

SURVEILLANCE NO. 4

Surveillance audit – Report for the Estonian North East Arctic cold water prawn fishery

Reyktal Ltd, Reval Seafood Ltd, P/R Ocean Tiger and UAB
Marlinas

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Authors: Julian Addison, Sigrun Bekkevold

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Objective:

The objective of this report is the fourth surveillance audit of the Estonia North East Arctic cold water prawn fishery.

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GLOSSARY

Abbreviations & acronyms

CL	Carapace length
CPUE	Catch per unit effort
DCF	(EU) Data Collection Framework
DNV GL	Det Norske Veritas GL
EEZ	Exclusive Economic Zone
ELDFA	Estonia Long Distance Fishing Organization
ERS	Electronic Reporting System
FAM	Fisheries Assessment Methodology
FAO	Food and Agriculture Organisation (of the United Nations)
FPZ	(Svalbard) Fishery Protection Zone
GLM	Generalised Linear Model
HCR	Harvest control rule
ICES	International Council for the Exploration of the Sea
IMR	Institute of Marine Research, Norway
MSC	Marine Stewardship Council
NAFO	Northwest Atlantic Fisheries Organisation
NEAFC	North East Atlantic Fisheries Commission
NIPAG	NAFO/ICES Pandalus Assessment Group
PI	Performance Indicator
RFMO	Regional Fisheries Management Organisation
SAM	Statistical catch-at-age model
SSB	Spawning stock biomass
TAC	Total Allowable Catch
UoA	Unit of Assessment
UoC	Unit of Certification
VME	Vulnerable Marine Ecosystem
VMS	Vessel Monitoring System

Stock assessment reference points

B _{lim}	Minimum biomass below which recruitment is expected to be impaired or the stock dynamics are unknown.
B _{msy}	Biomass corresponding to the maximum sustainable yield (biological reference point); the peak value on a domed yield-per-recruit curve.
B _{trigger}	Value of spawning stock biomass (SSB) that triggers a specific management action.
F	Instantaneous rate of fishing mortality.
F _{lim}	Fishing mortality rate that is expected to be associated with stock 'collapse' if maintained over a longer time (precautionary reference point).
F _{msy}	F giving maximum sustainable yield (biological reference point).
K	Carrying Capacity
MSY	Maximum Sustainable Yield
PA	Precautionary Approach

1 GENERAL INFORMATION

Table 1 General information

Fishery name		
Unit(s) of Assessment (UoA)	Estonia North East Arctic cold water prawn and cod fishery	
	UoA 1	
	Species:	Northern shrimp, cold water prawn (<i>Pandalus borealis</i>)
	Stock:	Barents Sea shrimp (ICES Division I and II) / FAO 27
	Geographical area:	Barents Sea and Svalbard in FAO statistical area 27, ICES Ia,b and IIb.
	Harvest method:	Bottom trawl
	Management:	<ul style="list-style-type: none">Estonia, Denmark, Lithuania, UK Fisheries Management / EU CommissionNEAFCNorwegian Fisheries Management (Svalbard FPZ) <p>The stock is managed according to ICES advice.</p>
	Client group:	Reyktal Ltd. and Reval Seafood Ltd represented by the following vessels: Steffano, Ontika (owned by Reyktal Ltd), Reval Viking (owned by Reval Seafood Ltd) P/R Ocean Tiger represented by the following vessel: Ocean Tiger R38. UAB Marlinas represented by the following vessel: Taurus Onward Fishing Company Ltd represented by the following vessel: Norma Mary
	Other eligible fishers:	<p>For the Estonian shrimp fishery there are currently no other identified eligible fishers, as there are no other vessels fishing for cold water prawns (<i>Pandalus borealis</i>) licensed under Estonian fisheries management in the Unit of Certification. If at a later date more Estonian vessels are added to the Estonian shrimp fishery in the Barents Sea, their eligibility to share the certificate will be considered upon the application. New vessels owned by the Estonian client will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC certificate.</p> <p>For the Danish, Lithuanian and UK shrimp fishery there are currently no vessels other than Ocean Tiger, Taurus and Norma Mary licensed to fish in the Unit of Certification. If at a later date the client group add more vessels to their fleet that fish in the Barents Sea for</p>

