

**Marine Stewardship Council (MSC) 2nd Annual
Surveillance Report**

SFSAG North Sea haddock

On behalf of

SFSAG

Prepared by

ME Certification Ltd

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Glossary

Acronym	Definition
CFP	Common Fisheries Policy
CR 1.3	Certification Requirements v1.3 (MSC Scheme Document)
CRP	Cod Recovery Plan
CV	Coefficient of Variation
DCF	Data Collection Framework
DEFRA	Department for Environment, Food & Rural Affairs
DFPO	Danish Fisheries Producer Organisation
EC	European Council
EMFF	European Maritime and Fisheries Fund
EP	European Parliament
ETP	Endangered, Threatened and Protected (species)
EU	European Union
F	Fishing mortality
FAM	Fishery Assessment Methodology
FCR	Fishery Certification Requirements (MSC Scheme Document)
FIS	Fisheries Innovation Scotland
FISA	Fishing Industry Science Alliance
FMAC	Fisheries Management and Conservation Group
FU	Functional Unit (Nephrops)
GITAG	Gear Innovation and Technology Advisory Group
HCR	Harvest Control Rule(s)
IBTS	International Beam Trawl Survey
ICES	The International Council for the Exploration of the Sea
LO	Landings Obligation
LTMP	Long-Term Management Plan
MAP	Multi-Annual Plan
MCRS	Minimum Conservation Reference Sizes
MCS	Monitoring Control and Surveillance
MCZ	Marine Conservation Zones
MEC	ME Certification Ltd
MLS	Minimum Landing Size
MS	Member State(s) (EU)
MSE	Management Strategy Evaluation
MSFD	Marine Strategy Framework Directive
MSS	Marine Scotland Science

Acronym	Definition
MSY	Maximum Sustainable Yield
NCMPAs	Nature Conservation Marine Protected Areas
NSAC	North Sea Advisory Council
NWWAC	North Western Waters Advisory Council
OSPAR	Oslo-Paris Convention
PA	Precautionary approach
PCDR	Public Comment Draft Report
PCR	Public Certification Report
PETS	Protected, Endangered and Threatened (species)
PI	Performance Indicator
PO	Producer Organisation
RBF	Risk Based Framework
RP	Reference Point
SAC	Special Area of Conservation
SAM	Space Assessment Model
SCCS	Scottish Conservation Credits Scheme
SFF	Scottish Fishermen's Federation
SFPA	Scottish Fisheries Protection Agency
SFSAG	Scottish Fisheries Sustainable Accreditation Group
SI	Scoring Issue
SIDI	Scottish Industry Discard Initiative
SPA	Special Protected Area
SSB	Spawning Stock Biomass
SSIs	Scottish Statutory Instruments
STEFC	Scientific, Technical and Economic Committee for Fisheries
TAC	Total Allowable Catch
TSA	Time Series Analysis
UNCLOS	UN Convention on the Law of the Sea
UNFSA	UN Fish Stock Agreement
UoA	Unit of Assessment
VMS	Vessel Monitoring System
WGSSK	ICES Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
XSA	eXtended Survivor Analysis

1 General summary

Fishery name	Scottish Fisheries Sustainable Accreditation Group (SFSAG) North Sea haddock		
Unit(s) of assessment	<p>The fishery for haddock (<i>Melanogrammus aeglefinus</i>) in North Sea (ICES Divisions IVa & IVb) by single-rig trawl (TR1 and TR2), pair trawl (TR1), twin-rig trawl (TR1 and TR2) and Danish seine vessels covered by membership of the Scottish Fisheries Sustainable Accreditation Group (SFSAG) following organisations:</p> <ul style="list-style-type: none"> • Aberdeen Fish Producers Organisation • Anglo-Scottish Fish Producers Organisation • Fife Fish Producers Organisation • Fishermen's Mutual Association (Pittenweem) • North East of Scotland Fishermen's Organisation • Northern Producers Organisation • Orkney Fish Producers Organisation • Scottish Fishermen's Organisation • Shetland Fish Producers Organisation • East of England Fish Producers Organisation • Scottish White Fish Producers Association (SWFPA) 		
Date certified	22 nd Oct 2010	Date of expiry	12 th May 2021
Surveillance level and type	Surveillance level 6, on-site surveillance audit. The re-certification date for this fishery was the 17 th May 2016 and therefore the Year 2 surveillance site visit would normally have taken place in May 2018. However, due to assessment team availability and the need for harmonisation this audit took place in April 2018. It was combined with the SFSAG North Sea Cod and North Sea Saithe surveillances to allow for harmonisation, and client cost saving.		
Date of surveillance audit	12 th -13 th April 2018		
Surveillance stage	2nd Surveillance	X	
Surveillance team	Lead assessor: Dr Hugh Jones Assessor(s): Dr Geir Honneland		
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2 Background

This report outlines the process and outcome of the second annual surveillance audit for the MSC certified SFSAG North Sea haddock fishery. The fishery is conducted by vessels affiliated to the ten producer organisations (PO) and one trade association (SWFPA) making up the SFSAG (see UoA in General summary).

The UoA includes all haddock caught in the North Sea and landed by SFSAG vessels (currently 232 vessels), whether haddock is targeted or, most commonly, is a retained bycatch species. The vessels use a variety of gears, including whitefish trawls (TR1 - single, twin-rig and pair – mainly single), *Nephrops* trawls (TR2 - single and twin rig – mainly twin) and Danish seines. An updated list of member vessels is available on the SFSAG website.

The most important fishing area for the fishery in terms of landings is the North Sea (ICES Division IVa detailed maps are given in the Public Certification Report (MEC 2016). ICES considers the Haddock stock found in the North Sea to be a single stock extending through subarea 4 (North Sea), to Division 6.a (West Scotland) in the West, and to Subdivision 3.a.20 in the East (Skagerrak) (ICES 2017b). For management purposes, Scottish landing quotas are set for the two areas separately. In addition to its share of the UK quota, the Scottish fleet secures landing quotas from swaps with other EU member states, and this has become increasingly relevant with the staged introduction of the landings obligation (LO) which includes haddock in the North Sea for 2017.

Table 1. TAC and Catch data in tonnes. UK share given as initial TAC at start of year and final after swaps. *estimate final figures not available at time of site visit.

TAC	2018	32,461
	2017	33,643
	2016	61,933
UK share of TAC	2018	Initial: 29,772
	2017	Initial: 26,671 Final: 27,899
	2016	Initial: 43,239 Final: 44,464
Total green weight catch by UK	2017	25,117
	2016	26,375

Table 2. Conditions

Condition number	Status	Status	PI revised score
1	PI 1.2.2: At or within 3 years of setting the condition (approximately October 2017), demonstrate that the fishery meets all the SG80 requirements of this PI. Specifically, this will be through meeting the requirements of PI 1.2.2, SG80, SIc, which requires that: "Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules."	Closed	80 at 1 st Surveillance
2	PI 2.3.1 The bycatch from the fishery should be restrained within a level which can be considered to be 'highly unlikely' to create unacceptable impacts on starry ray and common skate, and is not hindering the recovery of these stocks. This could be achieved with further analysis of the PET data, with actions targeted to reduce bycatch of these species to a minimum or by other appropriate methods.	Open	75
3	PI 2.3.2 There needs to be an objective basis for confidence that the strategy for reducing bycatch of starry ray and common skate from the fishery will work to reduce the bycatch to a level which can be considered to be 'highly unlikely' to create unacceptable impacts. This could be on the basis of an assessment of the stock trajectory (by ICES or other) or on the basis of an evaluation of trends in bycatch across the fleet, or by some other suitable method.	Open	75
4	PI 2.3.3 There needs to be sufficient information available such that the impact of this fishery on common skate can be quantitatively estimated, and hence it can be determined whether the fishery may be a threat to the recovery of the common skate complex. This requires, as a minimum, a fleet-wide estimate of bycatch of common skate, as well as some basis by which population-level trends can be evaluated (noting that ICES considers that existing data are insufficient for this purpose).	Open	75

2.1 General

2.1.1 Industry developments

The EU LO has focussed attention on the urgent need to develop effective strategies for reducing the catch of unwanted species or sizes of fish by the Scottish industry. There has been a number of gear technology increases in both TR1 and TR2 sectors in recent years by the UK sector to improve selectivity and reduce habitat impact. A useful summary of the Gear Innovation and Technology Advisory Group (GITAG) programme and its partners is available from Montgomerie (2016). In brief, the use of 'letterbox headlines' on TR2 nets, smaller opening heights of 1 ft – 3 ft compared to 6 ft - 8 ft previously, has shown a reduction in haddock and saithe bycatches, as these species tend to rise in the water column when disturbed. In one set of trials (zenith) there was a reduction in catches of haddock, whiting cod, hake and saithe ranging from 25 % to 85 % less, while *Nephrops* catches remained similar (Montgomerie 2016). For TR1 gear a large proportion of SFSAG vessels has moved to 130 mm net mesh size up from 100 mm – 120 mm and the majority have adopted 24' hoppers which allow fish such as juvenile cod to go under the net and avoid capture (Figure 1).



