8950 Martin Luther King Jr. Street N. #202
St. Petersburg, Florida 33702-2211
Tel: (727) 563-9070
Fax: (727) 563-0207
Email: MRAG.Americas@mragamericas.com

President: Andrew A. Rosenberg, Ph.D.

DFPO and DPPO North Sea, Skagerrak and Kattegat sandeel, sprat and Norway pout fishery

2nd Surveillance Report

Prepared for
Danish Fishermen's Producers Organisation (DFPO) and Danish Pelagic Producers Organisation (DPPO)

Certificate No: MSC-F-0063

MRAG Americas, Inc.
July, 2019

Conformity Assessment Body (CAB)	MRAG Americas
Assessment team	Amanda Stern-Pirlot, Jake Rice, and Ken Haste Andersen
Fishery client	Danish Fishermen's Producers Organisation (DFPO) and Danish Pelagic Producers Organisation (DPPO)
Assessment Type	Second Surveillance

1 Contents

Contents

2 Executive summary

This report contains the findings of the second surveillance cycle in relation to the DFPO/DPPO sandeel, sprat and Norway pout fishery. A surveillance audit was carried out on 16 May 2019 at DFPO offices in Copenhagen, Denmark and by video conference.

The clients' responses to the Conditions of Certification were set out in the Client Action Plan (CAP), which were appended to the Public Certification Report (PCR).

Progress associated with the actions set forth in the CAPs was examined as a part of this surveillance audit. For each Condition, the report sets out progress to date. This progress has been evaluated by MRAG Americas Audit Team (set out below as 'Progress on condition') against the annual milestones laid out in relation to in the CAPs. This assessment includes a re-evaluation of the scoring allocated to the relevant Performance Indicators (PIs) in the original MSC assessment under 'Status of condition' in each of Tables 7-17, below. Where the requirements of a Condition are met, the PI is re-scored at 80 or more and the Condition is "closed". For newly closed conditions, Appendix 1 contains a rescoring evaluation table. For this surveillance, none of the PIs were rescored as no conditions were closed.

MRAG Americas confirms that this fishery in general continues to meet the MSC Fisheries Standard and shall remain certified. However, following this surveillance, two sandeel Units of Certification were suspended on the basis of low stock status as reported in the latest advice from ICES. Commensurately, a notice of suspension was issued and these units are suspended as of 22 July 2019.

3 Report details

3.1 Surveillance information

Table 1. Surveillance information

1	Fishery name	
	DFPO/DPPO sandeel, sprat, and Norway pout fishery	
2	Surveillance level and type	
	Level 5- on site audit with some team members participating remotely via video conference.	
3	Surveillance number	
	1st Surveillance	
	2nd Surveillance	X
	3rd Surveillance	
	4th Surveillance	
	Other (expedited etc.)	
4	Team leader	
	Ms. Amanda Stern-Pirlot will serve as team leader for the assessment. Amanda is an M.Sc graduate of the University of Bremen, Center for Marine Tropical Ecology (ZMT) in marine ecology and fisheries biology. Ms.	

	Stern-Pirlot joined MRAG Americas in mid-June 2014 as MSC Certification Manager (now Director of the Fishery Certification Division) and is currently serving on several different assessment teams as team leader and team member. She has worked together with other scientists, conservationists, fisheries managers and producer groups on international fisheries sustainability issues for over 15 years. With the Institute for Marine Research (IFM-GEOMAR) in Kiel, Germany, she led a work package on simple indicators for sustainable within the EU-funded international cooperation project INCOFISH, followed by five years within the Standards Department at the Marine Stewardship Council (MSC) in London, developing standards, policies and assessment methods informed by best practices in fisheries management around the globe. Most recently she has worked with the Alaska pollock industry as a resources analyst, within the North Pacific Fisheries Management Council process, focusing on bycatch and ecosystem-based management issues, and managing the day-to-day operations of the offshore pollock cooperative. She has co-authored a dozen publications on fisheries sustainability in the developing world and the functioning of the MSC as an instrument for transforming fisheries to a sustainable basis. MRAG Americas confirms that Ms. Stern-Pirlot meets the competency criteria in Annex PC for team leader as follows: • She has an appropriate university degree and more than five years' experience in management and research in fisheries; • She has passed the MSC team leader training; • She has the required competencies described in Table PC1, section 2; • She has passed the MSC Traceability training module; • She meets ISO 19011 training requirements; • She has undertaken two fishery assessments as a team member in the last five years, and • She has experience in applying different types of interviewing and facilitation techniques and is able to effectively communicate with clients and other stakeholders. In addition, She has the appropriate skills and experience required to serve as a Principle 3 assessor as described in FCP Annex PC table PC3. - MRAG Americas confirms that Ms. Stern-Pirlot has no conflicts of interest in relation to the fishery under assessment.
5	Team members
	Dr. Jake Rice. Dr. Jake Rice is Chief Scientist for the Department of Fisheries and Oceans, Canada. He previously served as Director of Peer Review and Science Advice and held senior DFO Science positions in Pacific and Newfoundland Regions. He received BSc. from Cornell (1970 Conservation) and Ph. D. from University of Toronto (1974 - Ornithology). He has more than 270 publications in the scientific and technical literature, primarily on the ecosystem approach to integrated management. He is a member of the Group of Experts for the UN Regular Process for Global Marine Assessments, and a Lead Authors for the chapter on Drivers, Trends and Mitigation, for the next IPCC Assessment Report. He has been active as an expert or delegate to many UN meetings and agencies (FAO, CBD, GEF, UNEP, UNESCO-IOC, ICP, BBNJ etc.). MRAG Americas confirms that Dr. Rice meets the competency criteria in Annex PC for team members as follows: • He has an appropriate university degree and more than five years' experience in management and research in fisheries; • He has undertaken at least two MSC fishery assessments or surveillance site visits in the last five years; • He is able to score a fishery using the default assessment tree and describe how conditions are set and monitored. In addition, he has the appropriate skills and experience required to serve as a Principle 1 assessor as described in FCP Annex PC table PC3, and MRAG Americas confirms he has no conflicts of interest in relation to the fishery under assessment.

	Dr. Ken Haste Andersen. Ken H Andersen is professor in theoretical marine ecology at the Technical University of Denmark, where he is also head of section and deputy director of the centre of excellence: Ocean Life. The overarching aim of his research understand how marine ecosystems are affected by perturbations, in particular fishing. He has been a pioneer in developing size-based model techniques to describe fish communities, and for applying them to make ecosystem-based impact assessments of fisheries. A particular interest is how fishing on one part of the ecosystem affects the fisheries in other parts of the ecosystem, such as forage fisheries. A key aim of his research is to link developments in basic science with applications for fisheries. To this end he is active in ICES advice forming, EU fisheries related projects and collaborative projects with the Danish fishing industry. MRAG Americas confirms that Dr. Andersen meets the competency criteria in Annex PC for team members as follows: • He has an appropriate university degree and more than five years' experience in management and research in fisheries; • He has undertaken at least two MSC fishery assessments or surveillance site visits in the last five years; • He is able to score a fishery using the default assessment tree and describe how conditions are set and monitored. In addition, he has the appropriate skills and experience required to serve as a Principle 2 assessor as described in FCP Annex PC table PC3, and MRAG Americas confirms he has no conflicts of interest in relation to the fishery under assessment. The whole assessment team collectively meets the requirements as described in FCP Annex PC table PC3.
6	Audit/review time and location
	- The surveillance audit was conducted in the offices of DFPO in Copenhagen, Denmark, and remotely via video conference on 16 May, 2019.
7	Assessment and review activities
	- The surveillance reviewed changes in science and management and progress in closing out any applicable conditions.

3.2 Background

Update on the fishery since the 1st surveillance audit

Target stocks update

Sandeel in Management Area 1r

Recruitment for 2018 of 110x10^6 thousand recruits was more than five times the size of the 2017 year-class, which was the weakest year class in the 35-year time series. This places it near the median, although well below the arithmetic average for the full time series. The comparatively strong 2016 year-class that was well represented in the 2018 SSB and fishery has largely passed through the fishery and the SSB, such that the 2019 SSB is expected to drop substantially as the very weak 2017 and only a moderate 2018 year-class comprise most of the stock. The projected spawning biomass of 96,636 mt is only 76% of the $B_{escapement}$ for this stock, (the value taken as indicative of a very low likelihood of the SSB being reduced to a level when the risk of impaired recruitment may increase). The 2018 F of 0.63 was slightly increased from the 2017 F and was 129% of the F_{cap} used by ICES as a precautionary control of fishing mortality for short-lived stocks. This continuing high F was accounted for by small downward revisions of stock biomass relative to the 2018 assessment. This fishing mortality, combined with the

exceptionally weak 2017 year class recruiting, has resulted in a substantial decline in the SSB, to well below the escapement benchmark for the stock.

