y	<p>Information is sufficient to support the development of strategies to manage ecosystem impacts.</p>
			<p>The information that is available from the monitoring of fisheries impacts (listed in SG100d above) is sufficient to support the development of strategies for managing ecosystem impacts.</p>
References		Section 5.3.	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

10.3 Principle 3

Evaluation Table: PI 3.1.1

PI 3.1.1		The management system exists within an appropriate legal and/or customary framework which ensures that it:	
		<ul style="list-style-type: none"> Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and Incorporates an appropriate dispute resolution framework. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	The management system is generally consistent with local, national or international laws or standards that are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2.
			The management system for the fishery is based upon a plan for the stock which is consistent with MSC Principle 1 and which is transposed into enforceable regulations that are consistent with local, national and international laws and standards.
			The EC and Norwegian management systems contain measures for the protection of non-target species, ETP species, marine habitats and ecosystems which are based upon international agreements (such as the UN Convention on the Law of the Sea and the Convention on Biological Diversity) and which are in accordance with MSC Principle 2.
	b	Y	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.
			See SG100(b)
80	c	Y	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability of the fishery.
			See SG100(c)
	d	Y	The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
			See SG100(d)
	b	Y	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery.
80	c	Y	The management system or fishery is attempting to comply in a timely fashion within binding judicial decisions arising from any legal challenges.
			See SG100 (c)
	d	Y	The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.

PI 3.1.1		The management system exists within an appropriate legal and/or customary framework which ensures that it: <ul style="list-style-type: none">• Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2;• Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and• Incorporates an appropriate dispute resolution framework.	
SG	Issue	Met? (Y/N)	Justification/Rationale
			See SG100(d)
100	b	Y	The management system incorporates or subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective .
			There is a transparent enforcement and judicial system at the national and international level for the resolution of legal disputes. These systems are appropriate for the saithe fishery, and ensure that management measures can be enforced in EC Member State waters, Norwegian waters and the EC EEZ. There is no evidence that the client fleet has been involved in legal disputes, but evidence from disputes in other fisheries proves that this system has been tested and is proven to be effective.
	c	Y	The management system or fishery acts proactively to avoid legal disputes or rapidly implements binding judicial decisions arising from legal challenges.
			The client fishery acts to avoid any disputes with management authorities by, for instance, using trawl mesh sizes that are in excess of legal requirements; ensuring that vessels have adequate quota for all the quota species they may catch; and through company policies which prohibit discarding.
	d	Y	The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
			No people are dependent on saithe for food. The saithe fishery is commercial. The management system formally commits to the legal rights of people dependent on fishing for their livelihood by ensuring that fishing opportunities are based upon historic fishing activity (adjusted over the years to account for changes in stock abundance). The North Sea Regional Advisory Council provides a formal mechanism for engaging people dependent on fishing (and also environmental stakeholders) in the management system.
References		EC CFP Regulation 2371/2002 Lov om fiskeri og fiskeopdræt (Fikeriloven), LBK no 978 of 26 September 2008. Available from:- https://www.retsinformation.dk/forms/r0710.aspx?id=121218 North Sea Regional Advisory Council website www.nsrac.org	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 3.1.2

PI 3.1.2		<p>The management system has effective consultation processes that are open to interested and affected parties.</p> <p>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties</p>	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood .
			See SG100(a)
	b	Y	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.
			See SG80(b)
80	a	Y	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.
			See SG100(a)
	b	Y	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.
			Scientific advice from ICES forms the basis of the management system, and local knowledge is sought through the involvement of Regional Advisory Councils (the North Sea RAC in this case) and ACFA in the management process. These consultation processes respond both to ad-hoc management issues, the annual TAC negotiations for this stock under the EC-Norway agreement, and also the decadal review of the EC CFP.
			The management procedure is described in some detail in section 5.4.2 of this report.
	c	Y	The consultation process provides opportunity for all interested and affected parties to be involved.
100	a	Y	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.
			The functions, roles and responsibilities of the organisations and individuals involved in the management process are identified, and are defined in international and national legislation. The roles of these parties are all well understood for all of their areas of responsibility and interaction.
	b	N	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used .

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Although the management system regularly seeks and accepts relevant information, there is no evidence that explanations are offered for how it is used or not used in all circumstances.
	c	Y	<p>The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.</p> <p>Opportunities for interested and affected parties to be involved in the management process are provided by the North Sea RAC, the annual consultation on fishing opportunities under the EC-Norway agreement, and the decadal review of the EC CFP. Since 2010, the annual consultation on fishing opportunities has been made more transparent and accessible, with early publication of consultation documents (such as EC COM (2010) 241 Final).</p> <p>The creation of the North Sea RAC and the current consultation on the review of the EC CFP provides evidence of how the consultation process facilitates the effective engagement of interested and affected parties.</p>
References		Section 5.4.2; EC Regulation 2371/2002; EC Regulation 43/2009; EC COM(2010) 241 Final	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 3.1.3

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach	
SG	Issue	Met? (Y/P/ N)	Justification/Rationale
60	a	Y	Long-term objectives to guide decision-making, consistent with the MSC Principles and Criteria and the precautionary approach, are implicit within management policy
			See SG100(a)
80	a	Y	Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach are explicit within management policy.
			See SG100(a)
100	a	P	Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within and required by management policy.
			Clear long-term objectives for this fishery are set out in the 2008 EU-Norway agreement (reproduced in section 5.4.1). This agreement sets out an explicit management plan with clear objectives that embrace a precautionary approach, and which determine a long-term management policy for the fishery. These objectives are, however, limited to sustainable management of the target stock (MSC Principle 1) and not for all non-target species (MSC Principle 2). However, the EC and Norwegian management regimes both address this shortcoming.
			The EC CFP is consistent with MSC Principles, and its daughter Regulations deliver conservation measures that incorporate the precautionary approach in respect of MSC Principles 1 & 2 (such as setting sustainable TACs for stocks, and prohibiting fishing for species that are endangered, such as the spurdog). The CFP is currently under review, and the Green Paper setting out proposals for this review makes further commitments to ecosystem management.
			The Norwegian management system demonstrates a commitment to MSC Principles 1 & 2 through the implementation of measures to conserve fish stocks, and a Marine Resources Act which enables fisheries regulations to be used to prohibit fishing where necessary to protect marine living resources.
References		Sections 5.4.1, 5.4.3; Fiskeridirektoratet 2008, a; European Commission (2009c); EC Regulation 2371/2002; EC Regulation 43/2009; Norway, 2005;	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 3.1.4

PI 3.1.4		The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
60	a	Y	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2.
			See SG80(a)
80	a	Y	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that perverse incentives do not arise.
			<p>Economic and social incentives are provided by the management regime through the allocation of resources (catch quota) at a level compatible with sustainable fishery management. This regime is supported by a legal regime that provides an additional incentive to comply with management measures, through the penalties that can be imposed for non-compliance with the CFP. Administrative, technical and quota-related offences can all result in legal action, prosecution and fines. These measures all contribute to sustainable fishing and ecosystem management, and are regularly reviewed as part of the ongoing process of fisheries management established by the CFP, Norwegian legislation, and the Coastal States Agreement.</p> <p>Within Norwegian waters, there is a ban on discarding the main commercial fish species. The EC does not currently have a discard ban, but is committed to reducing discarding of fish through the implementation of a revised CFP during 2013.</p> <p>The EC and Member States provide funding to the fishing industry. Until recently this was provided via the Financial Instrument for Fisheries Guidance (FIFG), which was superseded by the European Fisheries Fund (EFF) in 2007. Concerns were raised by some NGOs that FIFG represented a subsidy to the industry. However the actual aims of FIFG were to “<i>achieve a balance between fisheries resources and their exploitation</i>”. The purpose of the EFF is to both support the industry as it adapts its fleet to make it more competitive and promote measures to protect and enhance the environment. One of the main objectives of the EFF is to “<i>promoting environmentally-friendly fishing and production methods</i>”. It is therefore clear that the objectives of both FIFG and EFF are consistent with MSC Principles, and that there are no subsidies that would encourage unsustainable fishing.</p> <p>There is a risk that the saithe TAC in the North Sea could create a perverse incentive to catch and discard cod; however, this has been addressed through the EC cod recovery plan which prohibits trawling in areas south of 56°N and sets bycatch limits; and also by the mesh size restrictions and discarding ban in Norwegian waters. These measures address the risk of perverse incentives arising.</p>
100	a	N	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and explicitly considers incentives in a regular review of management policy or procedures to ensure they not contribute to unsustainable fishing practices.
			Although the management system is subject to regular (decadal) review, this review does not explicitly consider incentives.