Figure 1. 24' hopper. Source Mike Park (SFSAG).

For TR2 gears square mesh panels of 300 mm x 300 mm are now mandated in the fishery; however, the industry report that selectivity continues to be a problem for some species in some areas. There are continued efforts and funding from the European Maritime and Fisheries Fund (EMFF) through the GITAG programme to address this. One notable project which is ongoing in this area is the Amity II project which is using a modified TR2 trawl net which is split into lower and upper panels (SFF 2016). The split separates *Nephrops* into the lower cod end, while the upper panel resembles a TR1 net with escape meshes. The trials report that the net is significantly improving selectivity with similar size retention of white fish in the upper net to that found in TR1 gears, while the condition of the *Nephrops* in the lower net portion is improved, and bycatch is reduced. A full report on this project is expected from the GITAG project in 2018. An observer program is also in operation within the GITAG group with the data feeding into the current observer programmes and reports to Marine Scotland Science.

Coupled to the development of gear is the movement by industry into spatial and temporal reporting of unwanted catches. A review in 2017 highlighted the advent of real-time reporting used for the analysis and dissemination of bycatch data so as to enable skippers to improve the match between catch composition and available quota (Marshall et al. 2017). The Scottish fishing industry were early adopters of spatial selectivity in the form of real-time closures as part of the Cod Conservation Credit Scheme and while collaboration at a national level like that scheme is not in place currently for discards, the report notes that individual POs are already using this to manage their activities. The study pilot showed how a Bayesian spatial model using observer data and catch data could be used to assist in the avoidance of immature cod areas, and explored the use of real-time closures in the US which have been effective in discard mitigation (Marshall et al. 2017). The authors note that the model only becomes useful when effective real-time reporting exists and that this is not presently the case in Scottish fisheries but could be with sufficient PO and skipper collaboration.

Finally, a report released by Fisheries Innovation Scotland (FIS) in 2017 using stereo cameras in nets to evaluate catch, and gates to release or retain fish has shown promise in reducing unwanted catch and further work is needed to compliment this work (C. T. Marshall et al. 2017).

SFSAG report that with the higher levels of available quota, better technology and communications the fleets are now managing their available quota by avoiding specific areas in space and time to avoid species with lower quotas. Evidence for this was argued at the site visit in terms of the reduction in real time closures (RTC) for juveniles by TR2 gears decreasing from >40 to <5 in 2017. SFSAG skippers have reported that all of the measures discussed above have reduced discards from TR1 gears and they are now much lower into single digit percentages.

The client notes that there are ongoing resourcing issues with Marine Scotland Science and that an industry led science group is being convened to address the deficiencies from this department, to provide more timely access to data. This is discussed further under Principle 2 in relation to this assessment.

2.1.2 Landing Obligation (LO)

The introduction of the Landing Obligation (EU 2015) is intended to eliminate discarding of fish at sea and requires all regulated fish species caught to be landed. This process has been phased in since 2015 and there has been a continued increase in LO species added to the list per annum since its introduction and prior to full implementation on 1st January 2019 (Table 3). The stepped introduction of the LO is regionalised by sea basin, on joint recommendations by fisheries directors of member states, thereby the species listed each year in the North Sea are shown in Table 3.

Table 3. Landing Obligation for North Sea between 2016 and 2018 relevant to the UoA. Source <http://www.gov.scot/Topics/marine/Sea-Fisheries/discards>.

Year	North Sea	
	Gear	Species
2016	Vessels using gear of 100 mm or more need to land haddock, plaice	<i>Nephrops</i> , sole and northern prawn.

Year	North Sea	
	and northern prawn, and vessels using gear of 80-99 mm	
2017	vessels using gear of 100 mm or more.	saithe (if caught by a saithe-targetting vessel), plaice, haddock, whiting, cod, northern prawn, sole and <i>Nephrops</i>
	80 - 99 mm	<i>Nephrops</i> , haddock, sole and northern prawn
2018	Bottom trawls and seines of mesh equal to or larger than 100 mm	Cod, haddock, <i>Nephrops</i> , plaice, saithe, sole, whiting and northern prawn
	Bottom trawls and seines of mesh equal to or larger than 70 mm and less than 100 mm	Cod, haddock, <i>Nephrops</i> , saithe, sole, whiting and northern prawns

The industry reports that in 2016 – 2017 the LO has not been much of an issue for TR1 vessels. This is due to increases in TACs (Table 5) as a result of improved stock status and TAC uplifts (from discards being added in key stocks), along with gear improvements and dynamic fishing practices. Also, species which are identified as potential choke species (e.g. hake in the North Sea) have not been introduced into the LO as yet.

The Scheveningen Group, which provides recommendations to the European Council for the North Sea, has developed a choke mitigation tool to identify which species will be problematic in 2018 and this was evaluated by the North Sea Advisory Council (NSAC) (NSAC 2017). They broke down regulated species in three categories:

- Category 1 - Sufficient quota at Member State (MS) level—choke is due to distribution within the MS such that a region or fleet segment does not have enough and this can be resolved by the MS itself.
- Category 2 - Sufficient quota at EU level, but insufficient quota at MS level—choke is due to distribution between MS and can be resolved between themselves in a regional context.
- Category 3 - Insufficient quota at EU level—choke is due to insufficient quota within the relevant sea basin to cover present catches or catch levels that can be realistically reduced, resulting in a total cease to fishing for a MS.

The NSAC considered a number of stocks which have come under the LO in 2018 against the following 'choke toolbox' for resolution of the choke scenario:

- Quota uplift
- The setting of TACs and quotas for these species
- Exemptions on the basis of high survivability
- *De minimis* exemptions
- Interspecies flexibility
- Selectivity measures
- Avoidance measures

- Quota swaps
- Internal Member States' quota allocation/management
- Inter-annual quota flexibilities – “banking and borrowing”

The Scottish industry has implemented a wide range of measures to improve selectivity across a range of species and the discard rate quoted within the reports are now outdated according to industry. The introduction of real time and spatial closures to protect spawning cod remains a major feature of the Scottish demersal fin-fish fishery and the purchase of additional quota from other MS (which SFSAG has been active in for 2017) all provide methods of meeting the LO. However, it seems quite difficult to improve the selectivity as regards to the mixed fisheries without losing valuable catches of other stocks in some areas. This puts an emphasis on spatial management and the sharing of information. Projects to further develop spatial awareness are currently underway in Scotland (as discussed under section 2.1.1).

Challenging species for 2018 will include North Sea whiting (category 3), where discard rates assumed by ICES are lower than those held by STECF. The NSAC concluded for North Sea whiting; *‘Other than improvements to selectivity and improvements to spatial and temporal awareness it is unclear how this choke situation can be averted within the current toolbox. There is not enough quota available within the EU to cover all catches and as many different fisheries have a quota shortage this could impact the majority of demersal fisheries in the North Sea.’*(NSAC 2017). In 2019 challenging species will include hake in the North Sea and cod and whiting in W. Scotland which are considered category 3 stocks.

Stakeholders have raised questions with regard to how the Scottish Government plans to do manage compliance and regulation in the advent of the LO in 2019 as no documented record is evident as yet. However, there are two key changes with large uncertainties taking place with the sector before 2019 which will have an impact on the LO. These are the introduction of the North Sea multiannual plan (MAP) (EU 2018) (see section 2.2.3) and the UK's withdrawal from the EU section 2.1.3.

2.1.3 Brexit

Britain is scheduled to leave the EU on 29th March 2019; however, there is ongoing debate about when the UK should / will leave the Common Fisheries Policy (CFP), and whether it should be included in a Brexit transition period. Recent reports suggest that the EU position is that it should be included, and that the UK would not be able to participate in an official capacity in any quota setting during that period. There are also a range of views on to what degree the current quota allocation and management approach should be changed, and this is under scrutiny at present. Any changes will have to take into account the UK commitments under the United Nations Convention on the Law of the Sea and how it applies to the sharing of fisheries resources. The UK Government has made clear that new legislation will be required to replace the CFP, setting out how the UK will manage its fisheries within its 200 mile Exclusive Economic Zone (EEZ). The Department for Environment, Food and Rural Affairs (DEFRA) is due to publish a white paper on sustainable fisheries for future generations in 2018, which should provide clarity on how the UK will operate from 2019 onwards, including its commitment to the LO.