	shrimp under their respective countries regulations, they will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC certificate. Vessels outside the client group are not eligible to share the MSC certificate.		
	UoA 2		
	Species:	Atlantic cod (<i>Gadus morhua</i>)	
	Stock:	North East Arctic cod	
	Geographical area:	Barents Sea and Svalbard in FAO statistical area 27, ICES Ia	
	Harvest method:	Bottom trawl	
	Management:	<ul style="list-style-type: none"> Estonia Fisheries Management / EU Commission NEAFC <p>The stock is managed according to ICES advice.</p>	
	Client group:	Reyktal Ltd. and Reval Seafood Ltd represented by the following vessels: Steffano, Ontika (owned by Reyktal Ltd), Reval Viking (owned by Reval Seafood Ltd)	
	Other eligible fishers:	For the Estonian shrimp fishery there are currently no other identified eligible fishers, as there are no other vessels fishing for cold water prawns (<i>Pandalus borealis</i>) and retaining cod as a by-catch licensed under Estonian fisheries management in the Unit of Certification. If at a later date more Estonian vessels are added to the Estonian shrimp fishery in the Barents Sea which retain cod, their eligibility to share the certificate will be considered upon the application. New vessels owned by the Estonian client will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC certificate.	
	Date certified	7 November 2013	Date of expiry 7 November 2018
	Surveillance level and type	Surveillance level 6 (surveillance level 2 or more (normal surveillance) according to v. 1.3) On-site surveillance	
	Date of surveillance audit	16-18 October & 7 November 2017	
	Surveillance stage	1st Surveillance	
		2nd Surveillance	
		3rd Surveillance	
		4th Surveillance	x
		Other (expedited etc)	
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This report contains the findings of the fourth annual MSC Fisheries surveillance audit conducted for the Estonia NEA cold water prawn fishery on 16-18 October and 7 November 2017.

The purpose of this annual Surveillance Report is:

1. To establish and report on any material changes to the circumstances and practices affecting the original complying assessment of the fishery;
2. To monitor the progress made to comply with any Conditions raised and described in the Public Certification Report of 7 November 2013 and in the corresponding Action Plan drawn up by the client;
3. To monitor any actions taken in response to any Recommendations made in the Public Report;
4. To re-score any Performance Indicators (PI) where practice or circumstances have materially changed during the intervening year, focusing on those PIs that form the basis of Conditions raised.

The primary focus of this surveillance report is to review the changes that have occurred since the previous year. For a complete picture of the fishery, this report should be read in conjunction with the Public Certification Report available for download at www.msc.org.

<https://fisheries.msc.org/en/fisheries/estonia-north-east-arctic-cold-water-prawn-fishery/@assessments>

2 BACKGROUND

2.1 Stock Status

2.1.1 Cold water prawn

The fishery for *Pandalus borealis* in the Barents Sea and Svalbard Fishery Protection Zone (FPZ) was started by vessels from Norway in 1970, and as the fishery developed, vessels from Russia, Iceland, Greenland, Faroe Islands and the EU countries also entered the fishery. Norwegian and Russian vessels exploit the *Pandalus borealis* stock across the entire region. Norwegian vessels constitute the largest fleet, and although Russian vessels declared zero landings each year from 2009 to 2012, Russian fishing activity has started to increase again. Vessels from other countries, including those from Estonia, Denmark, Lithuania and United Kingdom are not permitted to fish in the Norwegian EEZ, but they are permitted to fish within the Svalbard FPZ, and in an area of international waters to the south east of Svalbard known as the 'Loop Hole'. The number of vessels permitted to fish in the Svalbard FPZ is limited by country (3 for Estonia) and by an overall limit on effective fishing days (377 for Estonia) set by the Norwegian authorities. Denmark has an allocation of 31 days, but within the total EU allocation of days in the Svalbard FPZ, Denmark agreed the transfer of days with other national authorities providing a total allocation of 127 fishing days in 2015, 92 days in 2016 and 71 fishing days in the Svalbard FPZ. Lithuania has an allocation of 647 fishing days in the Svalbard FPZ, of which 419 days are available to the Lithuanian Client, UAB Marlinas. United Kingdom has an annual allocation of 92 days in the Svalbard FPZ. Over the last few years the fishery has shown increased activity in the international zone, due to a recent eastwards shift in the main areas of shrimp distribution possibly driven by observed changes in water temperatures, and to some area closures due to high bycatches of juvenile fish.