PI 3.1.4		The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing	
SG	Issue	Met? (Y/P/ N)	Justification/Rationale
References		Section 5.4.4; Fiskeridirektoratet, 2009b; NEAFC, 2009e; IEEP, 2002;	
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 3.2.1

PI 3.2.1		The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2	
SG	Issue	Met? (Y/P N)	Justification/Rationale
60	a	Y	Objectives , which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery's management system.
			See SG80(a)
80	a	Y	Short and long-term objectives , which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.
			Well defined and measurable short and long-term objectives are established within the management framework for this fishery which demonstrably meet the outcomes expressed by MSC Principle 1 (reference points, harvest strategy and harvest control rule). These objectives are met in the setting of the annual TAC in line with ICES advice based on MSY considerations and the long term management plan set out in the EU-Norway agreed management plan for North Sea saithe. Fishery objectives are also consistent with the outcomes expressed by Principle 2 (with respect to measures that protect non-target species, ETP species, and marine ecosystems). These objectives are met by the TACs set for non-target species and rules to reduce capture and discarding of these species; and by measures taken by the EC and Norwegian Government to protect ETP species, marine habitats and ecosystems.
100	a	P	Well defined and measurable short and long-term objectives , which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.
			Well defined and measurable short and long term objectives that are demonstrably consistent with achieving Principle 1 outcomes are explicit within the fishery's management system. There are no similarly well-defined and explicit objectives for all of the Principle 2 outcomes, although these have been defined for some of the Principle 2 components (such as non-target and ETP species). This Performance Indicator is thus fully met for Principle 1 and partially met for Principle 2.
References		[List any references here] Sections 5.4.5 & 5.3; Fiskeridirektoratet 2008(a), 2009(a); European Commission (2009c); EC Regulation 2371/2002; EC Regulation 43/2009	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 3.2.2

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.
			See SG80(a)
	b	Y	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.
			See SG80(b)
80	a	Y	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.
			The management system is based upon well-established decision-making processes (the EU-Norway management agreement) that results in measures and strategies to achieve the fishery specific objectives. These include the annual TAC for the stock, and restrictions on fishing areas, discarding of fish, and technical measures that all contribute to achieving the fishery-specific objectives.
	b	Y	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
			The decision-making process responds to ICES advice on the stock and ecosystem issues, and also to ad-hoc issues raised by the North Sea RAC. The response of the management system to such issues is set out in reports and minutes that are available to stakeholders, providing transparency. The EC-Norway management agreement responds in a timely and adaptive manner to the state of the stock.
	c	Y	Decision-making processes use the precautionary approach and are based on best available information.
			The decision-making process for the stock is based upon the EC-Norway management agreement which is considered by ICES to be consistent with the precautionary approach. Decisions about fishing opportunities are based upon the best available information, which is provided on an annual basis by ICES.
	d	Y	Explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
			See SG100(d)
100	b	N	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation,

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives	
SG	Issue	Met? (Y/N)	Justification/Rationale
			The decision-making processes for this fishery respond to all issues identified in relation to MSC Principle 1 in a transparent, timely and adaptive manner through the management plan for this fishery; and take account of the wider implications of decisions, but this does not apply to all issues identified in relation to MSC Principle 2 (such as habitat and ecosystem effects).
	d	Y	<p>Formal reporting to all interested stakeholders describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.</p> <p>The scientific basis for ICES advice and the agreed records of EU-Norway negotiations provide explanations for actions that have been taken in response to scientific advice on stock status. These formal reports are distributed directly to all interested parties and are widely available on the internet. Examples include the annual advice on TACs, and also the more recent 2012 advice provided by ICES on the long term management plan for North Sea Saithe.</p>
References		Section 5.4.1 5.4.6; ICES 2012a; ICES 2012g	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 3.2.3

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Monitoring, control and surveillance <u>mechanisms</u> exist are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.
			See SG100(a)
	b	Y	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.
			See SG100(b)
	c	Y	Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.
			See SG100(c)
80	a	Y	A monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.
			See SG100(a)
	b	Y	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.
			See SG100(b)
	c	Y	Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.
			See SG100(c)
	d	Y	There is no evidence of systematic non-compliance.
			Enforcement officers that were contacted during the course of this assessment provided no evidence of systematic non-compliance with regulations.
100	a	Y	A comprehensive monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p>The fishery under assessment is subject to comprehensive monitoring by the EC and its Member States and by the Norwegian Government. Surveillance and monitoring applies to the location of fishing effort using VMS, the quantity of fish that are landed, the size of fish that are retained, the discarding of fish, and the technical specification of fishing gear. The EC, Norway, and EC Member States have full-time professional fishery enforcement personnel that are equipped to enforce all relevant management measures, strategies and rules all year round.</p> <p>The results of monitoring at sea are reconciled with landings and sales declarations, providing a comprehensive, integrated overall control system both on land and at sea.</p>
	b	Y	<p>Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.</p> <p>Sanctions to deal with non-compliance are set out in Norwegian and EC Member State legislation. There is evidenced (from the use of these sanctions against other fishing vessels) that these measures are consistently applied, where necessary.</p> <p>Feedback from the client, who has taken precautionary measures (such as the use of nets with mesh sizes that exceed the requirements specified in legislation), along with the evidence that the client fleet complies with all legislative requirements, demonstrates that the sanctions in place provide effective deterrents.</p>
	c	Y	<p>There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.</p> <p>Consultation with the relevant enforcement agencies indicates that there is no evidence of any records of non-compliance associated with the client fleet, which strongly indicates that fishers are complying with the management system.</p> <p>The fleet provides catch and landings data that are important for the management of the fishery, and also participates actively in the fishery observer programme which provides additional information required for stock assessment and management.</p>
References		Section 5.4.7	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 3.2.4

PI 3.2.4		The fishery has a research plan that addresses the information needs of management	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2.
			See SG80(a)
	b	Y	Research results are available to interested parties.
			See SG100(b)
80	a	Y	A research plan provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.
			Research is targeted at the requirements of the fishery. It is adequately resourced to provide reliable and timely information. The body of research that is carried out provides adequate information to guide the management of the fishery, and priorities for future research are identified for future action.
	b	Y	Research is coordinated by ICES through ACOM, and its various working and study groups. The ICES working group for this fishery, the Working Group for the North Sea, Skagerrak and Kattegat (WGNSSK) routinely gather and analyse information on stock status, the exploitation of stocks, and ecosystem effects of the fishery. This research is sufficient to achieve the objectives consistent with MSC Principles 1 & 2.
			Research results are disseminated to all interested parties in a timely fashion.
100	a	N	A comprehensive research plan provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.
			There is no comprehensive research plan for the fishery.
	b	Y	Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available .
			The annual reports of ICES working groups and advice are distributed via the ICES website. Although these reports are technical in nature and may require some expertise to understand them, they are widely and publicly available and are published in a timely fashion.
References		ICES 2012a, b; Section 5.4.8.	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Evaluation Table: PI 3.2.5

PI 3.2.5		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives There is effective and timely review of the fishery-specific management system	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	The fishery has in place mechanisms to evaluate some parts of the management system.
			See SG100(a)
	b	Y	The fishery-specific management system is subject to occasional internal review.
			See SG80(b)
80	a	Y	The fishery has in place mechanisms to evaluate key parts of the management system
			See SG100(a)
	b	Y	The fishery-specific management system is subject to regular internal and occasional external review.
			<p>The management system is subject to regular annual review by ICES, with the evaluation of stock status and the setting of fishing opportunities for the coming year based upon a review of both scientific information about the stock and also uncertainties which have, in the past, arisen from deficiencies in the management system (such as area misreporting of catches). ICES have provided advice on the EU-Norway Management Plan in 2008 and again in November 2012).</p> <p>Scrutiny of the management system is also provided by the North Sea RAC, which embraces a wide range of stakeholders.</p> <p>The ICES reviews of the fishery status are independent, and the occasional review of the EU-Norway management plan provides an opportunity for occasional external review of the management system.</p>
100	a	Y	The fishery has in place mechanisms to evaluate all parts of the management system.
			The management regime for this fishery incorporates measures that allow for review of both the EU-Norway fisheries agreement, as well as for the EC CFP.
			The EU-Norway agreement is reviewed annually, in the light of ICES advice. This review is subject to internal scrutiny, and through ICES advice on the status of stocks and performance of the long-term management plan is also subject to regular and comprehensive external review.
			Within the CFP, regular internal review of the management system occurs at every level. At the EC level, policy documents are reviewed internally and by Member States. The resulting policies, operational plans and practices are then subject to wide consultation before implementation, and regular evaluation. These systems also include formal consultation and review processes involving all EC Member State fisheries administrations, and committees such as ACOM, STECF, ACFA dealing with industry concerns at a European level, and the North Sea RAC dealing with specific technical and management issues..

			The CFP is also subject to a comprehensive decadal review of policies, which provides opportunities for both internal and external participation. The 2012 review of the CFP is already underway, with the recent publication of an EC “Green Paper” paving the way for wide engagement in the review process. The recent EC consultation on fishing opportunities in 2011 illustrates an increased commitment to stakeholder engagement in the CFP process.
	b	N	<p>The fishery-specific management system is subject to regular internal and external review.</p> <p>Although there is regular internal review of the management system, there is no regular external review.</p>
References			Section 5.4.9; European Commission, 2013; ICES 2012a; ICES 2012g;.
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

11 APPENDIX 2. PEER REVIEW REPORTS

11.1 Peer Review Biographies

Dr. Rüdiger Voss

Dr Voss is a specialist in investigating fish stock dynamics with special focus on recruitment variability of marine fish stocks. His work comprised field experiments, as well as modelling of population dynamics and drift of early life history stages of fish. During his employment at IFM-GEOMAR, Kiel, Germany (1996-2008), he contributed significantly to several EU-projects, e.g. Baltic CORE and STORE projects, BECAUSE, PROTECT, UNCOVER, as well as FACTS. All projects aimed at understanding population dynamics and the underlying processes, including analysis on data needs to answer relevant questions. Furthermore, he coordinated the field activities in the GLOBEC Germany project, assuring the successful collection of field data. Currently, he is engaged in improving Multispecies assessment contributing to the setup of the required basic database and performing area-disaggregated assessment. With respect to this he was member of the ICES Study Group on Multispecies Model Implementation in the Baltic. For his work in the frame of the ICES Working Group on Integrated Assessment of the Baltic Sea as well as the ICES Steering Group on Sustainable Use of the Ecosystem, he was integrating all relevant data sources, needed for sustainable management approaches. He is excellently integrated in the international scientific network and has very good contacts to the different national institutions responsible for fisheries data collection. Since 2008, he is a member of the cluster of excellence “The future ocean” at Kiel University as *Senior Research Scientist* at the Sustainable Fisheries Group, Department of Economics, University of Kiel. His main scientific interest is in improving fisheries (and ecosystem) management, by coupling of ecological and economic advice, using age-structured multi-species models.