2.2 Principle 1

2.2.1 Stock update

Current ICES assessments show stock trends from 1972 onwards although data from the 1960s are available and show very large year classes in 1962 and 1967, a period often referred to as the “gadoid outburst” (Hislop 1996). The consequences of these large year classes can be seen in the large catches in the early 1970s (Figure 2). Discards have been a significant fraction of the total catch especially when a large year class enters the fishery. For many years fishing mortality was very high but reduced substantially from about 2001 onwards and is now close to F_{MSY} . Spawning stock biomass shows no long-term trend and has tended to fluctuate above B_{pa} . Recruitment shows very large variability though there has not been a very large year class since 1999.

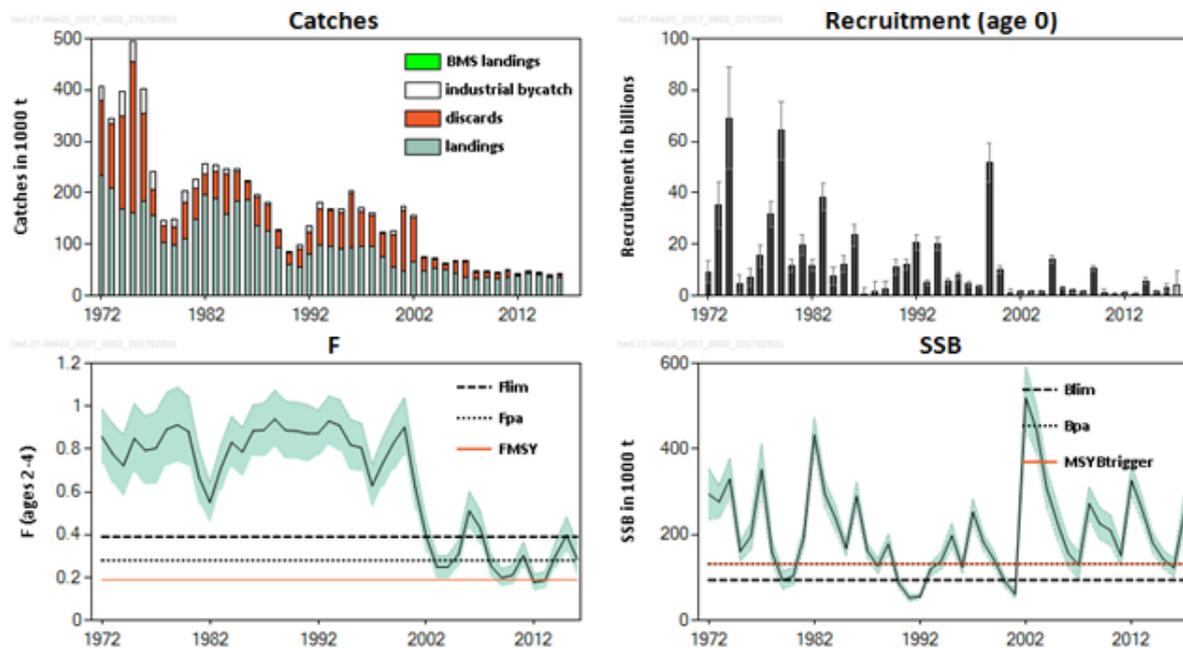


Figure 2. Northern shelf haddock, Stock summary from ICES (2017b)

2.2.1.1 Reference points

ICES re-evaluated reference points for this stock in 2016 (ICES 2016f) in

Table 4:

Table 4. ICES reference points for Northern shelf haddock (ICES 2016f).

Framework	Reference point	Value	Technical basis
MSY approach	MSY $B_{trigger}$	132000 t	B_{pa}
	F_{MSY}	0.194	EQsim analysis based on the recruitment period 2000–2015.
Precautionary approach	B_{lim}	94000 t	Lowest estimated SSB that resulted in high recruitment (1979).
	B_{pa}	132000 t	$B_{lim} \times \exp(1.645 \times 0.2) \approx 1.4 \times B_{lim}$
	F_{lim}	0.384	EQsim analysis based on recruitment period 2000–2015
	F_{pa}	0.274	$F_{lim} \times \exp(-1.645 \times 0.2) \approx F_{lim} / 1.4$
Management plan	SSB_{mgt}	100000 t, 140000 t	Former $B_{trigger}$ values B_{lim} and B_{pa} .
	F_{mgt}	0.3	Management strategy evaluation.

The procedure for the estimation of F_{MSY} imposes a constraint that the probability of SSB falling below B_{pa} less than 5 %. In the case of this stock the constraint effectively selects values of F in the lower tail of the F_{MSY} distribution and hence is more conservative than a pure MSY strategy and is less likely to maximise yield.

2.2.2 Management

Prior to 1983 and the establishment of the conservation pillar of the CFP, Northern shelf haddock were managed partly by coastal states and by North East Atlantic Fisheries Commission (NEAFC) in international waters. Thereafter management has been undertaken jointly by the EU and Norway. Annual management of the fishery operates through TACs for three discrete areas. The first is Subarea 4 (and EU Waters of 2a). The second is Division 3a (EU waters) and the third is Division 6a.

As well as catch limits there are a number of other technical measures used. Minimum mesh sizes have increased over many years and the current size for the principal demersal fleet is 120 mm. Some haddock are caught in *Nephrops* trawls with a minimum mesh size of 80 mm. Major decommissioning schemes took place in 2002 and 2004 that reduced fleet size and capacity and are believed to have been responsible for the large reduction in fishing mortality at around this time (Fernandes & Cook 2013).

Until recently North Sea haddock (ICES subarea 4) were managed by and EU-Norway management plan. However, the combined stock area has made this plan obsolete. However, TACs are based on the Agreed record of 1 December 2017 for 2018. According to this agreement the ICES MSY HCR has been adopted and the distribution of catches between 6a and subarea 4 is defined in the agreed record

2.2.3 North Sea Multiannual plan (MAP)

In 2016, following the 2013 revision of the CFP, the European Council (EC) proposed a new multiannual management plan (MAP) for the North Sea basin for several commercial target species (EU 2016). The proposal includes HCRs when the stocks are below and above reference points, somewhat following ICES' MSY advisory rule (ICES 2017d), although its specificity is not clear. The proposal considers species: a) that should be managed according to MSY (F_{MSY} by 2020), b) species that may be managed according to the precautionary

approach if MSY scientific advice is not available, and c) other species not subject to catch limits to be managed based on the precautionary approach. If stock biomass for a species is below reference points “*appropriate remedial measures shall be adopted to ensure rapid return of the stock or functional unit concerned to levels above those capable of producing maximum sustainable yield.*” Remedial measures include fishing opportunities set at levels consistent with a fishing mortality taking into account the decrease in biomass or abundance, or adequate reduction of fishing opportunities and suspending the targeted fishery.

The EC proposal has been amended and agreed internally by the Council of the EU and the European Parliament (EP) separately, before entering a negotiation process (trialogue) between the two institutions (EU 2016). Trilogue concluded on the 7th December 2017 but the text agreed was only publicly released on the 7th March 2018 (EU 2018). The North Sea MAP includes several new provisions: applicable to two groups of species, target and bycatch, to be managed in accordance to MSY and precautionary approach, respectively; F_{MSY} ranges to deal with mixed-fisheries issues; inclusion of recreational catches in some fishing opportunities, amongst other provisions (CEU 2017; EU 2018). The plan for the target and bycatch species is to manage in accordance with the MSY and precautionary approach, respectively;

- F_{MSY} ranges to deal with mixed-fisheries issues;
- Inclusion of recreational catches in some fishing opportunities.
- Implement ecosystem-based approaches to fisheries management

How the MAP will deliver a TAC for haddock (and all other mixed species) within the context of ICES advice continues to be unclear. Although Art. 7 of the MAP still refers to appropriate remedial measures and taking into account the decrease in biomass for setting fishing opportunities when stocks are below MSY $B_{trigger}$, it now includes clearer specifications on what those remedial measures could be (EU 2018). There is some hope within industry that the standardised approach of the MAP will deliver some flexibility in TACs around mixed fisheries. Evidence of this is found in the 2017 ICES advice where annual catch options for management are given under a number of scenarios (see table 3 - ICES (2017k)). Outputs from the MAP will only become evident in late 2018, and therefore although ‘in-place’ the interaction between the MAP and the fishery will only be effective from 2019 onwards, where it may be used to assess this fishery against Principle 1.

Based on the information provided above the current scoring related to Principle 1 remains in line with the fishery and there is scoring change from this audit.

2.3 Principle 2

2.3.1 Retained and discarded species

Landings by gear métier and proportional catch estimates (landings plus discard estimates) are routinely provided by Marine Scotland Science for the SFSAG fisheries annually. At the time of the site visit in April 2018, the client has been unable to secure the data from Marine Scotland Science and notes the restructuring of this department and lack of staff at present as the root cause of this. In response SFSAG have convened an industry led science partnership to cover the deficiencies in Marine Scotland science staffing levels. The assessment team noted that Marine Scotland believe this to be a temporary issue and have

begun talks with the client group over data needs and a program of data analysis priorities for the remainder of 2018. As such evaluation of bycatch and discard species for 2017 cannot be assessed for the UoA at this audit and the assessment team have raised a recommendation that the data are made available for the next surveillance audit.