With the projected SSB below the $B_{escapement}$ for this stock entering 2019 the stock would be below the score of 60 on the appropriate P1 scoring indicator for MSC Certification. However, because the decline in SSB is largely due to very poor 2017 recruitment, in turn attributed to poor oceanographic conditions and not a depleted spawning biomass, a temporary suspension of the MSC certificate is an appropriate response. The size of the 2019 recruitment is unknown at the time of the assessment, but with a geometric mean recruitment or better, the SSB would be expected to increase to above the $B_{escapement}$ in 2020. **Therefore, certification for sandeel in management area 1r will be suspended following this audit.**

Sandeel in Management Area 2r

Following evidence of a depleted spawning stock biomass, the certificate for this unit was suspended in May of 2017. The suspension was lifted prior to the present surveillance audit. The exceptionally strong 2016 year class (third largest recruitment in the 35 year time series) has largely passed through the SSB and the fishery. By contrast the 2017 year class is estimated to be the weakest in that time series, and the 2018 year-class, although eight-fold larger than 2017, is still in the lowest quartile of year-classes in the time series and just over half the geometric mean recruitment over the past decade. Together the very weak 2017 and weak 2018 year-classes have resulted in a large drop in SSB from 2018 to 2019. At 55,770 tonnes the SSB is estimated to be only 66% of $B_{escapement}$ for this stock, (the value taken as indicative of a very low likelihood of the SSB being reduced to a level when the risk of impaired recruitment may increase). In 2018 the EU has adopted only a monitoring TAC of 5,000 t for 2018, to allow for collection of data needed for the annual assessments. This resulted in the 2018 F to be estimated to be 0.21, less than half the F_{cap} used by ICES as a precautionary control of fishing mortality for short-lived stocks. In 2017 the estimated high F and low SSB resulted in temporary suspension of certification of this stock for 2017. However, the strong recruitment and subsequent improvement of SSB for 2018, justified lifting of the suspension earlier this spring. (accompanying rationale published on the MSC website: https://cert.msc.org/FileLoader/FileLinkDownload.asmx/GetFile?encryptedKey=iKK7ZQt2jpFCeOyko/EYpibrquqgYkwLuSgvQcZUxlbJ5Ow60OTeTD/SpGsHMa9r. Nevertheless, even with a very low catch and F for the stock with the weak 2017 and 2018 year-classes, and aging of the 2016 year-class beyond a strong presence in the stock, again in 2019 this stock is expected to fall below its MSY $B_{escapement}$ level. This would require a score of below 60 on the stock status performance indicator and consequently the MSC Certification for this stock is recommended to be suspended again in 2019. **Therefore, certification for sandeel in management area 2r will be suspended following this audit.**

Sandeel in Management Area 3r

Recruitment for 2018 of $297x10^6$ thousand recruits was among the five strongest year-classes in the 30 year time series, and more than three times the geometric mean recruitment of the full time series. The 2017 year-class was estimated to be substantially weaker about 20% of the geometric mean recruitment. However, with the exceptionally strong 2016 year supporting the 2018 fishery 2018 SSB remained at a safe level, and the 2018 year-class should contribute strongly to the 2019 SSB and be able to support a commercial harvest. The estimated 2019 spawning biomass of 182,600 mt is 142% of the $B_{escapement}$ of 129 Kt for this stock, (the value taken as indicative of a very low likelihood of the SSB being reduced to a level when the risk of impaired recruitment may increase). The 2018 F of 0.34 was 120% of the F_{cap} of 0.29 used by ICES as a precautionary control of fishing mortality for short-lived stocks. This unexpectedly high F was accounted for by a modest revision downward of the strength of the 2016 year-class compared to the 201 assessment. This fishing mortality, although 30% higher than the benchmark, was not high enough to deplete the SSB, which is well above the escapement level for the stock. With the strong recruitment expected from the 2018 year-class in 2019, the SSB should increase under F up to and in the neighborhood of F_{cap}, and would remain well above the $B_{escapement}$.

ICES advised a catch of not greater than 134,000 t from this stock, if the MSY $B_{escapement}$ harvesting strategy with an Fcap is applied to the stock leaving a residual SSB dependent on the realized strength of the strong 2018 and 2019 year classes, but well above the $B_{escapement}$ value.

Norway Pout in Div IIIa, and Subdivision 4

Recruitment for this stock has been extremely variable for most of the time series, with alternate years of strong and average year class strengths for the entire past decade. The 2018 estimate of $81x10^6$ thousand recruits is among the strongest year classes in the past 20 years. The 2012, 2014, and 2016 year class have all been strong, so SSB has been well above the assessment and management benchmarks for the 2010's, allowing catches to increase after very low values in the 2000's. The 4th quarter spawning biomass continues to increase above the 2018

estimate of 152,000 mt, putting the SSB well above 250% of the B_{pa} of 65,000 t for this stock, (the value taken as indicative of a very low likelihood of the SSB being reduced to a level when the risk of impaired recruitment may increase). The estimate of F in 2017 F of 0.20 is the most recent estimate for a full fishing year (4th quarter of one year and 1st-3rd quarters of the following year reflects a continuing decline in fishing mortality since the mid 2010's, and is well below the F_{cap} of 0.7 set for the stock. With the expected increase in SSB due to strong recruitment and the catch estimates to this point, the 2019 fall assessment is expected to find a further decrease in F, although its magnitude is unknown at this time.

The EU quota for Norway pout in 2018-2019 is set at 55,000, which combined with a Norwegian quota for the same stock of 91,000 t is well below a catch of 212,000 t that ICES estimated to be consistent with keeping the SSB above a reference value of B_{pa}. Consequently, this fishery remains consistent with scores of 80 or above on the appropriate P1 scoring indicator for MSC Certification.

Sprat in div 3a (Skagerrak and Kattegat) and Subarea 4 (North Sea)

In 2018 the Division 3a and Subarea 4 sprat populations were combined into a single stock for assessment and management purposes. This was justified based on analyses of genetic materials, morphometrics and analyses of consistencies in trajectories of stock parameters over time from the various stock assessments. Consequently, for this surveillance audit a different population unit is being evaluated against management benchmarks set for a large stock unit, of which the 3a component characteristically comprised less than 5% of the catches taken from the newly defined stock complex over the past 20 years. Although the entire MSC assessment was not redone with the new stock unit, looking at status and trends of key parameters this redefinition of stock delineation for sprat would not have caused a substantial change in the decisions regarding certification during the original assessment.

Sprat are highly variable from year to year, with stock status largely determined by incoming recruitment. The recruitment to the full stock in 2019 is estimated to be 127 x 10^6 recruits, which is around the median for the 2010's, but well above average for a longer time series stretching back to the mid-1980s. The estimated 2019 SSB of 249,000 t is just about twice the ICES estimated MSY $B_{escapement}$ and is increasing. No reference point has been defined for F, but the 2018 estimate of 1.40 continues a reduction in F from the very high value in 2016, although it is still above the F_{cap} of 0.69 identified for these small pelagic stocks in the ICES assessment area.

For 2019 ICES advises a quota of not greater than 139,000 t for the stock as a whole. The EU has continued a TAC for just Division 3a of 24,627, maintaining the 2018 TAC for the stock component. With the ICES stock biomass not disaggregated to this particular management unit, it cannot be determined how this would correspond to a precautionary reference point for the particular stock subcomponent. However, the sprat stock as whole increased in SSB and produced a strong year-class under that management strategy in 2018. Consequently, all available evidence indicates that is fisheries should still score above 80 on the relevant MSC criteria and standards, and support the continued certification of the fishery.

Catch of other sandeel species

The assessment raised the issue of catches of other sandeel species than the target species *Ammodytes marinus* and this is the subject of condition 2. Three other species are caught: *G. semisquamatus, H. lancelatus,* and *A. tobianus.* The two first species can easily be distinguished from *A. marinus* but distinguishing between *A. marinus* and *A. tobianus* cannot be done by eye.

An initial assessment of *A. marinus* and *A. tobianus* has been carried out in area 2r. The assessment was done by reading otoliths. The method was not verified, why the results must be considered preliminary. The results are given in Table 1. The catch of *A. tobianus* in area 2r appears to be around 7%.

Table 2. Component of sand eel species (number and percent) in survey catches in 2r.

Species	Number	Pct.
G. semisquamatus	135	0.013
H. lanceolatus	42	0.004
A. marinus	925672	93.076
A. tobianus	68689	6.907
Total	994538	100

Ecosystem update

Dependent predators

The SMS key run used to calculate predation mortalities has been updated in 2017 (WGSAM, 2017). There are no changes in the predation mortality on Norway pout, sprat and sandeel in the southern North Sea. Sandeel in the northern North Sea sees an increase by about 50% in M2, probably due to declined population sizes (Figure 1).

Regarding predation by birds on sand eel in the southern North Sea (Dogger bank), the situation is unchanged (Figure 2).