John Nichols

Mr John Nichols is a retired UK government fisheries biologist with 42 years research experience in plankton ecosystems in the North Atlantic specializing in the taxonomy of North Atlantic & NW European plankton including phytoplankton, micro and meso-plankton, ichthyoplankton and young fish.. He has been a member of ICES working groups on herring, mackerel, horse mackerel, sardine and anchovy assessments; and mackerel and horse mackerel egg surveys. He was also a member of ICES study groups on herring larval surveys and plankton sampling.

He was scientist in charge of numerous research vessel surveys for fish stock assessment purposes and directly involved in the assessment of pelagic and western demersal fish stocks from 1994 to 2000.

He has been involved in the publication of over fifty scientific papers and reports more than half of which have been in peer reviewed journals, and the publication of two fish egg and larvae identification keys.

Since retirement from his government post he has participated in a total of 26 MSC assessments as the Principle 1 expert. The assessments include the Thames estuary herring, PFA North Sea Herring, NEA mackerel and Atlanto-Scandian herring, Hastings Fleet Dover sole, the north –east coast of England bass fishery, the SW mackerel hand line fishery, Portuguese sardine, a Newfoundland herring fishery, Canadian Pacific sablefish, various Norwegian pelagic fisheries, a North Sea plaice fishery and Faroese and Norwegian saithe fisheries. He has also been a peer reviewer for numerous MSC certification reports by various Certification bodies and has also carried out two MSC pre-assessments and numerous annual audits.

In 2010 he delivered a lecture on *The Importance of a Fisheries Interaction with the Ecosystem in the MSC Certification Process*’ at an international Safeseas conference in Portugal.

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11.2 Peer Reviewer A: Report

Overall Opinion

<i>Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?</i>	Yes/No Yes	Certification Body Response
<u>Justification:</u> The evidence is well presented and conclusive in relation to each of the three assessment Principles. The scoring of each performance indicator is well supported and I have no significant disagreements with any of the scores. The overall conclusion that the fishery should be re-certified without any conditions is correct. I have suggested an additional recommendation.		Comments noted.

<i>Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?</i>	Yes/No N/A	Certification Body Response
<u>Justification:</u> No conditions applied		Comments noted.

If included:

<i>Do you think the client action plan is sufficient to close the conditions raised?</i>	Yes/No N/A	Certification Body Response
<u>Justification:</u>		

General Comments on the Assessment Report (optional)

This is an exceptionally well presented report full of relevant useful information in support of the performance indicator comments and the overall conclusion. I was particularly impressed with the presentation in the report of the evidence in support of the Principle 2 performance indicators. This whole section was very thorough and made easy to link to the specific requirements of each PI by detailing the relevant MSC standard at the beginning of each section. The habitat and protected area maps were also very useful in linking potential impact to the distribution of the fishery. It is quite clear that this small fishery is relatively clean with little or no impact on other retained or by catch fish species or on ETP species.

This is a relatively small well run fishery which covers 99% of the German saithe TAC. The client obviously has due regard for the potential environmental and ecosystem impact of this essentially bottom trawl fishery. In that context there is clear evidence that the client has taken positive action with, for example, the Stopp Discard project, voluntary increase in cod-end mesh size and fishing mainly off the bottom in the Bratten Natura 2000 site. In order to reinforce and ensure that final point I would like the team to consider a **Recommendation** to the client that when fishing in this area the vessels only fish with the doors rigged to avoid sea bed contact. That should be evidenced at annual audit by a clear written instruction to the skippers of each of the ten vessels.

IMM Response: We have adopted the proposed recommendation.

As expected I have only a few minor comments on the text for the assessment team to consider.

5.2.3.

The team should consider whether use of the word ‘hiccup’, both here and in the performance indicator comments, is appropriate to describe the methodological problems experienced in the 2011 assessment. Hiccup, according to the OED is ‘an involuntary spasm of the respiratory organ’ and in the context of this report it is not Standard English and may not be fully understood by all readers. Perhaps *methodological errors* would be more appropriate. These methodological ‘hiccups’ do intrigue the reader and should be briefly explained rather than relying on having to refer back to a working group report.

IMM Response: The text has been modified in response to this suggestion.

The EU Norway Management Plan, agreed in 2008, is the overarching mechanism for the management of the North Sea saithe fishery. Elements of it are mentioned here and in section 5.4.3, which refers back to 5.2 , and also in scoring comments on some of the performance indicators. The complete plan should be included in this section in full (see below) because it is important for the reader to fully understand all elements of the plan when evaluating the performance indicators under Principle 1 and 3.

“Management plan

In 2008 EU and Norway renewed the existing agreement on “a long-term plan for the saithe stock in the Skagerrak, the North Sea and west of Scotland, which is consistent with a precautionary approach and designed to provide for sustainable fisheries and high yields. The plan shall consist of the following elements:

1. Every effort shall be made to maintain a minimum level of Spawning Stock biomass (SSB) greater than 106 000 tonnes (Blim).
2. Where the SSB is estimated to be above 200 000 tonnes the Parties agreed to restrict their fishing on the basis of a TAC consistent with a fishing mortality rate of no more than 0.30 for

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appropriate age groups.

3. Where the SSB is estimated to be below 200 000 tonnes but above 106 000 tonnes, the TAC shall not exceed a level which, on the basis of a scientific evaluation by ICES, will result in a fishing mortality rate equal to $0.30-0.20 \times (200\,000 - \text{SSB}) / 94,000$.

4. Where the SSB is estimated by the ICES to be below the minimum level of SSB of 106,000 tonnes the TAC shall be set at a level corresponding to a fishing mortality rate of no more than 0.1.

5. Where the rules in paragraphs 2 and 3 would lead to a TAC which deviates by more than 15% from the TAC the preceding year the Parties shall fix a TAC that is no more than 15% greater or 15% less than the TAC of the preceding year.

6. Notwithstanding paragraph 5 the Parties may where considered appropriate reduce the TAC by more than 15% compared to the TAC of the preceding year.

7. A review of this arrangement shall take place no later than 31 December 2012.

8. This arrangement enters into force on 1 January 2009.”

IMM Response: The management plan for the fishery has now been included in the report at §5.4.1.

5.3.1

More detail of the clients laudable Stopp Discard initiative would be useful including the problems encountered. They have obviously preempted a probable change under the revised CFP which is not likely to become effective for demersal stocks until 2016.

IMM Response: Some information about the Stopp Discard project has been put in the text here.

5.4.4

The team should clearly state in the text of the report whether or not there have been any prosecutions or warnings issued to the client fleet (also covered in section 5.4.7)

It is clear from the report of the site meeting with Hans Hashagen, a State Fisheries Inspector, that there have been no issues of non-compliance with any regulations by the client fleet. I assume that this is also the same with the Norwegian authorities. Please confirm this in the text of the report and also in the relevant performance indicators.

IMM Response: appropriate changes have been made to the text.

5.4.6

Paragraph 5 – should be clear that the ‘enforcement action on the German saithe fishery in 2007 was related to the potential to exceed the cod quota under the cod recovery plan, and not the saithe quota as the statement implies.

IMM Response: appropriate changes have been made to the text.

5.4.9

The EU Norway Management plan is not reviewed annually in the light of ICES advice as stated here. It is reviewed by ICES on request and we due for further evaluation and review in December 2012.

IMM Response: appropriate changes have been made to the text.

8.4

The Recommendation should more clearly address the need for the next benchmark Workshop (or

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ICES generally) to explore alternative assessment models which may or may not be able to incorporate stock and recruitment and environmental data. The failure to explore alternative models is the reason that this has been marked down under PI 1.2.4 SG 100d.

IMM Response: appropriate changes have been made to the text.