SFSAG were able to provide regulated landing data from the UK for 2016 - 2017 of which the SFSAG fleet comprise the majority share (Table 5). Using this data the assessment team evaluated the stock status of each species with >2 % in the landing record and using previous surveillances included witch flounder (*Glyptocephalus cynoglossus*) and megrim (*Lepidorhombus whiffiagonis*) on a precautionary basis (Table 6).

Table 5. TACs and landing information for UK vessels of regulated species between 2016 and 2017 for North Sea. Note this data represents the UK fleet total of which the majority are SFSAG. Final allocations of quota include quota borrowing / purchase etc. Grey colouration is species considered main in this audit. Source: SFSAG.

North Sea Species	2016						2017					
	Initial TAC	Landings	% landings	+ or - initial quota allocation	Final allocation of quota	+ or - final quota allocation	TAC	Landings	% landings	+ or - initial quota allocation	Final allocation of quota	+ or - final quota allocation
Cod	14,123	16,445	14.5	2,322	16,797	352	15,430	18,081	15.9	2,651	18,730	649
Haddock	43,239	26,375	23.2	-16,864	44,464	18,089	26,671	25,117	22.1	-1,554	27,899	2,782
Whiting	8,438	9,390	8.3	952	9,496	106	9,894	9,064	8.0	-830	10,598	1,534
Saithe	5,284	8,488	7.5	3,204	8,720	232	8,146	8,516	7.5	370	11,005	2,489
Plaice	37,458	18,717	16.4	-18,741	28,939	10,222	37,133	14,680	12.9	-22,453	32,281	17,601
Sole	649	704	0.6	55	848	144	759	495	0.4	-264	926	431
Hake	778	5,041	4.4	4,263	5,133	92	972	6,002	5.3	5,030	6,099	97
<i>Nephrops</i>	12,952	9,376	8.2	-3,576	10,851	1,475	18,433	11,803	10.4	-6,630	16,233	4,430
Monkfish	9,387	9,679	8.5	292	9,640	-39	11,040	10,450	9.2	-590	11,173	723
Megrim	2,760	1,274	1.1	-1,486	2,730	1,456	2,813	1,185	1.0	-1,628	2,744	1,559
Lem Sole & Witches	3,904	1,762	1.5	-2,142	3,589	1,827	3,904	1,843	1.6	-2,061	3,780	1,937
Skates & Rays	849	660	0.6	-189	721	61	892	697	0.6	-195	796	99
Dabs & Flounders	1,588	385	0.3	-1,203	1,558	1,173	Dab was de-regulated in 2017					
Turbot & Brill	693	543	0.5	-150	522	-21	739	478	0.4	-261	604	126
Spurdog (zero TAC)	0	18	0.0	18	0	-18	0	1	0.0	1	0	-1

North Sea Species	2016						2017					
	Initial TAC	Landings	% landings	+ or - initial quota allocation	Final allocation of quota	+ or - final quota allocation	TAC	Landings	% landings	+ or - initial quota allocation	Final allocation of quota	+ or - final quota allocation
Northern prawn	595	0	0.0	-595	565	565	595	7	0.0	-588	514	507
Ling	2,352	2,423	2.1	71	2,542	119	2,778	2,719	2.4	-59	2,823	104
Tusk	283	51	0.0	-232	265	214	107	39	0.0	-68	107	68
Total	148,520	113,797	100	-34,723	150,314	36,517	143,869	113,760	100	-30,109	149,413	35,653

Table 6. Stocks, status and management for all species with greater than 2 % landings from data in Table 5 separated by stock or functional unit (*Nephrops*).

Stock	Status	Management	Ref.
Cod 3a20, 4, 7d	$B < MSYB_{trigger}$; $F > F_{MSY}$	EU Norway long-term management plan	ICES (2017a)
Saithe 4, 6a, 3a20	$F < F_{MSY}$ $B > B_{MSYtrigger}$	EU-Norway joint management strategy	ICES (2017k)
Whiting 4, 7.d	$B > B_{MSYtrigger}$, $F > F_{MSY}$, $< F_{pa}$	EU-Norway management strategy (fixed F without $B_{trigger}$ and with TAC constraints)	ICES (2017l)
Plaice 4 , 3a20	$B > B_{MSYtrigger}$, $F \sim F_{MSY}$, $< F_{pa}$	A multiannual plan for plaice and sole in the North Sea	ICES (2017j)
Anglerfish 3a, 4, 6	Biomass index increasing since 2011	Precautionary framework for category 3 data limited stocks; change in biomass index over time used to determine change in precautionary TAC	(ICES 2016a)
Megrim 4a, 6a	$B >> MSYB_{trigger}$, $F << F_{MSY}$	MSY approach (target is F_{MSY})	ICES (2017f)
Ling NE Atlantic and Arctic	Biomass index increasing since 2001	Precautionary framework for category 3 data limited stocks; change in biomass index over time used to determine change in precautionary TAC	ICES (2017e)
Hake	$B > MSYB_{trigger}$; $F < F_{MSY}$	At present management advice is based on the MSY approach	ICES (2017c)
Witch 3a, 4, 7d	B estimated at $\sim B_{MSY}$; $> MSYB_{trigger}$	Precautionary TAC for 3a and 4 combined with lemon sole; no TAC in 6a; not part of LO as yet	ICES (2017m)
<i>Nephrops Functional Units</i>			
FU7 – Fladen Ground	$B > MSYB_{trigger}$, $F << F_{MSY proxy}$	MSY approach: Proxy F_{MSY} estimated at harvest rate (including discards) of 7.5 %, estimated from UWTV surveys	ICES (2017g)
FU8 – Firth of Forth	$B >> MSYB_{trigger}$, $F < F_{MSY proxy}$	MSY approach: Proxy F_{MSY} estimated at harvest rate of 16.3 %	ICES (2017h)
FU9 – Moray Firth	$B > MSYB_{trigger}$, $F \sim F_{MSY proxy}$	MSY approach: Proxy F_{MSY} estimated at harvest rate of 11.8 %	ICES (2017i)
FU11 – North Minch	$B > MSYB_{trigger}$, $F < F_{MSY proxy}$	MSY approach: Proxy F_{MSY} estimated at harvest rate of 10.8 %	(ICES 2016b)
FU12 – South Minch	$B > MSYB_{trigger}$, $F < F_{MSY proxy}$	MSY approach: Proxy F_{MSY} estimated at harvest rate of 11.7 %	(ICES 2016c)
FU13 – Firth of Clyde / Sound of Jura	$B >> MSYB_{trigger}$, F variable, fluctuating around $F_{MSY proxy}$	MSY approach: Proxy F_{MSY} estimated at harvest rate of 15.1 % (FoC) and 12.0 % (SoJ)	(ICES 2016d)
FU15 – Irish Sea West	$B > MSYB_{trigger}$, $F > F_{MSY proxy}$	MSY approach: Proxy F_{MSY} estimated at harvest rate of 18.2 %	(ICES 2016e)

The lack of discard assessment from MS Science available for 2016 2017 inhibit further analysis of this element at this audit. The assessment team have taken into account the *modus operandi* of MS and SFSAG throughout the durations of this and other SFSAG MSC certificates and acknowledge that this scenario is a culmination of events and not a systemic issue. However, the team feel the need to raise a recommendation against this issue and

advise that resolution will be required to be evidenced at the next surveillance audit, with analysis of the 2016 – 2018 landings and discard estimates made available to avoid further action.

For bycatch species, all species remain as per the current scoring.

2.3.2 ETP

SFSAG has produced an updated Skates and Ray handbook for 2017 to assist members with the requirements and identification of these species (SFSAG 2017). The handbook has been produced in association with the Shark Trust, Marine Scotland and Seafish and includes concise information on legal obligations, recording methods, codes of practice for handling these species and detailed images and photos of the key species (Figure 3). This document forms the initial phase of the SFSAG management strategy for these species. The handbook also makes it clear that all catches over all catches over 50 kg should be recorded. The data from logbooks are counted against quota (where there is such) and shared with the appropriate authorities (UK and EC).



SHARK TRUST Fisheries Advisory **Common Skate** *Dipturus batis* complex¹ **RJB**
 Provisionally known as the Flapper Skate *Dipturus intermedia* and Blue Skate *Dipturus batis*.

Designated PROHIBITED SPECIES for all EU and third country vessels in EU waters of ICES areas IIa, III, IV, VI, VII, VIII, IX and X².