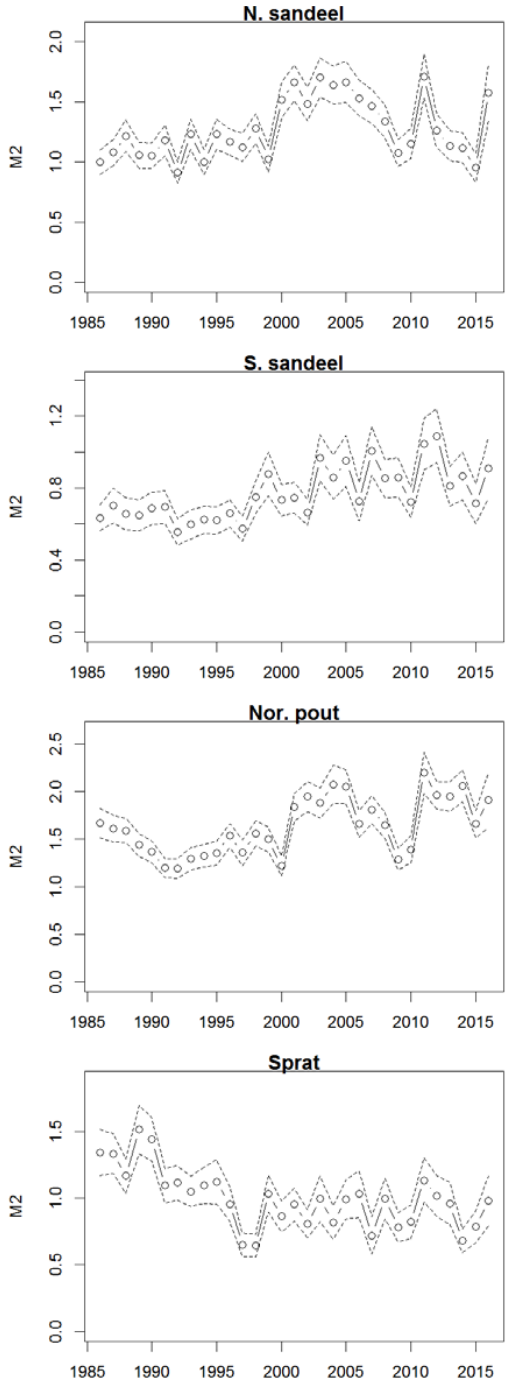

Figure 1. Predation mortalities (M2s) for target species as calculated by the SMS key run 2017. (WGSAM, 2017).

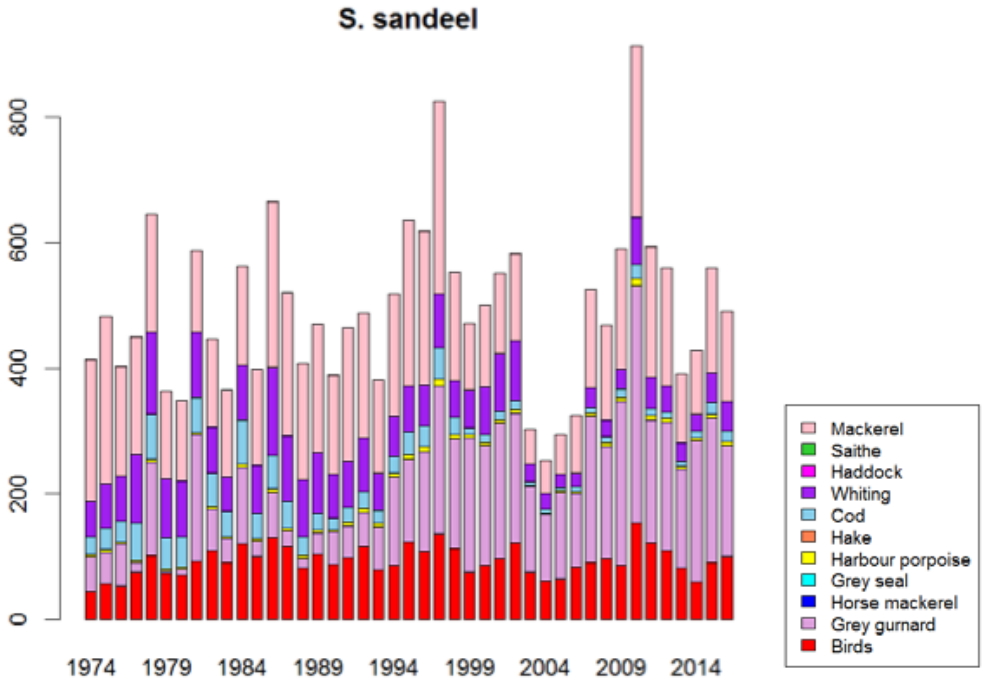

Figure 2. Amount eaten (1000 mt/year) of southern sandeel by predator. Birds are red (WGSAM, 2017).

Endangered species

There is no development in the conservation status of relevant ETP species. Kittiwakes are still listed as "vulnerable".

Development in the MPA process

The designation of MPAs in the North Sea is progressing slowly. Two areas are relevant, Central Fladen and Dogger Bank.

Central Fladen (the Norway pout fishery):

The Danish government has participated in meetings with Scotland (June 20th and November 16th, 2017). As preparation for these meetings, DFPO have provided fisheries data for the Fladen area.

Marine Scotland has produced a detailed report of the MPAs in Scottish waters, including Central Fladen (Marine Scotland, 2017). The report clearly designates suggested areas for closure to fishing to protect sensitive habitats. These areas are fished by Danish vessels, most like from the industrial fishery. The economic value of the catch in the proposed area is 2% of the value of the catch in Central Fladen.

Dogger Bank (sand eel):

The development in the process of the Dogger Bank MPA is complicated by being a joint development between three countries (UK, Germany, and the Netherlands). The latest Dutch update (http://nsrac.org/wp-content/uploads/2019/01/20190319-dogger-bank-DEF-Ton-IJlstra.pdf, from March 2019) indicates progress on the part in the Dutch EEZ, however, the overall development is unclear.

DFPO is engaged in a running project with DTU Aqua on habitat impact. The project will examine habitat impacts by different trawling intensities ("Sandbanker og fiskeripåvirkning i relation til EU's fiskeri- og miljøpolitik"; Sand banks

and fisheries impact in relation to EUs fisheries and environmental policies). Overall, the project will address the impact of the sand eel fishery on Dogger Bank.

Monitoring and inspection

The latest inspection report from the Danish Fisheries Agency shows that inspections are proceeding as last year (https://fiskeristyrelsen.dk/media/10276/fisheries-inspection-2017.pdf). Regarding the landing obligation, the inspection report notes:

“The Danish Fisheries Agency has not found violations of the landing obligation under inspection at sea as it is very difficult to document illegal discard that occur before and after the actual inspection.”

Regarding fishing in closed areas, more than 300 cases were inspected in the sand eel fishery in 2017, up from 7 in 2016. However, “No incidents led to an infringement report as the activities were either legitimate or the infringements trivial”.

The regulations contain a procedure where a fisher will be suspended if the bycatch percentage is too high three times in a season. Only once was a bycatch too high (in the sandeel fishery). This incident was discussed at meetings with the Ministry, which demonstrates that the procedure is acted upon, though it was not needed to enforce it.

Ongoing experimental fishery shows that the bycatch in the sprat fishery can be reduced by using “excluders”. The DPPO will seek to have the excluder approved, following the conclusion of the experimental fishery.

Monitoring of the benthic impact continue through analysis of VMS tracks. This effort is currently hampered by recent legislation that limits the access to sufficiently disaggregated data. Currently, data is only available and square level, and only shows whether more than three vessels have fished. This information is insufficient to monitor change in impact. The Fisheries Agency’s legal department is reviewing the clients right to these data, and it is expected that full access will be restored before the next audit.

Logbooks of ETP catch from the fisheries show bycatch of elasmobranchs, mammals, and birds lumped for all three fisheries. Catches of skates and rays are small (less than 200 kg for any species). Likewise, for mammals (18 seals and two porpoises/dolphins). A new development is bycatch of birds. Again, the numbers are small and not of protected species, though there are reported 7 guillemots. Overall, the logged bycatch does not affect the scoring.

Potential or actual changes to the management system
The responsibility of fisheries is still under the Danish Fisheries Agency under the Ministry of Foreign Affairs of Denmark; there are no changes to report.

Changes or additions/deletions to regulations.
The updated law and regulations in Denmark can be found here:
https://www.retsinformation.dk/Forms/R0710.aspx?id=208281
https://www.retsinformation.dk/Forms/R0710.aspx?id=203641
https://www.retsinformation.dk/Forms/R0710.aspx?id=196709

Personnel changes in science, management or industry to evaluate impact on the management of the fishery.

Contact info for DPPO has been changed:
Name: Lise Laustsen
Email: ll@pelagisk.dk
Phone: +45 29 16 92 32

For DFPO minor change in phone number:
Name: Sofie Smedegaard Mathiesen
Email: ssm@dkfisk.dk
Phone: +45 76 10 96 53

Potential changes to the scientific base of information, including stock assessments.

Updated stock assessments and catch recommendations are available from ICES and form the basis of the stock assessment updates earlier in the present report:

Sandeel
See the latest ICES advice here.

Sprat
See the latest ICES advice here.

Norway pout
See the latest ICES advice here.

Traceability Update
There have been no changes since the previous audit affecting the traceability requirements for this fishery.

3.3 References

ICES 2019. Advice on fishing opportunities, catch and effort. Greater North Sea ecoregion. 22 February 2019.

Marine Scotland (2017) Northern North Sea Proposal, September 2017.