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Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
1.1.1	Yes	Yes	N/A	Comments and score are well supported by evidence in the report.	Comment noted.
1.1.2	Yes	No	N/A	The score of 80 here is rather harsh in particular in relation to SG100b. For most ICES stock assessments and advice Blim based on a statistical evaluation is the norm as there are few, sufficiently robust, S/R relationships to justify an alternative approach. The uncertainty mentioned here is appropriately addressed under 1.2.4. Score at 90.	Comment noted. The scoring may seem harsh but is consistent with the SG requirements.
1.1.3	N/A	N/A	N/A		N/A
1.2.1	Yes	Yes	N/a	Comments and score are well supported by evidence in the report. As mentioned in general comments above the report must detail the whole of the 2008 agreed management plan	Comment noted. The management plan is now included in the report.
1.2.2	Yes	Yes	N/A	Comments and score are well supported by evidence in the report.	Comment noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
1.2.3	Yes	No		As in 1.1.2 above the score here is rather harsh and again related to the problem of stock and recruitment relationships. The P1 expert is well aware that averages or geometric means over varying time periods is the norm for the calculation of recruitment.	Comment noted. The team still considers that SG 100(a) is not met.
1.2.4	Yes	Yes	N/A	This has not unreasonably led to a recommendation but, as noted in the general comments, the wording of the recommendation needs to be modified.	Comment noted. The wording of the recommendation has been amended.
2.1.1	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report. All the evidence in the report suggest that this is a very clean fishery.	Comment noted.
2.1.2	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report	Comment noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.1.3	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report	Comment noted.
2.2.1	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report. All the evidence in the report suggest that this is a very clean fishery	Comment noted.
2.2.2	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report.	Comment noted.
2.2.3	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report.	Comment noted.
2.3.1	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report. There is strong supporting evidence from observer trip records of the minimal encounter with and impact on ETP species	Comment noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.3.2	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report	Comment noted.
2.3.3	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report	Comment noted.
2.4.1	Yes	Yes	N/A	The team have rightly recognised the potential for any demersal trawl fishery to have some negative impacts on the seabed. Without specific fishery evidence to the contrary they have correctly scored this PI at 80	Comment noted.
2.4.2	Yes	Yes	N/A	Whilst not being critical of the client fishery this PI should generate a recommendation in relation to fishing within the Bratten Natura 2000 designated area.	Comment noted. A recommendation has been generated in response to this comment.
2.4.3	Yes	Yes	N/A	Or maybe the recommendation, mentioned in 2.4.2 should be linked to this PI instead.	The recommendation is more appropriate for PI 2.4.2.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.5.1	Yes	No	N/A	The partial score should be 90 not 85	A score of 85 was felt to be more precautionary.
2.5.2	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report	Comments noted.
2.5.3	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report	Comments noted.
3.1.1	Yes	Yes	N/A	Comments and score are well supported by evidence in the report	Comments noted.
3.1.2	No	No	N/A	The role of the North Sea RAC is relevant to SG 100b as well as 100c and could be considered to affect the score. The RAC does accept and consider relevant knowledge and in particular the RACs are set up to incorporate local knowledge into the management system.	We agree; the reason that we felt that the SG100(b) standard was not met was to do with the explanations about how information is used, rather than the lack of opportunity for stakeholder participation. The scoring seems appropriate.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
3.1.3	Yes	Yes	N/A	Comments and score are very well supported by evidence in the report. Once again the importance of detailing the Management Plan in the report is highlighted here (general comments)	Comments noted. We have included the management plan in section 5.4.1 of the report and cross-referred to that section for this PI.
3.1.4	Yes	Yes	N/A	Comments and score are well supported by evidence in the report	Comments noted.
3.2.1	Yes	Yes	N/A	The comments do support a partial score for SG 100a although this could be considered harsh in the context of the way the fishery is managed to minimise all potential P2 negative effects.	Comments noted; the score is precautionary and reflects that explicit objectives are not well defined and measurable for all P2 elements.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
3.2.2	No	No		Comments in support of the 'N' at SG 100b need to be more explicit in relation to the P2 issues which are not satisfactorily addressed The importance of detailing the Management Plan in the report is again highlighted here (general comments)	The scoring comments have been amended; and the management plan is now included in the report.
3.2.3	Yes, but some of the evidence is missing from the text of the report	Yes	N/A	Unless I have missed it the evidence on compliance with the rules, presented in support of SG 80d and 100c, is not explicit in the text of the report. It only appears in the details of site visits.	Evidence of compliance (or no evidence of any issues of non-compliance) has been added to the relevant sections of the report.
3.2.4	Yes	Yes	N/A	A score of 90 is correct and the absence of a 'comprehensive research plan' in relation to such a fishery is accepted as normal.	Comments noted.
3.2.5	Yes	Yes	N/A	One would only expect an external review of the management system of this fishery if there were clearly identified problems to be resolved. Score of 90 OK.	Comments noted.



Any Other Comments

Comments	Certification Body Response
None. All aspects are well covered in the general comments and comments on the individual Performance Indicators	Comments noted.

11.3 Peer Reviewer B: Report

Overall Opinion

<i>Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?</i>	Yes/No YES	Certification Body Response
<u>Justification:</u> The assessment team did a good job in compiling all relevant and necessary information. I scored several performance indicators slightly lower, but the SG 80 guideposts were in all cases fulfilled. Therefore, I believe that the fishery should be re-certified without further need for additional conditions.		Comments noted.

<i>Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?</i>	Yes/No N/A	Certification Body Response
<u>Justification:</u>		

If included:

<i>Do you think the client action plan is sufficient to close the conditions raised?</i>	Yes/No N/A	Certification Body Response
<u>Justification:</u>		

General Comments on the Assessment Report (optional)

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
1.1.1	Yes	No	NA	One element of SG 100 asks for a high degree of certainty that the stock is above the point where recruitment would be impaired. This element is not fulfilled, as recruitment over the last years has been below average, and a stock-recruitment function (preferably an environmentally-sensitive S-R relationship) is not available. However, it appears highly likely, that the stock is above such a biomass reference point. The score should be reduced to 95.	We have relied on ICES advice here, which is that the stock's SSB is currently above the statistically estimated Bpa and well above Blim, though we acknowledge that these reference points are not based on a stock-recruitment relationship that takes account of environmental conditions (few assessed stocks have this). If the latter strongly influences recruitment, the level of SSB below which recruitment is likely to be reduced is itself highly uncertain, but the current level of SSB is clearly above the point where recruitment has been observed to be below average. A reduced score of 95 seems appropriate.
1.1.2	Yes	Yes	NA	The certifier raises some good points at the SG 100 level, which I do agree upon. Especially, the role of environmental conditions on precautionary issues, as well as desired degree of certainty concerning the ecological role of the stock. The rating of 80 is justified.	Comment noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
1.1.3	NA	NA	NA		NA
1.2.1	Yes	No	NA	The certifier gave a score of 100. However, the second element in the SG 100 guidepost asks for a fully evaluated harvest strategy. Due to the absence of an environmentally-sensitive stock-recruitment relationship, the harvest strategy is not fully evaluated, at least not concerning potential (or likely) future environmental conditions, influencing stock growth. The score should be reduced to 95.	For the reasons given against 1.1.1, we have accepted that a reduced score of 95 is appropriate there, but this should not also apply here. It is impossible to develop a harvest strategy that takes into account an unknown potential influence of environmental conditions, providing the strategy does account for the actual recruitment and stock production. This is this case, and we consider that a score of 100 is justified.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
1.2.2	Yes	No	NA	The design of the harvest control rules does not take into account a wide range of uncertainties (SG 100, first issue). At least uncertainties in stock growth related to age-structure of the stock or environmentally-driven recruitment, stock distribution issues, and migration between stocks are not fully taken into account. The score should be reduced to 90.	The uncertainties which the harvest control rule must account for are those that would substantially influence the management of the fishery to ensure that sustainability is maintained. These are chiefly the accuracy of the assessment (which is considered by ICES to be good) and the estimate of recruitment used in the catch forecast (TAC) for the coming year, which is the main uncertainty. However, the allowed adjustment in exploitation level from year to year according to the harvest control rule (in response to changes in SSB) is too small to be influenced by these uncertainties, and any environmentally-induced changes in saithe stock production are much slower to develop and will be implicitly dealt with in ICES' stock assessment. In view of the reviewer's comments, however, and to harmonise with other recent North Sea saithe assessments, we agree that a score of 90 is appropriate.
1.2.3	Yes	Yes	NA	The provided evidence fully supports each element of the scoring guideposts.	Comments noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
1.2.4	Yes	No	NA	The provided evidence fully supports each element of the scoring guideposts. As two out of four points under SG 100 are positive, the score should be raised to 90.	We agree, and harmonisation also suggests that a score of 90 is appropriate.
2.1.1	Yes	Yes	NA	The score of 80 is fully supported by available information.	Comments noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.1.2	Yes	No	NA	<p>All points under SG 100 ask for, or are based upon, a strategy for managing <u>all</u> retained species. However, not for all species analytical assessments are available. Although the impact of the fishery is probably low, no strategy can be in place, if the stock status of retained species is unknown. Following this argument, the score should be reduced to 80.</p>	<p>This is a good point, and the text has been amended to clarify where there is confidence about the effectiveness of the strategy (evidenced by low numbers in the catch) for all retained species, and where the uncertainty about the population status of certain species making up a small proportion of the catch prevents the SG100 score from being awarded.</p> <p>SG100(b) is not met because it is impossible to have a "high confidence" for absolutely all of the species retained in the fishery and listed in Table 3 of the report, for the reasons identified by the reviewer. However the other SG 100 requirements are met.</p> <p>As a result this score has been reduced from 100 to 95.</p>