It is PROHIBITED to:

- ▶ Target
- ▶ Retain
- ▶ Tranship
- ▶ Land

FLAPPER SKATE
 (max length: 285cm)

BLUE SKATE
 (max length: 150cm)

If accidentally caught, these species shall not be harmed. Specimens shall be promptly released, with details recorded in vessel logbook

www.sharktrust.org/advisories
 enquiries@sharktrust.org
 01752 672020

¹ Research shows Common Skate to be two genetically distinct species: Flapper Skate, *D. cf. intermedia* and Blue Skate, *D. cf. batis*. Official recognition of new nomenclature is imminent.
² Council Regulation (EU) No. 2017/127.
³ All discards >50kg must be logged.

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 Department for Environment Food & Rural Affairs

(illustrations © Marc Dando)

Figure 3. Example of species pages for common skate complex (*Dipturus batis*) from the SFSAG skate and ray handbook (SFSAG 2017).

ETP information continues to be collected from the PET observer scheme and Marine Scotland observer programme, with all data sent to Marine Scotland. The assessment team were presented with a SFSAG Skates and Rays Mitigation Strategy as part of the surveillance audit (SFSAG 2018). This preliminary report includes data analysis of skate and ray data across four years and by area and gear. Catches by number remain low ranging downwards from 1.31 %, but the percentage of hauls these species occurred in peaked at 29 % for starry ray, while common skate complex species were much lower (10.4 % max) (Table 7). Analysis of the data suggests that TR2 gear had little interaction with either of starry ray or common skate complex. Further data has been requested from Marine Scotland Science by SFSAG to assist in on-going analysis. The data requested will give the location of each haul contacted in the PET data which has a starry ray or common skate included. This will then be plotted and will give a representation of whether there are any hot spots or seasonal trends. SFSAG have also initiated a voluntary programme to investigate incidental catches of starry ray and common skate for TR1 gears in Subarea 6a (see Appendices for example recording sheet). This programme has been designated through the POs with each PO nominating six vessels which routinely operate in the area with TR 1 gear.

The raising of observer data to fleet level has been raised as an issue in this fishery previously and to date this still has not been accomplished. Marine Scotland Science do not at present calculate estimates for common skate and starry ray, however, this is due to be the next step in their data collection process. ICES have convened a working group to look at the issue of skate bycatch and the lack of stock information for these species, and Marine Scotland data will feed into this process. SFSAG are investigating the possibility of a master project to support this work.

The draft management strategy laid out in the mitigation strategy document is currently based on filling knowledge gaps (see further data collection, further analysis by Marine Scotland and the ICES workshop) and employing best practice (SFSAG 2018). Options for best practice include:

- Survival - prompt release / handle with care / keep it wet
- Selectivity - deterrents (light/necro/magnets) / raised fishing line / escape panels / grids.
- Avoidance - Avoiding spawning areas/real time communication between vessel / move on rules.

An ICES working group is to review the stock assessments for a range of elasmobranch species in 2018 although details appear scarce. SFSAG will be following this work closely and will build the outputs from this into its strategy.

The process of SFSAG work is assessed against the milestones of the conditions in section 4.1.

Table 7. Starry Ray and Common skate complex analysis from observer data 2013-2016. Source: (SFSAG 2018).

year	species	Total trips	Total hauls	Total catch	Trips with ETP	Hauls with ETP	No. fish	% of species in catch	% of hauls with species present
2013	<i>Amblyraja radiata</i> Starry ray	86	806	154,511	27	179	1,441	0.93%	22.21%
2014		81	702	129,330	26	126	861	0.67%	17.95%
2015		79	726	131,241	19	156	1,230	0.94%	21.49%
2016		69	651	116,759	27	190	1,533	1.31%	29.19%
2013	<i>Dipturus batis</i> Common skate complex – common skate	86	806	154,511	16	98	361	0.23%	12.16%
2014		81	702	129,330	13	73	201	0.16%	10.40%
2015		79	726	131,241	9	42	93	0.07%	5.79%
2016		69	651	116,759	2	6	10	0.01%	0.92%
2013	<i>Dipturus flossada</i> Common skate complex – blue skate	86	806	154,511	1	3	7	0.00%	0.37%
2014		81	702	129,330	5	25	62	0.05%	3.56%
2015		79	726	131,241	7	10	13	0.01%	1.38%
2016		69	651	116,759	5	22	71	0.06%	3.38%
2013	<i>Dipturus intermedia</i> Common skate complex – flapper skate	86	806	154,511	4	12	35	0.02%	1.49%
2014		81	702	129,330	10	26	70	0.05%	3.70%
2015		79	726	131,241	13	24	104	0.08%	3.31%
2016		69	651	116,759	20	33	57	0.05%	5.07%

2.3.3 Habitats

2.3.3.1 Offshore protected areas

In Scottish waters the protection of threatened habitats under OSPAR are called Nature Conservation Marine Protected Areas (NCMPAs). The management measures for these are still being put in place. For the offshore sector of these NCMPAs (including the Southern Area of the Fladen Ground) Marine Scotland are preparing the submission to the European Commission's Scientific Technical and Economic Committee for Fisheries (STECF) for evaluation in October 2018. This follows meetings in June 2017 of the Scheveningen Group Article 11 experts in The Hague to discuss the proposal for the North Sea¹. The proposals to date include defined habitat types, co-ordinates of prohibited areas and gear codes to which the prohibition effects. Control and enforcement requirements and economic analysis for each of the proposed areas (Figure 4).

The submission process in the North Sea has received strong industry support, and the outcome of the submission's will be tracked and updated in the next surveillance audit, by which time implementation of the measures should have occurred through delegated acts.

¹ <http://www.gov.scot/Topics/marine/marine-environment/mpanetwork/SACmanagement/Offshore2017>

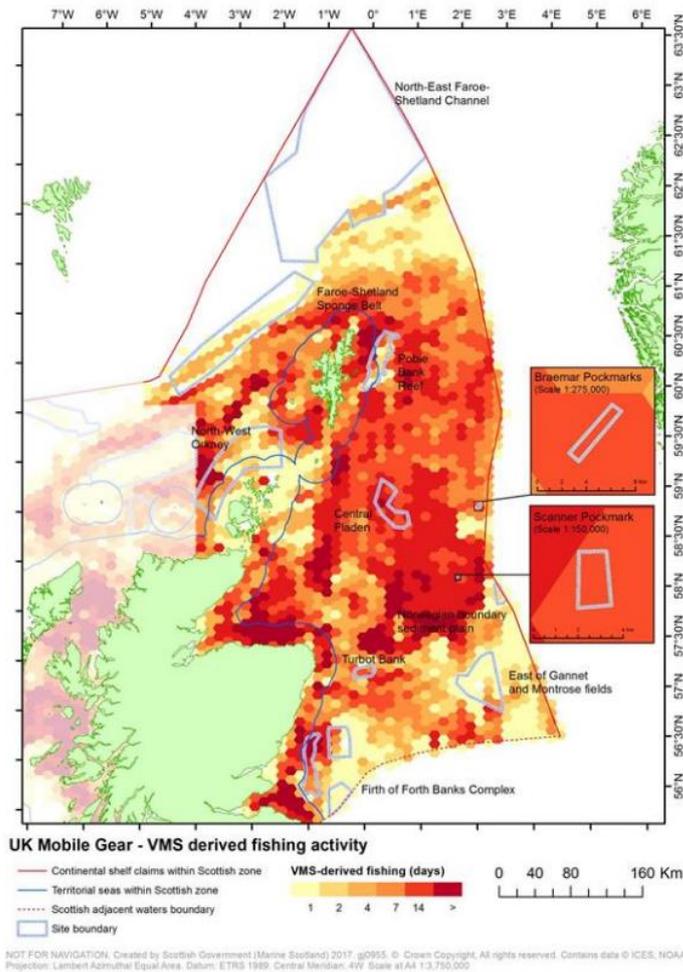


Figure 4. North Sea Offshore proposed Nature Conservation Marine Protected Areas (NCMPAs) with UK mobile gear vessel VMS tracks. NOTE: the VMS data here includes vessels outside of the UoA therefore is not representative of the SFSAG footprint. Source: (MS 2017).

The inshore NCMPAs were split between Priority 1 and priority 2 sites in 2014 (MS 2014), with the Priority 1 habitats in-place and described in previous reports. For the Priority 2 sites there are ongoing public consultations and sustainability appraisals for these areas which will take place in June 2018. The list of sites under discussion is provided in Table 8.