WGSAM (2017) Interim Report of the Working Group on Multispecies Assessment Methods (WGSAM) ICES CM 2017/SSGEPI:20

3.4 Version details

Table 3. Fisheries program documents versions

Document	Version number
MSC Fisheries Certification Process	**Version 2.1**
MSC Fisheries Standard	**Version 1.3**
MSC General Certification Requirements	**Version 2.3**
MSC Surveillance Reporting Template	**Version 2.0**

4 Results

4.1 Surveillance results overview

4.1.1 Summary of conditions

Table 4. Summary of conditions

Condition number	Condition	Performance Indicator (PI)	Status	PI original score	PI revised score
Add rows as needed	Add condition summary		Choose from: New / Closed / Ahead of target / On target /	PI score from most recent assessment	PI score after this surveillance, or 'Not revised'.

			Behind target. If closed, indicate surveillance number when closed.		
1	By the 4th annual audit, the management system must provide evidence that *A. marinus* stocks are at or fluctuating around target reference point for areas 1r, 2r, and 3r.	1.1.1 sandeel management areas 1r, 2r, 3r	**On target**	**70**	**Not revised**
2	By the 4th annual audit, information on 'other sandeel species' must either be sufficient to determine that this fishery is catching only negligible amounts of those species (less than 2% of the total catch) so they may be considered as IPI stocks; or information must be sufficient to determine that, within the RBF framework, susceptibility of other sandeel species to this fishery is low enough to raise the RBF-derived MSC score for these species to greater than 80.	1.1.1 other sandeel species		**70**	
3	By the fourth annual audit, well defined harvest control rules must be in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached for sandeel areas 1-3.	1.2.2 sandeel areas 1r-3r	**On target**	**75**	**Not revised**
4	By the 4th annual audit, there must be well defined harvest control rules in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.	1.2.2 Norway pout	**On target**	**75**	**Not revised**
5	By the 4th annual audit, there must be well defined harvest control rules in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.	1.2.2 sprat	**On target**	**75**	**Not revised**
6	By the 4th annual audit there must be qualitative information and some quantitative information available on the amount of main bycatch species (herring) taken by the sprat and Norway pout fisheries.	2.2.3 Sprat and Norway Pout	**On target**	**75**	**Not revised**
7	By the 4th annual audit, the client must be able to demonstrate that the fishery is unlikely to cause serious or irreversible harm to sensitive habitats, particularly the muddy Fladen ground habitat.	2.4.1 Norway pout for bottom touching gear	**On target**	**70**	**Not revised**
8	By the fourth annual surveillance audit, there must be some objective basis for confidence that the partial strategy for achieving the habitat outcome level of 80 or above will work, based on information directly about the fishery and/or habitats involved.	2.4.2	**On target**	**75**	**Not revised**
9	By the fourth annual surveillance audit sufficient data must continue to be collected to detect any increase in risk to habitat types affected by this fishery.	2.4.3 bottom touching gear	**On target**	**75**	**Not revised**

10	By the fourth annual audit, there must be some evidence that measures comprising the partial strategy to ensure the sprat fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function, are being implemented successfully.	2.5.2 Sprat	**On target**	**75**	**Not revised**
11	By the fourth annual audit, short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, must be explicit within the fishery-specific management systems for sandeel, sprat, and Norway pout.	3.2.1	**On target**	**70**	**Not revised**

4.1.2 Total Allowable Catch (TAC) and catch data

Table 5. Catch data sandeel

TAC	Year	**2018**	Amount	**217,209 mt**
UoA share of TAC	Year	**2018**	Amount	**217,209 mt**
Total green weight catch by UoC	Year (most recent)	**2018**	Amount	176,410 mt
Total green weight catch by UoC	Year (second most recent)	**2017**	Amount	**356 824 mt**

Table 6. Catch data sprat

TAC	Year	**2018**	Amount	165 347 tons
UoA share of TAC	Year	**2018**	Amount	165 347 tons
Total green weight catch by UoC	Year (most recent)	**2018**	Amount	161 864 tons
Total green weight catch by UoC	Year (second most recent)	**2017**	Amount	102 767 tons

Table 7. Catch data Norway pout

TAC	Year	**2018**	Amount	100 642 tons
UoA share of TAC	Year	**2018**	Amount	100 642 tons
Total green weight catch by UoC	Year (most recent)	**2018**	Amount	9 779 tons
Total green weight catch by UoC	Year (second most recent)	**2017**	Amount	19 029 tons

4.1.3 Recommendations

No additional recommendations.

4.2 Conditions

Table 8. Condition 1

Performance Indicator	1.1.1 (sandeel management areas 1r, 2r and 3r)
Score	70
Justification	Unit 1 – the SSB has been fluctuating around the B_{lim} for this unit since 2000, with SSB below B_{lim} for eight of the 16 years (ICES 2015a Table 11.2.9 and Figure 11.2.10 – middle panel.). It has only been above B_{pa}, which functions in the scientific advice as if it were a management target, for four of those years. So that although the stock is presently between its B_{lim} and its B_{pa}, it has been fluctuating below its target reference point for most of the past 15 years. Hence SG 80 is not quite met, Unit 2 – The SSB the SSB has been fluctuating between B_{lim} and B_{pa} for this unit since 2000. SSB has been below B_{lim} for only four of the 16 years, but It has only been above B_{pa}, which functions in the scientific advice as if it were a management target, for four of those years as well (ICES 2015a Table 11.3.8 and Figure 11.3.10 – middle panel.). So that although the stock is presently nearly at its B_{pa}, it has been fluctuating below its target reference point for most of the past 15 years. Hence SG 80 is not quite met. Unit 3 – the SSB has been fluctuating around or below the B_{lim} for this unit since 2000, with SSB below B_{lim} for 11 of the 16 years (ICES 2015a Table 11.4.9 and Figure 11.4.10 – middle panel.). It has only been above B_{pa}, which functions in the scientific advice as if it were a management target, for three of those years. So that although the stock is presently above its B_{pa}, due to recruitment of a very strong year-class, it has been fluctuating well below its target reference point for most of the past 15 years. However, since 2009, SSB has been above B_{pa} for 3 of the 6 years, and below B_{lim} for only two of them. Hence for the more recent period the stock has been fluctuating around B_{pa}. With the addition of an F_{cap} to the de facto harvest strategy (see 1.2.1) and an apparent modest improvement in recruitment in the 2010's, the more recent period may be more indicative of present stock dynamics and population development.
Condition	By the 4th annual audit, the management system must provide evidence that *A. marinus* stocks are at or fluctuating around target reference point for areas 1r, 2r, and 3r.
Milestones	At the first annual surveillance, provide a plan increase abundance of stocks in Areas 1, 2, and 3, recognizing that environmental factors may be as or more important than fishing effort in driving abundance. At the second annual surveillance, provide evidence that the plan has gone into effect and that fishing effort is consistent with opportunity for increasing stock abundance. At the third annual surveillance, provide evidence that abundance has begun to increase. At the fourth annual surveillance, provide evidence that the stocks are at or fluctuating around the target reference point. At this point, the performance indicator will re-score to at least 80.
Consultation on condition	*Include details of any verification required to meet requirements in FCP v2.1 7.19.8*
Progress on Condition (Year 2)	The Audit team has reviewed the combined long-term management plan for industrial species, and the ICES workshop reports contributing information used in development of the draft Long-term Management Plan. The information in the Workshop report and background papers reviewed at the workshop was considered to be of high scientific quality. Analytical and modelling methods use to explore data and test strategies were appropriate for the stocks and fisheries, and used methods wide considered best practice by experts in these areas The draft management plan incorporates the finding and conclusions of the expert workshop and associated reports to a high degree. Many of the conclusions and recommendations of the expert work are incorporated directly in the draft management plan, and none of the provisions in the draft plan are considered to be inconsistent with the findings and conclusions of the expert materials.

	The consultative nature of the EU processes for finally adopting and implementing any management plan mean that the final product might not be identical to the draft plan reviewed as part of this surveillance audit. However, at this point in the development, the audit team is satisfied that the client has made significant efforts to facilitate implementation of a management plan consistent with addressing the condition, as described in the Client Action Plan. With regard to the narrow question of improvement in stock status for the stocks scored below 80, in the cases of sandeel stock units .1r and 2r, stock condition has deteriorated further. The evidence strongly supports the interpretation that this is a consequence of very poor year-classes recruiting to a short-lived stock, and not depletion of the stock by excessive fishing harvests. In turn, there is substantial evidence the poor year-classes are much more likely a consequence of unfavorable oceanographic conditions for spawning and pre-recruit survival, rather than insufficient spawning biomass. Consequently, the appropriate action would be to suspend the certificate awaiting improved recruitment, rather than reconsidering the certification altogether.
Status	This condition is open and on target.
Additional information	As indicated above, stock status for sandeel in areas 1r and 2r is now such that these two Units of Certification will be suspended, following the required 30-day notice period. The assessment team will revisit this suspension when the 2020 ICES advice is released.