As the fishery developed, catches reached a peak of 128,000 tonnes in 1984, but since 2000 catches have declined from around 80,000 tonnes to 20-30,000 tonnes per annum (Figure 1). Up until 2010 the majority of the landings were by Norwegian vessels, but in recent years there has been an increase in fishing effort by vessels from EU countries, Faroe Islands and Greenland, such that these countries now land approximately half of the total landings (Table 2). The decline in landings since 2000 is due to reductions in fishing effort caused by increased vessel operating costs, primarily high fuel prices, and low market prices and consequent low profitability of the fishery (NAFO/ICES, 2014). Since 2006, the total catch in the fishery has been significantly below the TAC recommended by ICES (Table 2). Landings declined to 19,249 tonnes in 2013 and increased slightly to 20,964 tonnes in 2014. Shrimp are more widely distributed than in previous years (with less ice opening up more grounds) creating problems in locating high densities of shrimp, there were a number of areas closed to fishing in 2014 due to high bycatches of redfish, cod and haddock, and the high value and large catches of cod mean that the fleet has been targeting most effort on more profitable groundfish stocks, as shrimp fishing requires greater effort and more fuel. Since then landings increased significantly to 34,000 tonnes in 2015 due to increased fishing effort and favourable market conditions for both raw and processed shrimps. In 2016 reduced participation by both offshore and inshore Norwegian vessels with less vessels fishing and reduced prices in 2016 due to over-supply of cold-water prawns globally, resulted in landings in 2016 for Norwegian vessels declining to around 11,000 tonnes. In contrast, landings from EU vessels in 2016 were 16,000 tonnes and were therefore similar to landings in 2015, and

landings from Russia increased to 2,500 tonnes in 2016 (Table 2) (ICES, 2017a). Total landings from the fishery in 2017 are estimated to be 28,000 tonnes (ICES, 2017a).

In 2013, there were four Estonian vessels licensed to fish in the Barents Sea shrimp fishery: Eldborg (EK-0604), Ontika (EK-1502, previously EK0101), Taurus (EK-994) and Reval Viking (EK-1202). Eldborg has not been fishing in the UoC since 2013, and the other three vessels were joined by Steffano in 2016. In late 2016, Taurus was sold to a Lithuanian company, and is no longer part of the Estonian fleet, but is now included in the UoC under the Lithuanian flag. The Danish vessel is Ocean Tiger R38, and the UK vessel is Norma Mary. Estonian vessels landed 5289, 6492 and 6926 tonnes of shrimps in ICES Area I and II in 2014, 2015 and 2016 respectively, equating to approximately 25%, 19% and 23% of the overall landings from the Barents Sea stock in the respective years. Provisional figures for 2017 up to the beginning of October 2017 show landings of 6499 tonnes. The majority of the landings have been from the NEAFC zone in all years. The Danish vessel, Ocean Tiger R38, caught 165 tonnes of shrimp during the only fishing trip undertaken in 2014, but these shrimps were not landed until January 2015. Landings by the Danish vessel in 2015 and 2016 (based on sales note data) were 1169 and 1374 tonnes respectively equating to approximately 3.4% and 4.6% of the overall landings from the Barents Sea stock. Approximately 60% of the landings were from the Svalbard zone in 2015, but in 2016 only 45% were from the Svalbard zone. Preliminary data up to the middle of October for 2017 show landings of 1189 tonnes, of which 42% were from the Svalbard zone. Since the Lithuanian vessel, Taurus, started fishing under the Lithuanian flag in late 2016, landings of shrimps were 160 tonnes in 2016, all from the Svalbard zone, and preliminary data for 2017 up to the middle of October show landings of 2032 tonnes, of which 50% were from the Svalbard zone and 50% from the Loophole. The UK vessel, Norma Mary, has not been fishing for shrimp in recent years in the Barents Sea.