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.1.3	Yes	No	NA	As above, if stock status and major biology of some retained species is unclear, no verifiable consequences can be estimated – although the impact is probably low. Consequently, the score should be reduced to 80.	This observation is quite correct, if a little harsh. We have amended the scoring of SG100(a)(b) and (c) because they each require an understanding of the population status of all retained species. However SG100(d) continues to be met. The score has been reduced from 100 to 85.
2.2.1	Yes	Yes	NA	The score of 100 is fully supported by available information.	Comments noted.
2.2.2	Yes	Yes	NA	All scoring issues are fulfilled. The score of 100 is justified.	Comments noted.
2.2.3	Yes	Yes	NA	Information on the nature and amount of bycatch is fully adequate. High coverage with observers as well as various measures employed by the UoC fleet justify a score of 100.	Comments noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.3.1	Yes	Yes	NA	The score of 100 is justified. However, it should be encouraged that the monitoring is kept up at a high level, as fishing areas (and therefore overlap to ETP species) might change under changing external pressures. These might have abiotic (e.g climate change), or economic (e.g. fuel prices) causes.	Comments noted.
2.3.2	Yes	Yes	NA	SG 80 asks for a strategy in place for managing the fishery's impact. Avoidance of by-catch is clearly a strategy, but is this really managing the fishery's impact? Consequently, SG 100 is not reached. I would like to suggest that the client is developing a comprehensive strategy up-front, in case ETP species should show up in catches, e.g. due to changes in distribution areas / fishing grounds.	The reviewer's suggestions are satisfied by the legal protection afforded to ETP species in the unit of certification area. The scoring commentary has been revised to make this clearer.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.3.3	Yes	No	NA	The first point under SG 100 explicitly asks for sufficient information to quantitatively estimate outcome status of ETP species with a high degree of certainty. The certifier scores 'Yes', while at the same time stating that this point is not fulfilled. I agree that this point is not fulfilled, accordingly the score should be reduced to 90.	Good point. The scoring has been amended accordingly.
2.4.1	Yes	No	NA	The existing assessment of the Natura 2000 sites provides evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. Therefore, the score should be increased to 100.	Comment noted; the score of 80 is a precautionary response to the limitations of the information available.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.4.2	Yes	Yes	NA	Clear evidence that the strategy is being implemented successfully, as asked for under SG 100, 3 rd point, is missing. Furthermore, there is no test of the strategy, concerning potential changes in fishing sites or species distributions, if external pressures change (what has already happened during last years, resulting in changes of landing ports as well as distribution of effort). The reduced score of 90 is acceptable.	Comments noted.
2.4.3	Yes	Yes	NA	The provided evidence fully supports each element of the scoring guideposts.	Comments noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.5.1	Yes	No	NA	The fishery is (highly) unlikely to disrupt the key elements underlying ecosystem structure. Evidence could be provided by food web models, which are still under development. As this is an active field of research, the scoring might improve during the next years. Following the MSC guidelines, the score of 80 is fulfilled.	While these are valid points, the team still consider that the SG100 requirement is partially met for the reasons set out in the report, and a score of 85 seems appropriate.
2.5.2	Yes	Yes	NA	The scoring is justified. However, in the report (referring to SG 100) recent developments concerning multispecies management (i.e. SMS) and integrated assessment (ICES WGINOSE) should be mentioned, as these will contribute knowledge towards achieving SG 100 criteria.	Comment noted, and some text has been inserted at SG100(b) with respect to these comments.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
2.5.3	Yes	No	NA	As mentioned above, ecosystem models are under ongoing development. At this point, not all relevant species are represented in the ecosystem models, or are represented as functional groups, not on species level. Therefore, scoring issues 2-4 under SG 100 are not fulfilled. The scoring should be reduced to 85.	Whilst agreeing with the observation that the ecosystem models for the North Sea are still in development, the SG 100 requirements are met, and the score is appropriate.
3.1.1	Yes	Yes	NA	The available information fully supports the scoring of 100.	Comment noted.
3.1.2	Yes	Yes	NA	The certifier highlights the need to better explain and justify why/how information has been used in the management system. This is especially true for outreach to non-scientific community. While this will be true for most (all?) fisheries, this is a field of potential improvement. Therefore the score of 90 is justified.	Comment noted.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
3.1.3	Yes	No	NA	As outlined by the certifier, long-term objectives are limited to the target stock. Ecosystem aspects are not required by the management policy. Therefore, SG 100 criteria are not met. The score should be reduced to 80.	This is a valid comment; however the SG100 level is met for Principle 1 in its entirety, if not for all aspects of Principle 2. The score has been reduced to 90.
3.1.4	Yes	Yes	NA	Through the work in the RAC, some recognition and discussions of incentives (social and economic) are provided. However, I do agree that SG 100 criteria are not met at this point of time.	Comments noted.
3.2.1	Yes	No	NA	The non-existent stock-recruitment relationship provides uncertainty in future projections (and therefore long-term objectives). Therefore, the objectives are not demonstrably consistent in all parts of MSC principles 1 & 2. The score should be reduced to 80.	The comment is valid, but more relevant to Principle 1 than Principle 3. SG100 requirements are partially met for the target species because there are appropriate well defined and measurable short and long term objectives in place. However this is not true for all aspects of Principle 2, hence the scoring is justified.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response
3.2.2	Yes	No	NA	The certifier scores 'N' on the first topic of SG 100. I do not see the point and would ask for more explanation, why this criteria is not met. Otherwise, the score should be raised to 100.	The scoring comments have been amended, and the score remains at 90.
3.2.3	Yes	Yes	NA	The available information fully supports the scoring of 100.	Comments noted.
3.2.4	Yes	No	NA	SG 100 asks for research plan, which is widely and publicly available. The plan is available via the ICES website. However, my understanding of 'widely and publicly available' goes far beyond the publication of rather technical reports on the ICES website, if the intention is to stimulate engagement of all interested parties. The score should be reduced to 80.	Whilst agreeing that ICES reports are rather technical, the readability of reports is not a scoring condition. The SG 100(b) requirements are considered to be fully met, and the score of 90 seems appropriate.
3.2.5	Yes	Yes	NA	The provided evidence fully supports each element of the scoring guideposts.	Comments noted.



Any Other Comments

Comments	Certification Body Response

12 APPENDIX 3. STAKEHOLDER SUBMISSIONS

12.1 Interviews conducted during site visit

12.1.1 Client

1. Introduction.

IMM Lead Assessor to introduce MSC assessment to Stakeholders, including:

- ✓ Purpose of meeting – information collection and identification of issues relevant to fishery assessment.
- ✓ Introduce or have the Assessment Team introduce themselves and their backgrounds.
- ✓ Provide either a written or verbal summary of MSC Principles & Criteria.
- ✓ Describe the Assessment Process being followed; Default Assessment Tree / Amended Assessment Tree / RBF
- ✓ Confirm the UoC (and also explanation of the client /client group)
- ✓ Affirm that Intertek Moody Marine is an independent CAB accredited to carry out MSC assessments
- ✓ Information that stakeholders provide will be taken into account in the assessment
- ✓ Stakeholder comments should, where possible, be substantiated with evidence
- ✓ MSC require a record of the meeting to be kept (CR 27.15.3.2) and explicit responses from the team to stakeholder verbal and written submissions to be sent to stakeholders prior to publication of the Public Comment Draft Report (CR 27.15.3.3)
- ✓ Confidentiality of information is restricted to:
 - Financial transactions about certification; the financial affairs of individual companies or information that may lead to this information being known; Information that is the subject of relevant national privacy or data protection legislation in the client's country
 - Information that stakeholders cannot share, shall not be used in the assessment
 - If the CAB wishes to use information that the owner requires to be kept confidential, the CAB shall: Apply to the MSC for approval to keep the information confidential to the client, the CAB and the MSC
- ✓ Access to information:
 - The CAB shall ensure that un-published key information necessary to enable a stakeholder who is not party to this information to be able to properly review the logic used by the team in their conclusion about a particular PI score is made available electronically, in printed form or otherwise for viewing by stakeholders
 - The CAB shall make un-published (non confidential) key information available before the posting of the Public Comment Draft Report, and shall ensure that the information is available throughout the subsequent stages of the assessment process
- ✓ Provide an estimate of the timescale for completion of the assessment , including further opportunities for stakeholder input

Assessment Team	Names
Lead Assessor	Jim Andrews
P1 Team Member	Mike Pawson
P2 Team Member	Jim Andrews
P3 Team Member	Rainer Thomas

Meeting Location	Cuxhaven
Date	17 th October 2012
Stakeholders Name	Affiliation
Jorg Petersen	Erzeugergemeinschaft der Hochsee - und Kutterfischer GmbH
Kai-Arne Schmidt	

Comments:

2. Status

What is the nature of the organisations interest in the fishery (e.g. client / science / management / industry / eNGO etc)

Erzeugergemeinschaft der Hochsee - und Kutterfischer GmbH are the client for the assessment.

3. IMM Assessment Team Questions

Assessment team questions for stakeholders

Principle 1:-

- Fleet in the UoC
- Current gear types used, and levels of gear loss.
- TAC and quota allocations
- Stock assessment

Principle 2:-

- Information and management procedures relating to:-
 - Non-target species capture & discarding
 - ETP species
 - Habitat impacts
 - Ecosystem impacts

Principle 3:-

- Management measures in place
- Observer coverage in the fishery

Other

- Perceptions of stock status
-

4. Stakeholder Key Issues

What, if any, specific substantive issues or concerns are identified regarding the fishery? (P1 – P2 – P3) and what information is available to allow us to determine the status of the fishery in relation to each issue?

Principle 1

- The list of vessels operated by the client in the UoC was confirmed
- Gear types:-
 - The client fleet all use a 120mm+ cod end in their trawls.
 - The trawls used in the fishery can be fished on the seabed and are also fished off the seabed at night when saithe tend to be higher in the water column (10-12m above the seabed).
 - The fleet have experimented with semi-pelagic trawl doors, but have found them to be unsuitable for this fishery. They are now using a smaller, lighter (max 1.3t) conventional trawl door that can be fished along the seabed or towed off the seabed by adjusting the towing position.
 - Trawl height is typically 6m, with a 100m spread.
 - Towing speeds are typically 3.8 knots (reduced from 4.3 – 4.5kts in the past)
 - No tickler chains are used; footropes have rubber bobbins (up to 30cm diameter)
- Fishing activity

- All fishing is north of 56°N & south of 62°N
- Most (roughly 80%) of the current activity is along the Norwegian shelf and in the Skagerrak.
- Some fishing takes place in the area between the Shetlands and Norway, with a little fishing further west.
- The trawlers are currently operating out of Denmark.
- Trips typically last 8-10d.
- TAC and quota allocations:-
 - The client has most of the German quota allocation for saithe.
- Stock assessment
 - The industry was very concerned about the outcome of the ICES assessments carried out in during 2011.
 - There were some concerns that the effect of the use of large mesh sizes (>120mm) by this fleet (and consequently the relatively low abundance of small fish in the catch) might not have been fully considered by ICES in their analysis and use of their CPUE data in the stock assessment.
 - Since 2007 there have occasionally been large pelagic shoals of younger (size 3 (1.5-3kg) and 4 (0.3-1.5kg)) saithe in the Skagerrak during the autumn; there was some discussion about how this might affect the ICES assessment.
 - The perception is that the ICES assessments lag 2 years behind the actual status of the fish stock.
 - Observations in 2012 are that there are currently a lot of smaller fish in the population (detected entering nets whilst fishing but too small to be retained by the gear).

Principle 2

- Non-target species
 - Catches of non-target species are reported from the observer trips, and also recorded in logbooks.
 - Cod and other quota species are landed against quota allocations (even if not suitable for human consumption).
 - Cod landings from the saithe fishery are within TAC allocations and catch composition allowances of up to 5% cod in the catch. (only 80-90t are landed from a 150t allocation).
 - The UoC fleet complies with the requirements of the cod recovery plan.
 - There is no discarding from the UoC fleet; there is no mechanism on the vessels to discard anything whilst at sea (including any invertebrates in the catch).
- ETP species
 - The client reports no capture of seabirds or sea mammals in the fishery.
 - The capture of 3 Twaite Shat (*Alosa fallax*) were reported in 2012; no other ETP species were recorded in the observer reports.
- Habitats
 - The fleet only fish on softer seabed areas (sand / mud / gravel) and avoid rocky areas. The gear used is not suited to fishing on rough ground.
 - There are no Marine Protected Areas (such as Natura 2000 sites) in the fishing area.