Table 9. Condition 2

Performance Indicator	**1.1.1 (other sandeel species)**
Score	70
Justification	As the proportions of other species in the catch are not know, additional information on the proportions may determine that some other species each make up < 2% of the catch, in which case those species could qualify for IPI species. Alternatively, implementing management measures could reduce the susceptibility of other sandeel species enough to raise the RBF-derived score for those species to 80 or higher.
Condition	By the 4th annual audit, information on 'other sandeel species' must either be sufficient to determine that this fishery is catching only negligible amounts of those species (less than 2% of the total catch) so they may be considered as IPI stocks; or information must be sufficient to determine that, within the RBF framework, susceptibility of other sandeel species to this fishery is low enough to raise the RBF-derived MSC score for these species to greater than 80.
Milestones	At the first annual surveillance, provide a plan to collect the necessary information on other sandeel species to achieve the condition. At the second annual surveillance, provide evidence that the plan has gone into effect, and has identified steps to determine the proportion of each species in the catch (relative to IPI) and or steps to determine management measure that will adjust fishing activities to increase PSA scores. At the third annual surveillance, report progress on implementation of the plan. At the fourth annual surveillance, provide evidence that the stocks are at or fluctuating around the target reference point, or that the stocks are IPI and do not require status determination. At this point, the performance indicator will re-score to at least 80.
Client Action Plan	The challenge is that at present there is no easy way to distinguish between lesser sandeel (*Ammodytes marinus*) and small sandeel (*A. tobianus*). The fishery organisation is together with DTU Aqua involved in genetic projects aiming at developing easy methods to identify sandeel spp. to species.

	The fishery will tackle this issue on two levels. First, the fished proportion of the habitat of non-target sandeel will be evaluated. Second the fraction of non-*A. marinus* species in the catches will be evaluated, however as noted before this is a challenge when it comes to distinguishing *A. marinus* from *A. tobianus*. Year 1. The area of each by catch species habitat subject to fishing will be estimated and for *A. tobianus* it might be necessary to look at indirect indications of habitat such as depth distribution, temperature preference etc. If the genetic methods are assessed not to be available at the latest for use in year 3, the industry will together with DTU Aqua initiated a project to finalize the development of genetic methods to distinguish between *A. tobianus* and *A. marinus.* Year 2. For those species that can be easily identified the fraction the bycatch constitute of the total catch will be estimated, directly. For *A. tobianus* it might be necessary to develop habitat maps based upon e.g. depth preferences. Year 3 Samples from catches, perhaps as part of a self-sampling program, will be evaluated using genetic methods. Year 4. Based upon data collected in year 3, the fraction of *A. tobianus* in the catches will be evaluated, and depending on the observed levels it will either be an IPI, or the geographical overlap of the fishery with *A. tobianus* habitat will be shown to be low enough to conclude using the RBF methods that the impact of the fishery is consistent with the MSC principles.
Progress on Condition (Year 2)	The clients have been in contact with DTU Aqua, which is responsible for the dredge surveys that are part of the basis for the data going into the advice fixing the TAC for sandeel. In dredge surveys, all species are registered, and for *Ammodytes tobianus* and *Ammodytes marinus* these initial registrations are checked by looking at the otoliths. The catch composition of 'other sandeel species' of the dredge surveys show that *A. tobianus* make up about 7% of the catch in area 2r. The method is not fully tested and the results cannot be considered conclusive, nevertheless they demonstrate progress on the condition. Further to this, DTU Aqua will apply for funding for a project on small pelagic fish. DFPO and DPPO will take part in this project. The project work packages are listed below: WP1) Method for the separation of coastal and marine habitat and assessment of the extent of the mixing ratio between *Ammodytes tobianus* and *Ammodytes marinus* in area 2r and Kattegat. WP2) Continuation of larval survey. WP3) Optimization of sample collection. WP4) Evaluate new knowledge about the herring stocks' distributions in time and space generated on the basis of analyses of new genetic and biological data collected and generated in the project, focusing on possible implications for population estimation. WP5) Dialogue and solution of tasks towards the benchmark of sandeel in 2021.
Status	Open and on target
Additional information	

Table 10. Condition 3

Performance Indicator	**1.2.2 (sandeel areas 1-3) a. 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.**
Score	75

Justification	The harvest strategy that is used by ICES in provision of scientific advice, and is de facto applied by the management authority of the fishery lends itself well to application of specific harvest control rules. ICES has used area-specific values for $B_{escapement}$ for nearly two decades, set at a value that was B_{pa} rather than B_{lim} (ICES 2010). ICES is exploring area-specific values for F_{cap}, now that it has been recommended as part of the harvest strategy. These biomass values serve de facto as management targets (see 1.1.b) for each area. As SSB approaches the $B_{escapement}$ value, advice on harvests already recommends that harvests be reduced, so exploitation rate is reduced even before the target is reached, and advice is to stop harvests once the stock is below the target $B_{escapement}$ (ICES 2014). Management decisions have generally been consistent with the science advice. Nevertheless, in all three areas there have been non-zero quotas in some years when SSB was below $B_{escapement,}$ and even below B_{lim}. This resulted in F's above 0.1 and even as high or higher than 0.4 on some ages in some years when SSB was below in B_{lim}, and often F's of between 0.15 and 0.4 on some ages when SSB was below $B_{escapement}$. However, if there were a sequence of three or more years of poor recruitment, F's did fall to below 0.05 (ICES 2015, Tables 11.2.7, 11.3.6 and 11.4.5). This pattern indicates that an initial poor recruitment might not be picked up by management in the year that it occurred. However, if poor recruitments came in sequence, then as B_{lim} was reached fisheries were closed. Consequently, in practice the management is reducing exploitation as the limit is approached. This means that SG 60 is reached for all three areas. The harvest control rules are being applied for all three stocks in the science advice and in the management decisions on quotas (ICES 2015). The management authority has not adopted the reference points and harvest strategy in any formal way, nor prepared management plans for the fishery that contain the rules. Consequently, there is no assurance that in future harvest rate will continue to be reduced as SSB approaches $B_{escapement}$ and reach zero by the time SSB passes B_{lim}. As this control rule has not been adopted by the management authority, it cannot be concluded that "well defined harvest control rules are in place". It appears that such rules are being applied in practice, but with no objectives, reference points and harvest control rules formally adopted, at best "generic rules" may be in place. The results of the annual stock assessments (ICES 2014b, 2015), and specifically the estimates of fishing mortality in those assessments (ICES 2015, Tables 11.2.7, 11.3.6 and 11.4.5) factored into the scoring decision for this scoring issue. Those tables clearly show that in the short term the rules are not achieving the exploitation rates required by the de facto harvest control rules. In some years, when the stock is below even B_{lim}, and certainly below $B_{escapement}$, (ICES 2015, Tables 11.2.7, 11.3.6 and 11.4.5) fishing mortality on some ages are above zero by amounts too large be overlooked as assessment uncertainty or only small oversights or error in management. Illustrations are available from all three main stock areas, using F from the first half of the year: for example: Area Year SSB $B_{escapement}$ B_{lim} Age F 1 2006 145Kt 215 Kt 160Kt 1 0.436 2 2013 76Kt 100 Kt 70Kt 2 0.119 3 2013 49Kt 195 Kt 100Kt 1 0.301 Examining the time series of F's, performance of management appears to be improving the ability to reduce F when SSB declines below $B_{escapement}$. Hence the SG 80 guidepost is met in terms of technical quality but it does not appear that the management actions have well defined harvest control rules or that the rules are in place. The fishery meets the SG 60, but not the SG80. For areas 4 and 6 the harvest control rule is simply that catches should not exceed a highly precautionary TAC until there is sufficient information to conduct an analytical assessment to establish if a higher catch level is sustainable. Thus the harvest control rule is clearly defined, and although the HCR does not reduce catch as a defined Limit Reference Point is approached, the intent of keeping harvests at a very low level, to protect the stock in times of weak recruitment, is achieved under this HCR.
Condition	By the fourth annual audit, well defined harvest control rules must be in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached for sandeel areas 1-3.

Milestones	At the first annual surveillance, provide a plan to assure that the tools in use are appropriate and effective. At the second and third annual surveillance, provide an update on the progress against the plan. At the fourth annual surveillance, provide evidence that the tools are appropriate and effective in achieving the exploitation levels required under the harvest control rules. At this point the performance indicator will re-score at least to SG80
Client Action Plan	The fishery will work towards formulating and implementing Management plans wherein HCR's are formulated for all relevant industrial stocks, there among sandeel. Such plans can either be developed species by species, for the entire industrial fishery complex or as part of the multi-species management plans for the North Sea, like the plan developed and implemented in the Baltic. Further it should be brought to attention that the reference points have been changed at the last sandeel benchmark in 2016. The applicability of these reference points must be evaluated using the latest assessment methods. <u>Year 1.</u> The industry will decide on whether the management plan can be formulated and implemented, species by species, for the entire industrial fishery complex, or if the needed management rules can be embedded in a multispecies management plan covering industrial and pelagic species in the North Sea. <u>Year 2</u> The plan will be developed and relevant management rules and HCR will be formulated. <u>Year 3</u> The plan will be implemented. <u>Year 4</u> The plan will be evaluated considering the new reference points, and evidence will be provided that the explicit harvest control rules are consistent with the harvest strategy.
Progress on Condition (Year 2)	The clients have drafted a combined long-term management plan for the three species (sandeel, Norway pout and sprat). The management plan still needs the final amendments and changes, but the latest draft can be found in the attached. The management plan has been drafted in the same way as the EU NS MAP, as it is the clients hope that this setup will be more easily accepted through the EU processes, which the clients understand takes some time, and implementation in the EU might not happen as fast as desired. Currently, the management plan needs the final check by both client organizations, which will happen in June of this year (2019). After this, it will be presented to the NSAC and from here it should go into formal EU processes.
Status	Open and on target
Additional information	