Table 8. Inshore Marine Protected Areas (MPA) sites (6 nautical miles) and type of MPA. Source: <http://www.gov.scot/Topics/marine/marine-environment/mpanetwork/inshorempas/Management>

Site Name	Type of MPA
Clyde Sea Sill	MPA
Dornoch Firth/Morrich More and Moray Firth	SACs
East Caithness Cliffs	MPA & SPA
Fetlar to Haroldswick	MPA
Firth of Tay and Eden Estuary	SAC

Site Name	Type of MPA
Isle of May	SAC
Loch Moidart (& Loch Sheil Woods)/Sound of Arisaig	SACs
Loch nam Madadh	SAC
Moine Mhor	SAC
Monach Isles	MPA & SAC
Mousa/Mousa to Boddam	MPA & SAC
North Rona	SAC
Papa Stour	SAC
Papa Westray	MPA
Small Isles	MPA
Solway Firth	SAC
Sound of Barra	SAC
Sullom Voe	SAC

2.3.3.2 SFSAG voluntary closure of the Fladen Ground

In 2017, SFSAG announced the voluntary closure of the Southern Area of the Fladen ground on the basis of the presence of tall sea pen community in this area as part of the SFSAG Cod Certification report (MEC 2017). At the site visit compliance with this closure was sought from Marine Scotland who agreed to monitor the avoidance of this ground. The principle agreement between Marine Scotland and SFSAG was reached in May 2017 to set up a VMS based vessel monitoring and alert system within the Fladen seapen ground. However, the alert system was not made operational initially, but this has now been addressed and the area is now fenced and alarmed with systems in place to immediately alert industry management of any incursion. During the period prior to the alert system coming on line MS records show that there were 379 recorded incursions by 63 individual vessels representing approximately 26 % of the vessels on the SFSAG list, for which SFSAG were not notified. This notification system has now been rectified and there is an objective basis for confidence that the strategy will work. It's important to note that the cod certificate is assessed under FCR 2.0 which has more stringent performance indicators for VME habitats and a condition is raised against the cod fishery as a result (Jones & Honneland 2018).

2.3.3.3 Priority Marine Features

The Priority Marine Features (PMF) review is ongoing with joint efforts between the Joint Nature Conservation Committee (JNCC) and Scottish Natural Heritage (SNH), it is understood that a stakeholder event and report is due towards the end of 2018. The principal aim is to identify the status of PMFs and which are at risk. It is anticipated that from the overall list two habitats and two species with the greatest risk will be taken forward for further action.

2.3.4 Ecosystem

There are no reported significant developments for these PIs in the past year.

2.4 Principle 3

As accounted for in section 2.1.2 above, the LO poses new challenges for the management of the fishery that will necessarily influence the assessment of Principle 3, especially PI 3.2.3 on enforcement and compliance. This will require full harmonization of all EU fisheries in the North Sea when it comes into full force in 2019. In anticipation of such a harmonization, the team has decided to reduce the score for SI 3.2.3a (see revised scoring table in Appendices 2) since it can no longer be concluded that the enforcement system is sufficiently comprehensive for the context of the fishery. A condition has so far not been introduced, however, since the requirement for an 80 score is that a monitoring, control and surveillance system is in place that has demonstrated an ability to enforce relevant management measures, strategies and/or rules, which is the case here. (The higher requirements for an 100 score is that the system is 'comprehensive' and has demonstrated a 'consistent' ability to enforce regulations). As regards SI 3.2.3c on compliance, there is not yet evidence that the LO is not being complied with, but a harmonized approach to the North Sea fisheries must also involve agreement on how the lack of data shall influence scoring. It must also be agreed whether non-compliance with the LO shall be addressed under SI 3.2.3c on the *certainty* the fishers comply, or under SI 3.2.3d on whether any non-compliance is *systematic*. A pass, even without condition, on SI 3.2.3c does not require that *all* rules are complied with; the requirement is that there is a *high degree of confidence* that fishers *in general* comply with regulations. (The required *level* of compliance is not defined in the MSC Standard.) SI 3.2.3d, for its part, is used to assess the extent to which any non-compliance is *systematic*, but since this SI starts at SG 80 a condition cannot be invoked based on the fact that any non-compliance is of a *systematic nature*.

Overall, with the exception of the reduction in scoring of SI 3.2.3a (noted above), principle 3 remains at present in conformity with the MSC Principles and Criteria.

3 Assessment Process

The fishery was certified as sustainable on the 22nd October 2010 and re-certified on 17th May 2016. The first Surveillance audit was conducted on 28th February to 2nd March 2017 and one condition was closed. This is the second annual surveillance audit, against V1.3 scoring and FCR 2.0 of the MSC standard. The on-site audit was carried out on the 12th and 13th April 2018 by Hugh Jones (Team Leader, Principle 2 assessor) and Geir Hønneland (Principle 3 assessor).

Stakeholders were informed of the scheduled site visit, its time and location and the proposed audit team on 8th March 2018. The site visit and announcement were conducted in parallel with the 1st annual surveillance of the SFSAG North Sea cod certificate (FCR 2.0) and the 4th annual SFSAG saithe certificate (FR 1.3 scoring, FCR 2.0 procedure). No formal stakeholder responses were directed to the haddock fishery, but a written stakeholder response and subsequent participation in the site visit was received from World Wildlife Fund (WWF) in relation to the SFSAG North Sea cod certificate. As the three SFSAG certificates are

harmonised across Principle 3 this submission has been applied across all the fisheries and included in this report. The site visit was held in Aberdeen at the Scottish Fishermen’s Federation (SFF) building. Persons present were Hugh Jones, Jennifer Mouat (SFSAG), Mike Park (SFSAG chair), Kenny Coull (SWFPA), Rhona Kent (WWF), Claire Pescod (MSC). Gordon Hart, Paul McCathy and Thomas Robertson of Marine Scotland Compliance were contacted by phone during the audit. Prior to the audit Marine Scotland Science were contacted in regard to fleet (landing and discard’s) data for 2016 – 2017.

The main purpose of the annual surveillance audit was to review progress in meeting the conditions as set out in the Client Action Plan in the [Public Certification Report](#). The audit team also reviewed the fishery management system and regulations and its scientific information base for any significant changes since the last surveillance.

The fishery remains in conformance with the Scope Criteria relating to unilateral exemption and destructive fishing practices ([Certification Requirements v2.0](#), Section 7.4.1).

4 Results

4.1 Progress against conditions

Table 9. Condition 2.

PI and scores	PI	Scoring guidepost	Score
	2.3.1.	Possible impacts on common skate and starry ray	65
Condition 7	<p>Although there are mitigation measures in place to minimise impacts on common skate and starry ray (in IV), observer data suggest that some impacts remain. MEP notes that the international management framework for this species is confused (cannot discard in Norwegian waters, must discard in EU waters). Because of the poor stock status of common skate and starry ray in IV, even small impacts may have population-level impacts.</p> <p>This condition relates to possible impacts on common skate in IV and VI and starry ray in IV and can be addressed jointly with Conditions 8 and 9. The fishery should work with Marine Scotland and other experts as appropriate to ensure that the bycatch of this species is not hindering the recovery of the stock.</p>		
Milestones	<p>(To be implemented alongside Conditions 8 and 9)</p> <p>Year 5 – fishery can demonstrate that its impact on common skate and starry ray (IV) is not hindering the recovery of the stock.</p>		
Action Plan	<p>Year 1 - Initiate discussion with other organisations e.g. Seafish, with a view to identifying the most appropriate project management method. Distribute identification cards and user manuals.</p> <p>Year 2 - Data collection.</p> <p>Year 3 – Data collection and provisional analysis of Year 2 data</p> <p>Year 4 – Data collection and provisional review of fishery impact</p> <p>Year 5 – Final review of impacts, identification and implementation of actions required.</p>		

Progress Year 1	<p>The skate and ray id cards are currently being revised, to make sure that are up-to-date in terms of species identification and names. Once this is finished, they will be available both in hard copy and online.</p> <p>Data is collected on discards of skates and rays both via the general discard sampling programme (which continues to expand to cover a wider range of species) and through the PET forms. The data on discards in this fishery continues to improve year on year.</p>
Progress Year 2	<p>As detailed in section 2.3.2 SFSAG have produced an updated skate and ray handbook and released a SFSAG mitigation strategy document in 2017- 2018. There is evidence of data analysis of skate and ray capture and response in the form of the instigation of a voluntary recording programme for TR 1 vessels in Subarea 6b. Requests to Marine Scotland for spatial and temporal analysis of interactions and the convening of a ICES working group to evaluate the stocks of key skate species will be important elements for the fishery to meet the milestone in year 5 of assessing the impact on stock.</p>
Status of condition	<p>There are no milestones on this condition until Year 5. The condition is therefore on target.</p>
References / evidence	<p>(SFSAG 2017; SFSAG 2018) and section 0</p>

Table 10. Condition 3.