Principle 3:-

- Observer trips – independent observers from the vTI made 8 trips on Kutterfisch vessels in 2011-12. Observers recorded catch of target & non-target species and also measured saithe, cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*). Otolith samples are also

taken from saithe and cod.

- Electronic monitoring – two vessels in the fleet have participated in trials of electronic monitoring of fishing activity (with CCTV on board).
 - Electronic monitoring data are held by vTI

Other information:-

- Greenpeace observers have been aboard one of the Kutterfisch vessels recently, and reported in generally favourable terms, but were concerned about the effect of trawls on the seabed.
- Some of the Kutterfisch vessels have been involved in a TV documentary recently, with camera crews on board for several weeks.

5. Other issues

(e.g. any other stakeholders we should contact, any written submissions to follow?)

Information requested

- Technical specification of the gear used in the fishery
- List of monitoring activities that the fleet have participated in recently (such as Greenpeace observers & official monitoring).

Further request

- Do these vessels fish for saithe all year round?

6. Closing

IMM Lead Assessor:

- ✓ Summary of key points – stakeholder to confirm in writing (sign if hard copy)
- ✓ Are comments to be attributed?
- ✓ Timescale for completion, including further opportunities for stakeholder input

12.1.2 Hans Hashagen, State Fisheries Inspector

2. Introduction.

IMM Lead Assessor to introduce MSC assessment to Stakeholders, including:

- ✓ Purpose of meeting – information collection and identification of issues relevant to fishery assessment.
- ✓ Introduce or have the Assessment Team introduce themselves and their backgrounds.
- ✓ Provide either a written or verbal summary of MSC Principles & Criteria.

- ✓ Describe the Assessment Process being followed; Default Assessment Tree / Amended Assessment Tree / RBF
- ✓ Confirm the UoC (and also explanation of the client /client group)
- ✓ Affirm that Intertek Moody Marine is an independent CAB accredited to carry out MSC assessments
- ✓ Information that stakeholders provide will be taken into account in the assessment
- ✓ Stakeholder comments should, where possible, be substantiated with evidence
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- ✓ Access to information:
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 - The CAB shall make un-published (non confidential) key information available before the posting of the Public Comment Draft Report, and shall ensure that the information is available throughout the subsequent stages of the assessment process
- ✓ Provide an estimate of the timescale for completion of the assessment , including further opportunities for stakeholder input

Assessment Team	Names
Lead Assessor	Jim Andrews
P1 Team Member	Mike Pawson
P2 Team Member	Jim Andrews
P3 Team Member	Rainer Thomas

Meeting Location	Cuxhaven
Date	17 th October 2012
Stakeholders Name	Affiliation
Hans Hashagen	Staatliches Fischereiamt SubbranchCuxhaven, Niedersachsenstr. 9, 27472 Cuxhaven

Comments:

2. Status

What is the nature of the organisations interest in the fishery (e.g. client / science / management / industry / eNGO etc)

Staatliches Fischereiamt Cuxhaven is the local fishery enforcement organisation.

3. IMM Assessment Team Questions

Assessment team questions for stakeholders

Principle 1:-

- Compliance with management measures in place for the target species

Principle 2:-

- Compliance with management measures in place for non-target species

Principle 3:-

- Overall compliance of client fleet with relevant fishery regulations.
- Extent of enforcement activity
- Any significant changes in regulations / enforcement regime

4. Stakeholder Key Issues

What, if any, specific substantive issues or concerns are identified regarding the fishery? (P1 – P2 – P3) and what information is available to allow us to determine the status of the fishery in relation to each issue?

- Fishery enforcement patrols are made on land and at sea (to 12 nautical miles offshore).
- No problems of non-compliance by the client fleet had been detected.
- Inspections of the trawls used by the Kutterfisch fleet indicated a cod-end mesh size of 125-128mm. (from both manual and Omega gauges).
- During 2011 there had been 20 inspections of Kutterfisch vessels; in 2012 to date there had been 6. Enforcement activity in 2012 had been compromised by local government administrative problems.
- It was noted that discarding of fish was not permitted in the Norwegian sector but was currently permissible in the EU (although draft EC Regulations would make discarding in the EU illegal shortly).
- The landings by the client fleet in Denmark are inspected at the point of landing by Danish fishery officers. Information from Denmark is communicated to BLE in Germany.
- There are currently no scientific staff based in Cuxhaven or Bremerhaven, and there is no biological sampling of landings at either port. It was understood that biological samples are not taken from the landings made by German vessels in Denmark.
- e-logbooks have been installed on all vessels and are working quite well.
- Quota swapping was permitted between vessels in cases where allocations were fully utilised.
- It was thought that the report of Twaite Shad capture in the saithe fishery should be double-checked.
- There were no reports of NGO concerns about the saithe fishery.

5. Other issues

(e.g. any other stakeholders we should contact, any written submissions to follow?)

6. Closing

IMM Lead Assessor:

- ✓ Summary of key points – stakeholder to confirm in writing (sign if hard copy)
- ✓ Are comments to be attributed?
- ✓ Timescale for completion, including further opportunities for stakeholder input

12.1.3 Sabine Manthey-Ehrich, BLE

1. Introduction.

IMM Lead Assessor to introduce MSC assessment to Stakeholders, including:

- ✓ Purpose of meeting – information collection and identification of issues relevant to fishery assessment.
- ✓ Introduce or have the Assessment Team introduce themselves and their backgrounds.
- ✓ Provide either a written or verbal summary of MSC Principles & Criteria.
- ✓ Describe the Assessment Process being followed; Default Assessment Tree / Amended Assessment Tree / RBF
- ✓ Confirm the UoC (and also explanation of the client /client group)
- ✓ Affirm that Intertek Moody Marine is an independent CAB accredited to carry out MSC assessments
- ✓ Information that stakeholders provide will be taken into account in the assessment
- ✓ Stakeholder comments should, where possible, be substantiated with evidence
- ✓ MSC require a record of the meeting to be kept (CR 27.15.3.2) and explicit responses from the team to stakeholder verbal and written submissions to be sent to stakeholders prior to publication of the Public Comment Draft Report (CR 27.15.3.3)
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 - Information that stakeholders cannot share, shall not be used in the assessment
 - If the CAB wishes to use information that the owner requires to be kept confidential, the CAB shall: Apply to the MSC for approval to keep the information confidential to the client, the CAB and the MSC
- ✓ Access to information:
 - The CAB shall ensure that un-published key information necessary to enable a stakeholder who is not party to this information to be able to properly review the logic used by the team in their conclusion about a particular PI score is made available electronically, in printed form or otherwise for viewing by stakeholders

- The CAB shall make un-published (non confidential) key information available before the posting of the Public Comment Draft Report, and shall ensure that the information is available throughout the subsequent stages of the assessment process
- ✓ Provide an estimate of the timescale for completion of the assessment , including further opportunities for stakeholder input

Assessment Team	Names
Lead Assessor	Jim Andrews
P1 Team Member	Mike Pawson
P2 Team Member	Jim Andrews
P3 Team Member	Rainer Thomas

Meeting Location	Hamburg
Date	18 th October 2012
Stakeholders Name	Affiliation
Sabine Manthey-Ehrich	BLE (Federal Office for Agriculture and Food).

Comments:

2. Status

What is the nature of the organisations interest in the fishery (e.g. client / science / management / industry / eNGO etc)

BLE is the Government department responsible for administration of quotas and enforcement of EU controls on fishing activity.

3. IMM Assessment Team Questions

Assessment team questions for stakeholders

Principle 1:-

- TAC and quota allocations

Principle 2:-

- TAC and quota allocations for non-target species

Principle 3:-

- Management measures in place
- Compliance by the UoC with management measures
- Monitoring and enforcement in the fishery

4. Stakeholder Key Issues

What, if any, specific substantive issues or concerns are identified regarding the fishery? (P1 – P2 – P3) and what information is available to allow us to determine the status of the fishery in relation to each issue?

Principle 1

- TAC and quota allocations
 - BLE is responsible for allocating the German quota to Producer Organisations (POs) which then share the quota among their members.
 - POs and vessels are required to prepare annual fishing plans indicating how they intend to utilise their quota allocation quarter-by-quarter through the year. BLE monitors quota uptake against this plan.
 - Quota uptake is monitored from the landings data for vessels, which is held on a database and cross-referenced to e-logbook records (e-logbook declarations are required to be within 10% of the actual quantity of fish landed).
 - The client fleet is currently landing most of the time to ports in Denmark. BLE receive landings data from the Danish authorities.
- Days at sea / kW days
 - BLE also manages the allocation and utilisation of days at sea / kW days by fishing vessels.

Principle 2

- Non-target species
 - Where there are TACs and quotas, fishing for non-target species is managed and monitored in the same way as the target species
 - Landings of cod by the client fleet are currently well within quota allocations.
 - BLE took action in 2007 to close the fishery for saithe late in the year when the quota allocation for bycatch species (cod) had been fully utilised and it was clear that further fishing for saithe would result in landings of cod in excess of the German quota.
 - The Kutterfisch saithe fleet currently lands less than 5% cod. If the proportion of cod

in the catch rises above 5%, the fleet would be subject to further restrictions on the number of days they can fish per year (already restricted under the 1.5% rule).