Table 11. Condition 4

Performance Indicator	**1.2.2 (Norway pout)**
Score	75
Justification	The harvest control rules explored by ICES in the benchmark assessment meetings are well defined (ICES 2012). The scientific advice and management decisions by the management authority are consistent with the application of $B_{escapement}$ as a harvest control rule – that is, ensuring that after harvests and estimated of natural mortality are removed from the stock, remaining spawning biomass is above 150,000 t. However, this control rule has not been adopted by the management authority, so it cannot be concluded that "well defined harvest control rules are in place". It appears that such rules are being applied in practice, but with

	no objectives, reference points and harvest control rules formally adopted, at best “generic rules” may be in place. Hence the SG 80 guidepost is met in terms of technical quality but it does not appear that the management actions have well defined harvest control rules or that the rules are in place. The fishery meets the SG 60, but not the SG80.
Condition	By the 4th annual audit, there must be well defined harvest control rules in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.
Milestones	At the first annual surveillance, provide a plan to assure that well defined harvest control rules are in place. At the second and third annual surveillance, provide an update on the progress against the plan. At the fourth annual surveillance, provide evidence that well-defined harvest control rules are in place. At this point the performance indicator will re-score at least to SG80.
Client Action Plan	The fishery will work towards formulating and implementing Management plans wherein HCR’s are formulated. Such plans can either be developed species by species, for the entire industrial fishery complex or as part of the multi-species management plans for the North Sea, like the plan developed and implemented in the Baltic. Further it should be brought to attention that the reference points have been change at the last Norway pout benchmark in 2016, as has the forecast method (from a deterministic to a stochastic). The applicability of these reference points and the new forecast method must be evaluated using the latest assessment methods. <u>Year 1.</u> The industry will, if possible, participate in the planned Workshop between EU and Norway aiming at developing a common management plan. <u>Year 2.</u> The plan will be developed and relevant management rules and HCR will be formulated. <u>Year 3</u> The plan will be implemented. <u>Year 4</u> The plan will be evaluated, and evidence will be provided that the explicit harvest control rules are consistent with the harvest strategy.
Progress on Condition (Year 2)	The clients have drafted a combined long-term management plan for the three species (sandeel, Norway pout and sprat). The management plan still needs the final amendments and changes, but the latest draft can be found in the attached. The management plan has been drafted in the same way as the EU NS MAP, as it is the clients hope that this setup will be more easily accepted through the EU processes, which the clients understand takes some time, and implementation in the EU might not happen as fast as desired. Currently, the management plan needs the final check by both client organizations, which will happen in June of this year. After this, it will be presented to the NSAC and from here it should go into formal EU processes.
Status	Open and on target.
Additional information	

Table 12. Condition 5

Performance Indicator	**1.2.2 (sprat)**
Score	75

Justification	Well-defined harvest control rules were explored by ICES in the MSY benchmark meeting (ICES 2014b). The scientific advice on North Sea sprat is formulated using a harvest control that performed well in the simulations, including a de facto $B_{escapement}$ of 150,000 t and a de facto F_{cap} of 0.7, The control rules set TACs where total fishing removals from July of year X to June of year X+1 do not reduce the SSB below the $B_{escapement}$, and for large SSBs, if TACs produced by application of the escapement rule would result in an F greater than 0.7, then the TAC is no larger than harvest resulting from fishing at F=0.7, Management decisions by the management authority over the past 15 years have been consistent with the application of $B_{escapement}$ as a harvest control rule. The F cap is a new feature in the ICES advice, but has been used in developing the advice on the 2015 TAC, given the exceptionally strong year-class recruiting to the stock (Table 8.9.2 ICES 2015), and the management decision is consistent with the advice. Although this control rule has not been adopted by the management authority, it has been applied in practice for the last several years. Consequently, it can be concluded that "well defined harvest control rules are in place", but only at present. Such rules are being applied in practice, but with no objectives, reference points and harvest control rules formally adopted, only "generic rules" are be in place with certainty. Hence the SG 80 guidepost is met in terms of technical quality but it does not appear that the management actions have well defined harvest control rules or that the rules are in place. The fishery meets the SG 60, but not the SG80.
Condition	By the 4th annual audit, there must be well defined harvest control rules in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.
Milestones	At the first annual surveillance, provide a plan to assure that well defined harvest control rules are in place. At the second and third annual surveillance, provide an update on the progress against the plan. At the fourth annual surveillance, provide evidence that well-defined harvest control rules are in place. At this point the performance indicator will re-score at least to SG80.
Client Action Plan	The fishery will work towards formulating and implementing Management plans wherein HCR's are formulated for all relevant industrial stocks, there among sprat. Such plans can either be developed species by species, for the entire industrial fishery complex or as part of the multi-species management plans for the North Sea, like the plan developed and implemented in the Baltic. Year 1. The industry will decide on whether the management plan can be formulated and implemented, species by species, for the entire industrial fishery complex, or if the needed management rules can be embedded in a multispecies management plan covering industrial and pelagic species in the North Sea. Year 2. The plan will be developed, and relevant management rules and HCR will be formulated. Year 3 The plan will be implemented. Year 4 The plan will be evaluated, and evidence will be provided that the explicit harvest control rules are consistent with the harvest strategy
Progress on Condition (Year 2)	The clients have drafted a combined long-term management plan for the three species (sandeel, Norway pout and sprat). The management plan still needs the final amendments and changes, but the latest draft can be found in the attached. The management plan has been drafted in the same way as the EU NS MAP, as it is the clients hope that this setup will be more easily accepted through the EU processes, which the clients understand takes some time, and implementation in the EU might not happen as fast as desired. Currently, the management plan needs the final check by both client organizations, which will happen

	in June of this year. After this, it will be presented to the NSAC and from here it should go into formal EU processes.
Status	Open and on target
Additional information	

Table 13. Condition 6

Performance Indicator	2.2.3 sprat and Norway pout
Score	75
Justification	The catch is sucked directly from the nets into the hull. Sorting devices are not allowed on board, and non-compliance is easy to spot. The operations are typically large, so hand-sorting is not an option. Consequently, discarding of a partial catch is not an issue. Slipping an entire catch is the only way to discard an unwanted catch. Herring acts as a choke species in the sprat and Norway pout fisheries, which could create an incentive to slip. Earlier, there was a catch-composition rule that one landing could contain no more than 50% herring in the Norway pout fishery or 20% in the sprat fishery. Therefore, at least in the sprat fishery, discarding (slippage) occurred but was not quantified (ICES 2015b). There is a closely monitored experimental sprat fishery in the German Bight. The fishery is monitored with tests of catch composition for each haul, though there are no onboard observers. The experimental fishery started in 2013 and is still ongoing. Slippage has, however, not been explicitly evaluated in the area (Lotte Worsøe, DTU Aqua, pers. comm.). Quantitative information about slippage in the sprat and Norway pout fisheries is therefore not available.
Condition	By the 4th annual audit there must be qualitative information and some quantitative information available on the amount of main bycatch species (herring) taken by the sprat and Norway pout fisheries.
Milestones	At the first annual surveillance, provide a plan to assure that some quantitative information is available on the amount of main bycatch species taken by the fishery, focussing of slippage of herring. At the second and third annual surveillance, provide an update on the progress against the plan. At the fourth annual surveillance, provide evidence that quantitative information is available on the amount of main bycatch species taken by the fishery, focussing of slippage of herring. At this point the performance indicator will re-score at least to SG80.
Client Action Plan	<u>Year 1:</u> The relevant CoC will be amended such that the slipping prohibition is specifically mentioned. In addition, the uptake of the herring bycatch % will be analyzed and presented to provide evidence that there are no incentives to slip catches. <u>Year 2-4:</u> The annual control agency report will provide the basis for evaluating to what extend slipping takes place. In addition, the uptake of the herring bycatch % will be analyzed and presented to provide evidence that there are no incentives to slip catches
Progress on Condition (Year 2)	The Code of Conduct was amended last year, so slippage prohibition was specifically mentioned. In 2018 the herring bycatch % in the sprat fishery was 4.4%, and in the Norway pout fishery it was 9.4%. Hence, the incentive to slip catches must be considered low, as the fishermen can have a herring bycatch percentage of: • 20% in the North Sea for both the sprat and Norway pout fishery • 25% in Skagerrak and Kattegat for the sprat fishery

	• 20% in Skagerrak for the Norway pout fishery The inspection report from the Danish Fisheries Agency has found no violations of the landing obligation. Ongoing experimental fishery shows that the bycatch in the sprat fishery can be reduced by using “excluders”. The DPPO will seek to have the excluder approved, following the conclusion of the experimental fishery.
Status	This condition is open and on target. The bycatch is increasing; however, it is still far below the limits, and does not create an incentive to slip. There has been no development in internal procedures to avoid slipping, and the assessment team will follow up on the development in the future surveillance assessments.
Additional information	