	PI	Scoring guidepost	Score
PI and scores	2.3.2.	Management of impacts on common skate and starry ray	70
Condition 8	<p>Although there is a strategy in place to minimise impacts on common skate and starry ray in IV, it is not possible to have a 'reasonable basis for confidence' that it will work, due to lack of data on fleet-wide impacts.</p> <p>This condition also relates to common skate and starry ray and can be addressed jointly with Conditions 7 and 9. The fishery should put in place within three years a strategy for common skate and starry ray in IV, to ensure that bycatch is not hindering the recovery of the stock.</p>		
Milestones	<p>To be implemented alongside Conditions 7 and 9</p> <p>Year 2 - Data collection.</p> <p>Year 3 – Data collection and provisional analysis of Year 2 data</p> <p>Year 4 – Data collection and provisional review of fishery impact</p> <p>Year 5 – Final review of impacts, identification and implementation of actions required.</p>		

Progress Year 1	<p>See under Condition 2. The PET data is improved relative to previous years (208 trips in 2016), and provides useful information e.g. about the sex ratio and fate of discards (alive vs injured vs dead). The reporting of elasmobranchs in the standard discard data set, provides better data on elasmobranch discards and improves the representativeness of the elasmobranch catch in relation to target stocks.</p> <p>It is important to note that interactions with ETP species are by their nature rare events, and therefore problematic in terms of scaling up to fleet level, without very high (unrealistic) levels of sampling. Nevertheless, the data sets available are sufficient to give a qualitative idea of the level of interactions, which given that the stock assessments for both species are also qualitative, is probably sufficient. Furthermore, the data are sufficient for analyses such as the identification of hotspots in time and space or similar, such as suggested by ICES (ICES 2015a; ICES 2015d).</p>
Progress Year 2	<p>As detailed in section 2.3.2 SFSAG have produced an updated skate and ray handbook and released a SFSAG mitigation strategy document in 2017- 2018. There is evidence of data analysis of skate and ray capture and response in the form of the instigation of a voluntary recording programme for TR 1 vessels in Subarea 6b. Requests to Marine Scotland for spatial and temporal analysis of interactions and the convening of a ICES working group to evaluate the stocks of key skate species will be important elements for the fishery to meet the milestone in year 5 of assessing the impact on stock.</p>
Status of condition	The condition is on target .
References / evidence	(SFSAG 2017; SFSAG 2018) and section 0

Table 11. Condition 4.

PI and scores	PI	Scoring guidepost	Score
	2.3.3.	Information on impacts on common skate	70
Condition 9	<p>Although there is a strategy in place to minimise impacts on common skate, it is not possible to have a 'reasonable basis for confidence' that it will work, due to lack of data on fleet-wide impacts.</p> <p>This condition also relates to common skate and can be addressed jointly with Conditions 7 and 8. The fishery should within two years collect data on common skate bycatch such that the population-level impacts of the whole fishery on common skate can be assessed.</p>		
Milestones	<p>To be implemented alongside Conditions 7 and 8</p> <p>Year 1 – Assessment of data gaps, data collection strategy</p> <p>Year 2 – Start of data collection</p> <p>Years 3 and on – Ongoing data collection, data analysis</p>		
Action Plan	<p>Initiate discussion with other organisations e.g. Seafish, with a view to identifying the most appropriate project management method. Distribute identification cards and user manuals.</p>		
Progress Year 1	<p>The actions taken in relation to gathering data on bycatch of common skate are set out under the condition PI2.2.1 above.</p>		

Progress Year 2	As detailed in section 2.3.2 SFSAG have produced an updated skate and ray handbook and released a SFSAG mitigation strategy document in 2017- 2018. There is evidence of data analysis of skate and ray capture and response in the form of the instigation of a voluntary recording programme for TR 1 vessels in Subarea 6b. Requests to Marine Scotland for spatial and temporal analysis of interactions and the convening of a ICES working group to evaluate the stocks of key skate species will be important elements for the fishery to meet the milestone in year 5 of assessing the impact on stock.
Status of condition	The condition is on target .
References / evidence	(SFSAG 2017; SFSAG 2018) and section 0

4.2 Recommendation

Table 12. Recommendations

Number	Recommendation
1	Bycatch and discard data - The team raise a recommendation that by the next surveillance audit the assessment team shall be provided with Marine Scotland landing and discard data analysis of the 2016 – 2018 seasons.

5 Conclusion

There have been significant challenges to the fishery in relation to data acquisition from Marine Scotland and the assessment team raise a recommendation for resolution to this issue by the next year's audit, otherwise rescoring of Principle 2 for bycatch and discard species will be required. Changes to the landing obligation taking place in the North Sea in which retained species from this fishery are now subject could not be effectively analysed

In addition harmonisation with other MSC certificates has required additional rescoring. Conditions on PI 2.3.1 and 2.3.2 and 2.3.3 have been brought up to date and are now on target. The progression of the landing obligation towards full implantation in 2019, required the assessment team to consider the effectiveness of the compliance and surveillance system in place for this fishery and resulted in an updated scoring of PI .3.2.3 which reduced the overall score of this PI. In accordance with Certification Requirement, the final score has been updated to reflect the new PI scores and implies a normal surveillance level with annual on-site surveillance audit for year 3.

The final principle scores have been updated to reflect the new PI scores. This fishery's overall progress is therefore considered to be on target. On the basis of the above, the SFSAG North Sea haddock fishery remains in conformity with the MSC Principles and Criteria for sustainable fishing.

6 Evaluation Results

6.1 Principle Level Scores

The final principal scores are provided in Table 13.

Table 13. Final Principle Scores

Final Principle Scores	
Principle	Score
Principle 1 – Target Species	83.3
Principle 2 – Ecosystem	82.7
Principle 3 – Management System	92.6

6.2 Summary of PI Level Scores

Principle	Component	Wt	Performance Indicator (PI)		Wt	Score
One	Outcome	0.5	1.1.1	Stock status	0.5 / 0.33	70
			1.1.2	Reference points	0.5 / 0.33	80
			1.1.3	Stock rebuilding	0.33	80
	Management	0.5	1.2.1	Harvest strategy	0.25	95
			1.2.2	Harvest control rules & tools	0.25	80
			1.2.3	Information & monitoring	0.25	90
			1.2.4	Assessment of stock status	0.25	95
Two	Retained species	0.2	2.1.1	Outcome	0.33	85
			2.1.2	Management strategy	0.33	85
			2.1.3	Information/Monitoring	0.33	80
	Bycatch species	0.2	2.2.1	Outcome	0.33	80
			2.2.2	Management strategy	0.33	80
			2.2.3	Information/Monitoring	0.33	80
	ETP species	0.2	2.3.1	Outcome	0.33	75
			2.3.2	Management strategy	0.33	75
			2.3.3	Information strategy	0.33	75
	Habitats	0.2	2.4.1	Outcome	0.33	80
			2.4.2	Management strategy	0.33	85
			2.4.3	Information	0.33	80
	Eco-system	0.2	2.5.1	Outcome	0.33	90
			2.5.2	Management	0.33	90
			2.5.3	Information	0.33	100

Principle	Component	Wt	Performance Indicator (PI)		Wt	Score
Three	Governance and policy	0.5	3.1.1	Legal &/or customary framework	0.25	85
			3.1.2	Consultation, roles & responsibilities	0.25	100
			3.1.3	Long term objectives	0.25	100
			3.1.4	Incentives for sustainable fishing	0.25	100
	Fishery specific management system	0.5	3.2.1	Fishery specific objectives	0.20	90
			3.2.2	Decision making processes	0.20	100
			3.2.3	Compliance & enforcement	0.20	85
			3.2.4	Research plan	0.20	90
			3.2.5	Management performance evaluation	0.20	80

References

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Appendices

Appendix 2 Rescoring Tables

Evaluation Table for PI 3.2.3. Rescored at this audit new text in red.

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with		
Scoring Issue		SG 60	SG 80	SG 100
a	Guide post	Monitoring, control and surveillance mechanisms exist, are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.	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.	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.
	Met?	Y	Y	N
	Justification	Since 2008, the Scottish whitefish fishing fleet, including saithe, has been involved in a number of voluntary (Catch quota) or compulsory (real-time closures) schemes that have greatly increased MCS activities and notably extensive sampling of landings, inspections and sampling at sea, observer reports, CCTV cameras on board vessels and e-logbook real-time checks. SG 80 is met. However, with the introduction of the landing obligation new enforcement challenges have arisen that require significantly increased monitoring at sea, either in the form of higher observer coverage or a more comprehensive scheme of at-sea inspections. This has not taken place, so it cannot be concluded that a 'comprehensive' MCS system is in place. SG 100 is not met.		
b	Guide post	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.
	Met?	Y	Y	N
	Justification	By contrast with the previous Scottish Fisheries Protection Agency that published detailed annual reports, Marine Scotland Compliance does not publish data on surveillance and convictions. SG100 is not met		

c	Guide post	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.	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.	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.
	Met?	Y	Y	Y
	Justification	Evidence from the wider whitefish fishery demonstrate a satisfactory level of compliance regarding saithe. Fishers provide a large amount of information in the current Scottish fisheries management system. Marine Scotland Compliance (verbal com.) has a high degree of confidence that compliance with existing rules is good (see for example REM report 2011).		
d	Guide post		There is no evidence of systematic non-compliance.	
	Met?		Y	
	Justification	Marine Scotland Compliance has verbally confirmed to the team that there is no evidence of non-compliance in the fishery.		
References				
OVERALL PERFORMANCE INDICATOR SCORE:				85
CONDITION NUMBER (if relevant):				NA

Appendix 3 Stakeholder submissions

Nature of Comment
(select all that apply)

Justification
Please attach additional pages if necessary.