Principle 3

- Quota management
 - Quota uptake is monitored by BLE. If a vessel has utilised its quota, it can be allocated more quota by the PO, providing that the PO fleet has sufficient quota allocation remaining. Quota swaps have to be approved by BLE before fish are landed against the swapped quota.
- Quota management activity is currently only authorised by BLE during office hours;
- Enforcement activity
 - BLE has 3 enforcement vessels – 1 in the Baltic and 2 in the North Sea.
 - BLE enforcement vessels work principally further than 12nmi offshore, and with other EU Member States to carry out inspections and enforcement work within the EU EEZ.
 - The German Lander (local government) have fishery patrol vessels that operate in waters up to 12nmi offshore.
 - E-logbook data are collected by BLE and cross-referenced to VMS data to verify the accuracy of spatial data. BLE are currently developing their database to enable improved utilisation and use of the e-logbook data.
- Compliance
 - Compliance by the UoC fleet was considered to be good.
- Future management
 - BLE is working with the Danish authorities and two of the vessels in the client fleet on the use of Electronic Monitoring (CCTV) equipment as part of the monitoring / enforcement regime. Trials are underway in the North Sea and Skagerrak.
 - Discard ban – BLE has noted that a trial discard ban is due to be implemented in the Skagerrak. There was some discussion of how this might affect the management of quotas in this area during the trial, but it seemed unlikely to have any significant effect on the saithe fishery.

5. Other issues

(e.g. any other stakeholders we should contact, any written submissions to follow?)

IMM will make a formal request to BLE about the level of compliance by the client fleet with the fisheries regulations currently in force.

6. Closing

IMM Lead Assessor:

- ✓ Summary of key points – stakeholder to confirm in writing (sign if hard copy)
- ✓ Are comments to be attributed?
- ✓ Timescale for completion, including further opportunities for stakeholder input

12.1.4 Johann Heinrich von Thünen-Institut (vTI)

1. Introduction.

IMM Lead Assessor to introduce MSC assessment to Stakeholders, including:

- ✓ Purpose of meeting – information collection and identification of issues relevant to fishery assessment.
- ✓ Introduce or have the Assessment Team introduce themselves and their backgrounds.
- ✓ Provide either a written or verbal summary of MSC Principles & Criteria.
- ✓ Describe the Assessment Process being followed; Default Assessment Tree / Amended Assessment Tree / RBF
- ✓ Confirm the UoC (and also explanation of the client /client group)
- ✓ Affirm that Intertek Moody Marine is an independent CAB accredited to carry out MSC assessments
- ✓ Information that stakeholders provide will be taken into account in the assessment
- ✓ Stakeholder comments should, where possible, be substantiated with evidence
- ✓ MSC require a record of the meeting to be kept (CR 27.15.3.2) and explicit responses from the team to stakeholder verbal and written submissions to be sent to stakeholders prior to publication of the Public Comment Draft Report (CR 27.15.3.3)
- ✓ Confidentiality of information is restricted to:
 - Financial transactions about certification; the financial affairs of individual companies or information that may lead to this information being known; Information that is the subject of relevant national privacy or data protection legislation in the client's country
 - Information that stakeholders cannot share, shall not be used in the assessment
 - If the CAB wishes to use information that the owner requires to be kept confidential, the CAB shall: Apply to the MSC for approval to keep the information confidential to the client, the CAB and the MSC
- ✓ Access to information:
 - The CAB shall ensure that un-published key information necessary to enable a stakeholder who is not party to this information to be able to properly review the logic used by the team in their conclusion about a particular PI score is made available electronically, in printed form or otherwise for viewing by stakeholders
 - The CAB shall make un-published (non confidential) key information available before the posting of the Public Comment Draft Report, and shall ensure that the information is available throughout the subsequent stages of the assessment process
- ✓ Provide an estimate of the timescale for completion of the assessment , including further opportunities for stakeholder input

Assessment Team	Names
Lead Assessor	Jim Andrews
P1 Team Member	Mike Pawson
P2 Team Member	Jim Andrews
P3 Team Member	Rainer Thomas

Meeting Location	Hamburg
Date	18 th October 2012
Stakeholders Name	Affiliation



Alexander Kempf	Johann Heinrich von Thünen-Institut (vTI)
Kay Panten	
Jens Ulleweit	

Comments:

2. Status

What is the nature of the organisations interest in the fishery (e.g. client / science / management / industry / eNGO etc)

Johann Heinrich von Thünen-Institut is a scientific organisation that participates in the assessment of the North Sea saithe stock, coordinates information gathering in Germany, and participates in the relevant ICES working groups

3. IMM Assessment Team Questions

Assessment team questions for stakeholders

Principle 1:-

- Stock status
- Monitoring & information gathering

Principle 2:-

- Information and management procedures relating to:-
 - Non-target species capture & discarding
 - ETP species
 - Habitat impacts
 - Ecosystem impacts

Principle 3:-

- Observer coverage in the fishery

Other

- Perceptions of stock status

4. Stakeholder Key Issues

What, if any, specific substantive issues or concerns are identified regarding the fishery? (P1 – P2 – P3) and what information is available to allow us to determine the status of the fishery in relation to each issue?

Principle 1

- Stock status
 - Stock status is currently good (above B_{pa} & B_{msy} trigger), and there are signs of a strong year class coming through in juvenile surveys. The reference points are considered to be satisfactory, though they are statistically estimated and have no explicit biological basis.
- Stock assessment
 - The stock assessment uses commercial catch data, and takes account of the potential effect of the gear and location of fishing activity in relation to the age structure of the catch,.
 - Research data from France, Germany and Norway is used in the assessment.
 - Following the problems caused by the change in some assessment parameters in early 2011, the 2012 assessment makes again better use of commercial data and is considered to offer a more robust assessment.
 - Data from the commercial Norwegian vessels is gathered from a reference fleet. The input of these data has recently been reviewed to correct some historical errors in age distributions in the catch data (which has led to a more reliable stock assessment).
- Uncertainties in assessment
 - Understanding of uncertainties has improved and dealt with in the assessment (see

above).

- The Norwegians have been surveying juveniles in their coastal waters (acoustic survey) for the past 5-6 years. This survey provides information on the abundance of saithe at ages 2 to 4. It is used as tuning fleet and to inform short term forecasts (information for age 2) . .
- Catch monitoring
 - Observers make 1 trip per quarter aboard the saithe trawlers of Deutsche Kutterfisch GmbH. Trips are chosen randomly.
 - Biological monitoring (weight & length, age) is carried out at sea; there is no biological catch sampling ashore.
 - Gear details, time & location of fishing activity are recorded.
 - Trials of Electronic Monitoring (EM) are being carried out. This equipment has been fitted to the Kutterfisch vessel Victoria. Trials have been underway in the Baltic for some time, and are due to start soon in the North Sea.

Principle 2

- Non-target species
 - vTI observers gather data on the catch of non-target fish species in the saithe trawl hauls.
 - Reports from observers were presented to the assessment team.
 - A paper has been published about the capture of non-target species by German vessels.
- ETP species
 - vTI have not observed any cetaceans in the saithe trawl fishery.
 - The identity of 3 Twaite shad (*Alosa fallax*) was confirmed.
- Habitats
 - vTI observers do not monitor seabed habitats in the trawl areas. Observers do not formally record the capture of invertebrates in the catch, but would record capture of unusual/sensitive species.
 - vTI note that the gear used in the fishery is not suited for use on reef structures
- Ecosystems
 - ICES is working on a multi-species model for the North Sea.
 - Interactions between saithe and cod have been examined – there is very limited predation by saithe on small cod according to available stomach data, but otherwise interactions between the two species are limited to competition for food.
 - Norwegian scientists have gathered stomach content samples for saithe and cod, and are currently analysing them.
 - It is thought that gurnard may be the main predator on juvenile cod .

Principle 3

- Research plan
 - ICES has a research plan for developing the assessment for this stock.
- Review of management
 - The saithe management plan is presently being reviewed by ICES, and the ICES advice on the management plan is due to be published in November 2012.
- Future management
 - vTI note that there is due to be a pilot project to trial a discard ban in the Skagerrak.



5. Other issues

(e.g. any other stakeholders we should contact, any written submissions to follow?)

IMM requested electronic copies of observer reports from recent years.

6. Closing

IMM Lead Assessor:

- ✓ Summary of key points – stakeholder to confirm in writing (sign if hard copy)
- ✓ Are comments to be attributed?
- ✓ Timescale for completion, including further opportunities for stakeholder input

12.2 Responses to Public Comment Draft Report

12.2.1 Comments from Dr Rainer Froese

Dear colleagues,

I refer to the Public Comment Draft Report of July 2013 for the German North Sea Saithe Trawl Fishery http://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/north-east-atlantic/Germany-North-Sea-saithe-trawl/re-assessment-downloads-1/20130704_PCDR_SAI48.pdf

In the executive summary, under point 4), it says: "The main strengths of this fishery are that the stock status is good and is consistent with the MSY approach to fisheries management." Under point 6 it gives a score of 90 to MSC Principle 1, which includes the stock status.

The ICES stock assessment of July 2013 must have been available to you. <http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2013/2013/sai-3a46.pdf>. If not, the trends documented in there are just the continuation of trends visible in the previous reports.

Table 6.4.21.4 of the ICES report documents the downward trend in SSB since 2005 and the fact that F was above $F_{msy}=0.3$ since 2008. F in 2013 is estimated at 0.37 (page 3, header of Outlook for 2014). In 2012, recruitment is at the lowest point in the history of the stock. SSB is below $SSB_{pa}=200,000$ since 2012 and is projected to fall to 162,125 tonnes in 2014. Thus, by ICES definitions, the stock is F_{msy} overfished and SSB is outside of safe biological limits. Looking at the full ICES expert report it becomes clear that the catch consists mostly of juveniles and thus the age structure poses a severe problem.

In point 4) you praise the management as "There is a robust and well - founded management system in place which is implemented through regulations that are subject to comprehensive monitoring control and surveillance." In point 6) you give management a score of 90.4.