Table 14. Condition 7

Performance Indicator	2.4.1 Norway pout for bottom gear
Score	70
Justification	The gears are bottom-touching otter trawl. The impact of the trawl on the bottom comes from the doors, from the middle-weight (when used), and from the ground rope. The doors and the weight produce trawl tracks on the bottom, while the rope interacts with organisms on the bottom and possibly produce a cloud of mud. The targeted species are fish are living off (not on) the sea bed (sandeel are not targeted by the fishery while they are buried in the sand). The fishery therefore does not need to scrape the fish off the bottom (such as in nephrops fishery) so there is little incentive for the fishery to interact strongly with the bottom, as it will only result in increased fuel costs. Consequently, gear riggings do not use any kind of tickling chains or bobbins on the footrope of the trawl, as is used in e.g. the plaice fishery. *Muddy bottom*. The Norway pout fishery is conducted on the Fladen Ground, a large plain of fine mud, at water depths ranging from 15–200 m or more, designated by OSPAR as “burrowed mud”. This habitat is considered “sensitive” to mechanical disturbance (OSPAR 2010c). Further, there are registered widespread occurrences of sea pens over the entire area. Even though the habitat is sensitive, the impact of the gear is limited, and it is likely that most sea pen species are not seriously impacted. Fishing is also conducted within Central Fladen where the particular sensitive tall sea pens are found. An MPA is being considered for the area. Even though the fishery is unlikely to cause serious harm on the Fladen Ground, there is no direct evidence that this is the case, and the current fishery cannot be said to be “highly unlikely” to cause serious harm. SG60.
Condition	By the 4th annual audit, the client must be able to demonstrate that the fishery is unlikely to cause serious or irreversible harm to sensitive habitats, particularly the muddy Fladen ground habitat.
Milestones	At the first annual surveillance, provide a plan to assure that the fishery is highly unlikely to reduce habitat structure and function with focus on the muddy Fladen Ground. At the second and third annual surveillance, provide an update on the progress against the plan. At the fourth annual surveillance, provide evidence that the fishery is highly unlikely to reduce habitat structure and function with focus on the muddy Fladen Ground. At this point the performance indicator will re-score at least to SG80.
Client Action Plan	The DFPO and DPPO are active participants in the spatial management of the North Sea – including MPA designations and the development of management measures within MPAs. We have already contributed specifically to the Central Fladen Ground consultation process

	through the NSAC. The latest estimate from the Scottish Authorities is that the proposed measures for this area will come into force during ~~2017~~ 2019 Year 1 The clients will provide evidence that either: • The sensitive parts of Central Fladen Ground (containing the Tall Seapen) have been closed to all bottom trawling, or • Provide evidence that the process to close sensitive parts of Central Fladen Ground is ongoing and report of progress Year 2 The clients will provide evidence that either: • The sensitive parts of Central Fladen Ground (containing the Tall Seapen) have been closed to all bottom trawling, or • Provide evidence that the process to close sensitive parts of Central Fladen Ground is ongoing and report of progress Year 3 The clients will provide evidence that either: • The sensitive parts of Central Fladen Ground (containing the Tall Seapen) have been closed to all bottom trawling, or • In case management measures have not been agreed, the clients will include fishery-specific measures in the management plan for the three species to ensure that the fishery is highly unlikely to impact the sensitive parts of the Fladen Grounds Year 4 The clients will provide evidence that either: • The sensitive parts of Central Fladen Ground (containing the Tall Seapen) have been closed to all bottom trawling, or • In case management measures have not been agreed and implemented, the fishery-specific measures have entered into force, ensuring that the fishery is highly unlikely to impact the sensitive parts of the Fladen Grounds.
Progress on Condition (Year 2)	The process for Central Fladen Ground is still ongoing, and the clients continue to follow and engage in this process. The clients still believe that the best plan is to continue to follow and provide input to the process that Scotland has started as initiating member state and not hinder EU procedures. However, the clients understand that to close this condition prior to SA4, the clients will need to see these MPAs agreed (and implemented) by next year (SA3). If this is not the case, the clients will review which sensitive areas on the Central Fladen Ground that can be closed for bottom trawling, so proof of these possibly closures can be provided at SA4.
Status	This condition is open and on target.
Additional information	

Table 15. Condition 8

Performance Indicator	2.4.2
Score	75
Justification	MPAs will provide refuge for particular sensitive habitats, such as the tall sea pen on the proposed Central Fladen MPA. Further, the MPAs will acts are a recruitment reserve for adjacent areas. The establishment of MPAs are therefore a relevant mitigation measure for trawl impact, both for reduction of direct impact and for recovery of impacted areas. As all fishing operations are registered with VMS, enforcement of MPAs is easy, so there is high incentive for fishers to avoid fishing in MPAs. Even though the MPAs are highly likely to work, they have not been implemented. Until MPA with management measures specifically designed for the protection of the habitats are implemented, there is no objective basis for confidence that the partial strategy will work.

	Management measures need to be implemented in vulnerable areas, and should include the ability to modify fishing practices in the light of monitoring results, in order to achieve confidence in its effectiveness.
Condition	By the fourth annual surveillance audit, there must be some objective basis for confidence that the partial strategy for achieving the habitat outcome level of 80 or above will work, based on information directly about the fishery and/or habitats involved.
Milestones	At the first annual surveillance, provide a plan to assure that there is some objective basis for confidence that the partial strategy will work, based on information directly about the fishery and/or habitats involved, with a focus on implementing planned MPAs and evaluating their efficacy. At the second and third annual surveillance, provide an update on the progress against the plan. At the fourth annual surveillance, provide evidence that there is some objective basis for confidence that the partial strategy will work, based on information directly about the fishery and/or habitats involved, with a focus on implementing planned MPAs and evaluating their efficacy. At this point the performance indicator will re-score at least to SG80
Client Action Plan	The DFPO and DPPO are active participants in the spatial management of the North Sea – including MPA designations and the development of management measures within MPAs. We have already contributed to several proposed MPAs in the North Sea through the NSAC (particularly the joint English/Dutch/German designation on the Dogger Bank). While the some of these MPAs contain specific features (such as boulder reefs or aggregations of tall seapens) sensitive to bottom trawling, others are designated for features such as sandbanks, where it is more difficult to point to any particular parts that would be vulnerable to trawling. <u>Year 1</u> The clients will provide evidence of the process of implementing management measures in designated MPAs in the North Sea and Skagerrak is ongoing, as well as the continued contribution of the clients to these processes. Year 2 The clients will provide evidence of the process of implementing management measures in designated MPAs in the North Sea and Skagerrak is ongoing (or agreed), as well as the continued contribution of the clients to these processes. Year 3 The clients will provide evidence of the process of implementing management measures in designated MPAs in the North Sea and Skagerrak, as well as the continued contribution of the clients to these processes. In case management measures have not been agreed in the designated MPAs in the North Sea and Skagerrak, the clients will present a plan to ensure that the fishery is highly unlikely to impact mapped sensitive areas within the designated MPAs. Year 4 The clients will provide evidence of implementing management measures in designated MPAs in the North Sea and Skagerrak. In case management measures have not been agreed and implemented in the designated MPAs in the North Sea and Skagerrak, the clients will present evidence of the implementation of fishery-specific measures.
Progress on Condition (Year 2)	While there is some progress in designations of MPAs on both Central Fladen (see above) and Dogger Bank, it is unclear whether it will be concluded. The clients continue to be involved in the process and provides input to the international discussions of the areas, and is engaged in developing the knowledge base.
Status	This condition is open and **on target**. According to the revised client action plan, the progress in on schedule since the milestone related to developing a fishery-specific plan has been moved to year 3 when it will be apparent whether the ongoing designation process within the Natura 2000 framework will conclude in time.

Additional information	

Table 16. Condition 9

Performance Indicator	2.4.3 Bottom touching gear
Score	75
Justification	
Condition	By the fourth annual surveillance audit sufficient data must continue to be collected to detect any increase in risk to habitat types affected by this fishery
Milestones	At the first annual surveillance, provide a plan to assure that sufficient data continue to be collected to detect any increase in risk to habitat. At the second and third annual surveillance, provide an update on the progress against the plan. At the fourth annual surveillance, provide evidence that sufficient data exist to detect any increase in risk to habitat. At this point the performance indicator will re-score at least to SG80.
Client Action Plan	Year 1 and onwards The clients will provide VMS overlays on habitat maps as evidence of continued monitoring of the impact of the fishery on habitat types. If increased risk is detected through increases or changes to the VMS tracks year over year, habitat impact assessments will be required. In addition, the Codes of Conduct require vessels to register all catches of benthic organisms that could indicate sensitive habitats (such as sponges, sea pens etc.). Records of interaction will be collated and reported at each audit. If increased risk is detected through examination of these registrations, habitat impact assessments will be required. These two measures are considered to comprise the “plan” mentioned in the first milestone, above. Year 4: Ongoing monitoring of VMS and vessel registrations of benthic organism interactions will comprise evidence that sufficient data exist to detect any increase in risk to habitat.
Progress on Condition (Year 2)	Making proper VMS tracks is currently not possible due to limited access to VMS data. It is expected that full access will be restored before next audit, where maps on VMS tracks, including clear designation of sensitive areas, will be provided. ETP logbook data show no negative development in bycatch of protected species. The provided numbers are for the entire fleet, which makes it hard to see how many fishers report zero bycatches (which might not be credible). It is expected that a detailed breakdown of the ETP bycatch data will show this by next audit. There are no reports of ETP bycatch of benthic organisms. Next audit will specifically address this issue.
Status	This condition is open and on target, despite a temporary unavailability of VMS data.
Additional information	