<input checked="" type="checkbox"/>	<p>I wish to alert the assessment team to important changes in the circumstances of this fishery relevant to the MSC certification.</p>	<p>WWF has serious concerns that the landing obligation for North Sea cod, implemented since the certification was awarded, is not subject to effective compliance.</p> <p>In 2016 the Scheveningen Control Experts Group published “Report on Control and Monitoring of the demersal landing obligation: Risk assessment and risk treatment” where it was identified that 8 out of 12 demersal fleet segments had the likelihood of high or very high risk for non-compliance with the Landing Obligation, among them the TR1 and TR2 fleet operating in the North Sea. They identified the two major concerns as illegal discarding and mis-recording of ‘legal discards’. Given that the UoC of this fishery are TR1 and TR2 vessels, the comments of the Scheveningen Control Expert Group report are applicable. Link: http://www.nsrac.org/wp-content/uploads/2016/02/Paper-4.1-Report-from-Sch-Control-and-Monitoring-Group-For-Info.pdf</p> <p>WWF participate in the Scottish Discard Steering Group which is the cross-cutting group looking at options for implementation and monitoring of the landings obligation after the full implementation on the 1st January 2019. As far as WWF can ascertain from attending these meetings, as well as from information gained through FOI requests, less than 1% of trips are monitored by independent observers and there are very few, if any, cameras operating in the fishery due to the removal of the additional quota previously used to incentivise camera use. Further details provided in the WWF ‘Remote Electronic Monitoring’ report. Link: https://www.wwf.org.uk/sites/default/files/2017-10/Remote%20Electronic%20Monitoring%20in%20UK%20Fisheries%20Management_WWF.pdf</p> <p>In addition there is no indication from the Scottish Government that they intend to implement these measures to ensure effective monitoring and compliance with the landings obligation.</p> <p>Furthermore, there is an independent study to investigate the implication of Landing Obligation on fisheries that have been MSC certified. It clearly highlights that certified demersal fisheries, which are similar to the SFSAG North Sea cod, are at high risk of failing the MSC certification requirement standard when the Landing Obligation is implemented. Link: http://fundingfish.eu/wp-content/uploads/2016/12/Implications-of-the-Landing-Obligation-on-MSC-certified-fisheries-in-Europe.pdf</p> <p>With the advent of North Sea cod entering the Landing Obligation and the shift of management responsibilities to be able to monitor activities at sea effectively, WWF does not believe >80 score should be scored for this PI. <i>MEC note that WWF were contacted to confirm which PI this referred to and were informed it was PI 1.1.2b</i></p>
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		<p>It is WWF's view that a condition to develop a transparent and effective monitoring mechanism for activities at sea such as 100% independent observer coverage or, more robustly and cost effectively, Remote Electronic Monitoring with CCTV, should be adopted. Recognition of the gaps in the current MCS of this fishery through such a condition could facilitate improvements in the area.</p>
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MEC response:

The Scheveningen Control Experts Group report in 2016 is well known and has been presented as a driver for change in the demersal sector since its publication. Since publication of the Scheveningen (2016) report there are a number of important considerations that must be taken into account in order to assess the reports outcomes against the UoA in 2018. Firstly its important to understand the formula for the risk assessment.

The risk analysis is based on two components:

1. Likelihood

- a. Level of occurrence of discards in the segments for the species concerned
- b. - Mixed / single species fisheries with presence of by-catch of low commercial value species
- c. - Concentration of catches below MCRS / non-marketable sizes
- d. - Type of discard exemptions (not applicable here)

and consideration is given to:

- e. Degree of technical measures in place (gear selectivity, seasonal closures)
- f. - Degree of social pressure (level of policy legitimacy, level of non-compliant behaviour of others, personal reputation)

2. Impact

- a. Stock status: done in accordance with the CFP detailed reference points(e.g. $SSB < B_{lim}$ and $F > F_{lim}$ for stock outside safe biological limits).
- b. Volume of catches by fleet segment for a given species in relation to total stock TAC (or total catches reported).

Secondly the context of the report must be viewed with regard the to data period for which the report was based:

- The discard matrix per gear segment comprises of data collected between 2010 – 2012 which is now six years out of date.

- The discard rate data is more recent (2013 - 2014) but may still be considered old in the context of fleets such as SFSAG, where gear developments and fleet dynamics (real time reporting) have made significant improvements to the fishery (see descriptions in section 2.1.1). Therefore, the assigned discard trigger levels for TR1 and TR2 gears (high >15%) may no longer apply across all of the UoA.
- Stock status of stocks used in the impact analysis are no longer applicable to key species. E.g. cod (to which this stakeholder comment relates) and saithe are above $MSYB_{trigger}$ in 2017, compared to below $MSYB_{trigger}$ in the report. Therefore, the impact rating is no longer valid.

Thirdly the report is based on gear types (TR1 and TR2) typical of the EU and therefore cannot account for:

- Interspecies flexibility, avoidance measures, Quota swaps, Internal Member States' quota allocation/management, Inter-annual quota flexibilities – “banking and borrowing” used by MS and POs. These are variable annually and by PO, therefore the ‘tool box’ employed by individual PO’s cannot be directly reflected by an umbrella ‘gear type’

Finally, the full LO to which this document was designed to assess is still not in full force (this occurs January 2019) therefore the risk associated and the performance of the UoA against it cannot be assessed fully at present.

Based on the above the team believe the applicability of the risk levels associated by gear types is limited and no longer directly applicable to the UoA. However, the assessment team agree that the two major risks identified for the exercise; Illegal discarding and mis-recording of “legal discards” are still the main concerns associated with the LO and that effective compliance and comprehensive coverage of the LO (in its annual, sea-basin defined form) remains the key question. This is addressed by the team under Principle 3.

The WWFs participation in the Scottish Discard Steering Group is a valuable asset in ensuring the LO is effectively enforced within Scotland. WWF is correct that ~1 % of trips are monitored by independent observers (Marshall et al. 2017), but the assessment team also add that from this data MS have been able to uplift this to model fleet catches with sufficient certainty to be used in ICES stock assessments.

The FDF fleet in Scotland has declined in recent times, although why individual vessels withdraw is unknown the lack of incentive (extra quota) is likely a contributing factor. It worth noting that CEFAS is currently seeking English flagged vessels for similar exercises with these incentives.

The intent of the Scottish government regarding the future full implementation of the LO has not been established and is possibly linked to the uncertainty in the Brexit negotiations and whether the CFP and LO will continue to be applied. At present it would appear there is a likely a two-year interim period where this will be so.

The assessment team questioned Marine Scotland compliance on their record of LO compliance and level of enforcement at the site visit. In 2017 there were three cases of breaches of the LO brought about by the authorities. When asked about gaps in surveillance Marine Scotland did not recognize this and held the belief that their current MCS for this fishery, is sufficient to meet legal requirements. With regard to Remote Enforcement Monitoring (REM) Marine Scotland noted that this option is being explored along with others including modelling solutions and novel ideas such as the use of drones, but as yet nothing was decided.

The introduction of the LO in full in 2019 will require full harmonization of all EU fisheries. In anticipation of such a harmonization, the team has decided to reduce the score for SI 3.2.3a (see revised scoring table in Appendices 2) since it can no longer be concluded that the enforcement system is sufficiently comprehensive for the context of the fishery. A condition has so far not been introduced, however, since the requirement for an SG 80 score is that a monitoring, control and surveillance system is in place that has demonstrated an ability to enforce relevant management measures, strategies and/or rules, which is the case here.

With regard to Principle 1 the implication of the landing obligation (discard estimations) for saithe haddock and cod in the ICES stock assessment is not yet realised as the LO only applied to these species in 2017, and therefore the inclusion of the LO will only transfer into the stock assessments in 2018. Complications exist for haddock in that the stock extends beyond the boundaries of sea basin (North Sea, W. Scotland, Skagerrak) where different LO regimes apply. In 2018 the TAC arrangements for each of the North Sea stocks will also be impacted by the implementation of the inaugural MAP (EU 2018).