In reality, management is inadequate in that

- 1) the max 15% change rule in the management plan currently drives the stock far below SSB_{pa} . This rule is biologically and economically flawed, as it prevents decisive action if the stock declines, and it reduces profits in the fishery over a range of 5-10 years compared to profits under decisive management.
- 2) $F_{msy} = 0.3$ is 50% larger than $M = 0.2$, which contradicts good management practice where F_{msy} shall not exceed M . This is also apparent from Figure 6.4.21.3 in the ICES advice, where an $F=0.2$ would result in nearly the same catches as $F=0.3$, albeit with much less damage to the stock and with higher profits because of lower effort.
- 3) Mean length at first capture (L_c) is too low. For a given catch, higher L_c would lead to larger stock sizes and a healthy size structure.
- 4) Proposed landings of 85 581 tonnes in 2014 will strongly decrease a stock that is already outside of safe biological limits. Instead, catches of about 40,000 tonnes would bring the stock back into safe biological limits in 2014. But given the lowest recruitment on record in 2012, a one-year closure of the fishery and a review of points 1) - 3) would be indicative of responsible management.

In summary, I find it hard to see how scores of 90 could have been assigned to stock status and management. Scores of 60 would have been adequate.

Greetings

Rainer Froese

Dr. Rainer Froese
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Document: MSC Full Assessment Reporting Template V1.2	page 170
Date of issue: 10 th January 2012	© Marine Stewardship Council, 2012
82032 German Saithe	Version 4
FCM15 v2 rev 03	



12.2.1.1 IMM Response to Dr Froese



Dr. Rainer Froese
GEOMAR Helmholtz-Centre for Ocean Research
GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel
Duesternbrooker Weg 20
24105 Kiel, Germany

Date: 23rd August 2013
Our Ref: 82032
Your Ref:

By E-Mail

Dear Dr Froese

MSC ASSESSMENT: GERMAN NORTH SEA SAITHE TRAWL FISHERY

Many thanks for your comments on the Public Comment Draft Report for this fishery. The Assessment Team has carefully considered your comments. Our responses are set out below.

1. ICES Advice 2013

Our report was published on the MSC website on 4th July 2013, and the ICES advice was not available to us at the time of publication. Nevertheless the trends in that report were indeed clear from earlier reports and have been taken into consideration in our assessment.

We have reviewed the most recent ICES advice. This indicates that F is currently at a level compatible with F_{msy} (page 1 of the advice).

2. Management Plan

With regard to the points raised:-

1. There is no inter-annual constraint on reducing the TAC by more than 15%, only a constraint on increasing it by more than 15% (see paragraph 6 of the EU-Norway Management Plan). The Management Plan does not, therefore, drive the stock below SSB_{pa}.
2. We do not agree that good management practice always requires F_{msy} to be set at a level that does not exceed M. M is a nominal value. The level of F_{msy} depends on the stock's productive capacity and the size/age structure of catches.
3. We agree that for a given catch, higher L_c would probably lead to a larger stock size; however, there is no evidence from ICES that L_c is too low for this fishery.
4. The TAC proposals for 2014 will not be discussed, agreed and implemented until December 2013, and thus cannot influence the scoring of the fishery as it stands. If a TAC is set that lies outside the scope of ICES advice or the MSY approach, then it may be appropriate to carry out an expedited audit and review the scoring of the relevant Performance Indicators.

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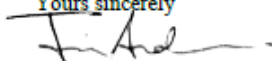
Intertek Moody Marine
10a Victory Park
Victory Road
Derby
DE24 8ZF
UNITED KINGDOM

3. Assessment Outcome

Having considered these comments, the Assessment Team is confident that the scoring of the fishery is compatible with the current status of the stock, the most recent ICES advice, the requirements of the MSC scheme, and is in harmony with the other MSC-certified North Sea saithe fisheries.

If you have further observations or concerns about this fishery, please do not hesitate to get in touch with us.

Yours sincerely



JIM ANDREWS
Lead Assessor
Intertek Moody Marine



12.2.2 Response from Marine Stewardship Council

www.msc.org

Date 08/08/2013

SUBJECT: MSC Review and Report on Compliance with the scheme requirements

Dear Jim Andrews

Please find below the results of our partial review of compliance with scheme requirements.

CAB	Intertek Moody Marine (IMM)
Lead Auditor	Jim Andrews
Fishery Name	Germany North Sea saithe trawl
Document Reviewed	Public Comment Draft Report

Ref	Type	Page	Requirement	Reference	Details	PI
3804	Major	66, 72	CR-27.10.6.3 v.1.2	An exception to 27.10.6.2 is permitted only for those PIs that include a single scoring issue at each SG level.	PI 1.1.1: SG100a seems to not be fully met, but a score of 95 is given and is marked as "Y". Since partial scoring is not allowed for this PI, changing the score to 90 and the "Y" to "N" is appropriate. PI 1.2.2: The assessment team seems to consider SG100b as partially met "P"; however, partial scoring is not appropriate for this PI so the "P" should be an "N".	1.1.1, 1.2.2
3805	Major	90	CR-27.10.6.1 v.1.2	Rationale shall be presented to support the team's conclusion	The rationale provided for several scoring issues says "see SG80(a)"; however, there is no rationale presented for that scoring issue other than "see SG80(a)".	2.2.3

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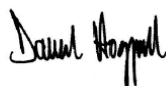
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www.msc.org						
3807	Minor	54	CR-27.12.1.3 v.1.3	The CAB shall determine if the systems of tracking and tracing in the fishery are sufficient to make sure all fish and fish products identified and sold as certified by the fishery originate from the certified fishery. The CAB shall consider the following points and their associated risk for the integrity of certified products. The opportunity of substitution of certified with non-certified fish prior or at landing.	The report does not make it clear if the fishery has other non-certified gears in use, which may result in a risk of comingling of non-MSC with MSC product.	
3808	Major	97	CR-27.10.5.3 v.1.2	If all of the SG80 scoring issues are met, the PI must achieve at least an 80 score and the team shall assess each of the scoring issues at the SG100 level. a. If not all of the SG100 scoring issues are met the PI shall be given an intermediate score (85, 90 or 95) reflecting overall performance against the different SG100 scoring issues.	Clause iii of this requirement states: "Award 85 when performance against the scoring issues is slightly above SG80 (a few scoring issues are fully met but most are not fully met)." Since two of the three scoring issues are not met and since there is no rationale provided for rounding up, an 85 is more appropriate than the awarded 90.	2.3.3

This report is provided for action by the Conformity Assessment Body (CAB) and ASI in order to improve consistency with the MSC scheme requirements. MSC does not review all work products submitted by the CAB, and this review should not be considered a checking service. If any clarification is required, please contact Jodi Bostrom on +44 (0)20 7246 8934 for more information.

Best regards,
Fisheries Oversight Director
Dan Hoggarth
Marine Stewardship Council



cc: Accreditation Services International

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12.2.2.1 IMM Response to Marine Stewardship Council Comments

Ref 3804: Scoring of PIs 1.1.1 & 1.2.2

PI 1.1.1

The rationale for SG100(a) indicates that this requirement is fully met; the team sounded a note of caution about the effect of environmental conditions on the level of certainty. The scoring issue is fully met, and the score has been raised from the precautionary 95 originally awarded to a score of 100 that is consistent with the fishery fully meeting the SG100 scoring issues.

PI 1.2.2

The team agree with the comments, partial scoring is not permissible for SG100(b) and, as the scoring issue is not fully met, the score of 90 that was originally awarded remains appropriate.

Ref 3805: Rationale for scoring of PI 2.2.3

The circular referencing in the scoring rationale has been corrected.

Ref 3807: Use of non-certified gear

For the avoidance of doubt we have added some text to this section of the report to make it clear that any saithe caught by the fleet using other gear is identified and cannot come with MSC product.

Ref 3808: Scoring of PI 2.3.3

Quite right, we have reduced the score from 90 to 85. This has no effect on the assessment outcome.

13 APPENDIX 4. SURVEILLANCE FREQUENCY

The MSC Certification Requirements specify that after each certification, surveillance and re-certification the Certified Accreditation Body (CAB) shall determine the level at which subsequent surveillance of the fishery shall be undertaken.

The surveillance level required for this fishery has been calculated using the methodology set out in the MSC Certification Requirements. The fishery has a “surveillance score” of 0 (see Table 9).

Table 9: Calculation of surveillance score for this fishery.

Criteria	Surveillance Allocation	Score	Score awarded
1. Default Assessment tree used			
Yes	0		0
No	2		
2. Number of conditions			
Zero conditions	0		0
Between 1-5 conditions	1		
More than 5 conditions	2		
3. Principle level scores			
≥85	0		0
≤85	2		
4. Conditions on outcome PIs?			
Yes	2		
No	0		0
TOTAL			0

The response to this score is set out in Table C4 of the MSC Certification Requirements. Fisheries that score 2 or more have a “Normal” surveillance level, requiring annual assessments throughout the period of certification. Fisheries that score 1 or 0 have the option of “remote” or “reduced” surveillance.

A **Reduced** surveillance schedule is therefore appropriate for this fishery. The proposed fishery surveillance plan is set out in Table 10.

Table 10: Fishery Surveillance Plan for the German North Sea Saithe Trawl Fishery.

Score from CR Table C3	Surveillance Category	Year 1	Year 2	Year 3	Year 4
0	Reduced	Review of new information	On-site surveillance audit.	Review of new information	On-site surveillance audit & recertification site visit



14 APPENDIX 5. CLIENT AGREEMENT (REQUIRED FOR PCR)

The report shall include confirmation from the CAB that the Client has accepted the PCR. This may be a statement from the CAB, or a signature or statement from the client.

(Reference: CR: 27.19.2)



15 APPENDIX 6 OBJECTIONS PROCESS

(REQUIRED FOR THE PCR IN ASSESSMENTS WHERE AN OBJECTION WAS RAISED
AND ACCEPTED BY AN INDEPENDENT ADJUDICATOR)

The report shall include all written decisions arising from an objection.

(Reference: CR 27.19.1)