Table 17. Condition 10

Performance Indicator	2.5.2, SId (sprat)
Score	75
Justification	M2s are continuously calculated (on a tri-annual basis) and used in single species management, incl. F_{msy} calculations (ICES 2014). For the sandeel and Norway pout fisheries, this constitutes evidence that the measures are being implemented, since TACs have been set following scientific advice. For sprat, however, the situation is not as clear. Since the latest sprat benchmark held in February 2013, the advice year has been changed such that it now runs from 1. July to 31. June the following year. The calendar for the advice-to-TAC cycle has however not been changed. This has meant that the advice comes out the day before the advice year (30. June), but the TAC year has remained the calendar year. For two of the years, this has led to in-season revisions of the TAC (as new advice came out with very different results). This meant an increase in the TAC in 2015 and a decrease in 2016. This makes it somewhat difficult to compare advice and TACs directly to see if advice has indeed been heeded, and also difficult to ensure that the TACs are in line with advice for the entire year. In some years since 2013 TAC has ultimately been set above ICES advice because of this mismatch (ICES 2016). Therefore, SG80 is not reached for sprat because the M2 strategy for protecting dependant predators relies on adherence to scientific advice for TAC setting (for sandeel and Norway pout TACs are set at or below ICES advice). Therefore, for sprat, it is not possible to say that measures are being implemented successfully. However, it is worth noting that from now on, this calendar mismatch issue has been resolved because ICES advice will come out in April from now on, allowing the TAC to be adjusted before the season starts. However, it remains to be seen if this alone will resolve the issue.
Condition	By the fourth annual audit, there must be some evidence that measures comprising the partial strategy to ensure the sprat fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function, are being implemented successfully.
Milestones	At the first annual surveillance, provide a plan to provide evidence of successful implementation of a partial strategy as described in the condition, within the timeframe of the current certification. At the second annual surveillance, provide an update on progress against the plan and present any modifications if needed. At the third annual surveillance, provide another progress update. At the fourth annual surveillance, provide some evidence that measures comprising the partial strategy to ensure the sprat fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function, are being implemented successfully. Note, although the action plan results in a full LTMP, this is not required to fulfill this condition, so concomitant with the action plan laid out above, the adherence to scientific advice in TAC setting for sprat, and adherence to the agreed TAC by the fleet, will be monitored in light of the advice calendar year shift. If there is evidence that TACs are consistently being set in line with advice going forward, this condition may be closed before the LTMP is implemented.
Client Action Plan	The fishery will work towards formulating and implementing Management plans wherein HCR's are formulated for all relevant industrial stocks, there among sprat. Such plans can either be developed species by species, for the entire industrial fishery complex or as part of the multi-species management plans for the North Sea, like the plan developed and implemented in the Baltic. <u>Year 1.</u> The industry will decide on whether the management plan can be formulated and implemented, species by species, for the entire industrial fishery complex, or if the needed management rules can be embedded in a multispecies management plan covering industrial and pelagic species in the North Sea. <u>Year 2.</u>

	The plan will be developed and relevant management rules and HCR will be formulated. <u>Year 3</u> The plan will be implemented. <u>Year 4</u> The plan will be evaluated, and evidence will be provided that the explicit harvest control rules are consistent with the harvest strategy, which will also provide some evidence that measures comprising the partial strategy to ensure the sprat fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function, are being implemented successfully. As noted by the CAB under 'milestones,' a full LTMP is not required to fulfill this condition, so concomitant with the action plan laid out above, the adherence to scientific advice in TAC setting for sprat, and adherence to the agreed TAC by the fleet, will be monitored in light of the advice calendar year shift. If there is evidence that TACs are consistently being set in line with advice going forward, this condition may be closed before the LTMP is implemented.
Progress on Condition (Year 2)	As described under P1, the sprat management is currently undergoing changes in the areas of management. There is progress in finalizing the procedure, but it currently difficult to evaluate the compliance between advice and TAC.
Status	This condition is open and on target.
Additional information	Note, although the action plan results in a full LTMP, this is not required to fulfill this condition, so concomitant with the action plan laid out above, the adherence to scientific advice in TAC setting for sprat, and adherence to the agreed TAC by the fleet, will be monitored in light of the advice calendar year shift. If there is evidence that TACs are consistently being set in line with advice going forward, this condition may be closed before the LTMP is implemented.

Table 18. Condition 11

Performance Indicator	3.2.1
Score	70
Justification	The EU Common Fishery Policy has general objectives related to maintaining stocks at or above B_{msy} and not exploiting stocks at levels above F_{msy}. However, these general objectives have not been translated into adopting any specific reference points for this stock, nor formal harvest control rules to keep harvests within the general bounds set by the CFP. At an operational level, short-term objectives are represented by annual TACs. Achievement against these annual targets is monitored at national level by Denmark for all three target species. The ICES ACFM presents advice on stock management based on its current understanding of the state of stocks. It also advises on what TACs should be set for the coming year for those stocks that it has been requested to advise on – taking into consideration its knowledge of the stocks and any decision-control rules that have been adopted for these stocks. Regarding impact on ecosystem (Principle 2), the management system takes into account ecosystem effects. TAC setting is based on recommendations from stock assessments that already account for predation pressure on key prey species such as these by using Multi-Species Virtual Population Analysis (MSVPA) estimates of natural mortality (ICES 2015f). In addition, the CFP has also environmental objectives with specific such as the reduction of unwanted catches with the Landings Obligation (in place since 2015 for pelagic fisheries), the protection of species and habitats through different Directives, but also through the EU Marine Strategy Directive (Directive 2008/56/EC) that commits Members States to further

	foster the integration of environmental concerns into other relevant policies, such as the CFP, in order to achieve 'good environmental status' in the marine environment. The short- and long-term management objectives are therefore consistent with achieving the outcomes expressed by MSC's Principle 1 and 2 but due to an absence of explicit long-term management plans for any of the three target species under assessment, the long-term objectives are not entirely explicit in the fisheries management system, and therefore SG80 is only partially met.
Condition	By the fourth annual audit, short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, must be explicit within the fishery-specific management systems for sandeel, sprat, and Norway pout.
Milestones	At the first annual surveillance, provide a plan to ensure short- and long-term objectives are made explicit within the fishery-specific management systems within the timeframe of the current certification. At the second annual surveillance, provide an update on progress against the plan and present any modifications if needed. At the third annual surveillance, provide another progress update. At the fourth annual surveillance, provide evidence that short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, must be explicit within the fishery-specific management systems for sandeel, sprat, and Norway pout.
Client Action Plan	See conditions 3-5.
Progress on Condition (Year 2)	See conditions 3-5.
Status	This condition is open and on target.
Additional information	

4.3 Client Action Plan

See client action plans as reported in the results tables, above.

4.4 Re-scoring Performance Indicators

No rescoring happened as part of this surveillance audit.

5 Appendices

5.1 Evaluation processes and techniques

5.1.1 Site visits

The surveillance audit process as defined in the MSC Fishery Certification Requirements version 2.1 was followed in this audit.

Information supplied by the clients and management agencies was reviewed by the assessment team ahead of the onsite meeting, and discussions with the clients and management agencies centred on the content within the provided documentation. In cases where relevant documentation was not provided in advance of the meeting, it was requested by the assessment team and subsequently supplied during, or shortly after the meeting.

The audit visit was held at the offices of DFPO and DPPO in Copenhagen, Denmark on April 16th, 2019, with two team members participating via video conference.

The following participants were in attendance:

Name	Affiliation
Amanda Stern-Pirlot	MRAG Americas, Assessment team leader (video conference)
Ken Haste Andersen	Assessment team
Jake Rice	Assessment team (video conference)
Sofie S. Mathiesen	DFPO (client)
Henrik S. Lund	DFPO
Lise Laustsen	DPPO (client)
Claus R. Sparrevohn	DPPO (client)

The table below summarizes the agenda for the meeting, held on April 16th, 2019 in Copenhagen.

Time (CET)	Item	Lead	Supporting documents
13:00	Opening meeting with clients to discuss surveillance process.	ASP	Agenda
13.10	General overview and updates regarding the fisheries from the clients since previous audit assessment (fleet activity, catches, notable events)	SMM, LL	N/A
13.30	Principle 1-stock status and conditions	JR	2019 stock assessments for the three species, additional advice from ICES and updates from DFPO and DPPO
14.00	Principle 2 sandeel/sprat/pout open conditions and progress against action plan.	KHA	P2 sandeel/sprat/pout update from DFPO and DPPO, links to research updates, VMS data, logbooks
14.45	Principle 3-management and enforcement update.	ASP	Updates from DFPO and DPPO
15.15	Closing meeting including likely views of the team regarding status of conditions and next steps	ASP	N/A
15:30	End of site visit		

5.1.2 Stakeholder participation

Thirty days prior to the audit site visit, all stakeholders from the full assessment were informed of the visit and the opportunity to provide information to the auditors in advance of, or during, the site visit. We received no requests from outside stakeholders to take part in meetings, nor did we receive any written submissions.

5.2 Stakeholder input

No stakeholder input was received.

5.3 Revised surveillance program

Not applicable.