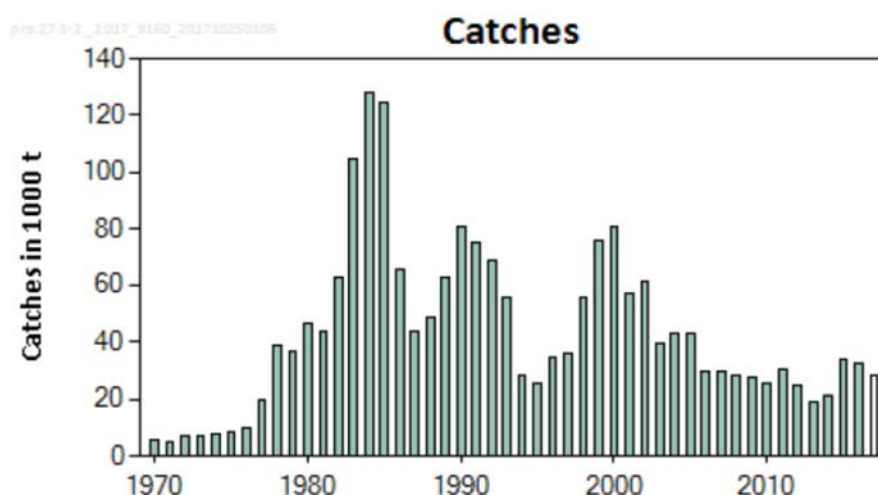



Figure 1. Total catches of *Pandalus borealis* in the Barents Sea from 1970 to 2017. The 2017 projected value is estimated based on data until July and information from the industry. (Source: ICES, 2017a).

Table 2. Shrimp in the Barents Sea: recent catches (tonnes) in relation to maximum catch recommended by ICES. * 2017 catches are projected to the end of the year. (Source: ICES, 2017a)

Year	Recommended maximum catch	Norway	Russia	Other nations	Total
2006	40 000	27352	4	2271	29627
2007	50 000	25558	192	4181	29931
2008	50 000	20662	417	7109	28188
2009	50 000	19784	0	7488	27272
2010	50 000	16779	0	8419	25198
2011	60 000	19928	0	10298	30226
2012	60 000	14158	0	10598	24756
2013	60 000	8864	1067	9336	19249
2014	60 000	10234	741	9989	20964
2015	70 000	16618	1151	16253	34002
2016	70 000	10896	2490	16223	29609
2017	70 000				28000*

The stock in the Barents Sea and Svalbard area (ICES Sub-areas I and II) is assessed along with other Northwest Atlantic Fisheries Organization (NAFO) and International Council for the Exploration of the Sea (ICES) stocks by the joint NAFO/ICES *Pandalus* Assessment Group (NIPAG). The most recent assessment was carried out at the NIPAG meeting in September 2017 (NAFO/ICES, 2017). The stock assessment model used by NIPAG is a stochastic version of a surplus production model. The model is formulated in a state-space framework and Bayesian methods are used to derive posterior likelihood distributions of the parameters (Hvingel and Kingsley, 2006). The model synthesises information from input priors including the initial population biomass in 1969, the carrying capacity (K) and Maximum Sustainable Yield (MSY), a series of shrimp catches and four independent series of shrimp biomasses (Hvingel, 2016). Further details on the methodology can be found in the most recent stock assessment report (NAFO/ICES, 2017) and Hvingel (2016).

Total reported catch from all vessels in the fishery is used as yield data. The four series of shrimp biomasses are a series of commercial catch rates and three trawl survey biomass indices. Log book data from Norwegian vessels are used in a multiplicative model to calculate standardised annual catch rate data (Hvingel and Thangstad, 2016a). The GLM model includes vessel, season, area and gear type as variables and is considered to be a good index of the biomass of shrimps over 17mm



CL, i.e. of the older male and female stock combined. The standardized catch per unit effort (CPUE) declined to the lowest value of the series in 1987, but then showed an overall increasing trend until 2011. The 2012-14 values were however down significantly to below long term mean values, but in the last three years, CPUE has increased back towards the long term mean (NAFO/ICES, 2017). Norwegian and Russian shrimp trawl surveys were conducted from 1982-2004 and 1984-2005 respectively and provided indices of stock biomass, recruitment and size composition. In 2004 these two trawl surveys were superseded by the joint Norwegian-Russian ecosystem survey which surveys shrimp and monitors other ecosystem variables (Hvingel and Thangstad, 2016b). Biomass indices from all three trawl surveys used in the model have fluctuated without any obvious trend. Recruitment indices (estimated abundance of shrimp between 13 and 16mm CL) derived from Norwegian (Hvingel and Thangstad, 2016b) and Russian (Zakharov, 2014) surveys showed no major changes from 2004 to 2013.

The assessment model estimates biomass in relation to B_{msy} and fishing mortality in relation to F_{msy} , and considers two other reference points that ICES uses within its MSY framework for providing advice: $B_{trigger}$ (50% of B_{msy}), a biomass encountered with low probability if F_{msy} is implemented, and B_{lim} (30% of B_{msy}), the biomass below which recruitment is expected to be impaired. The assessment also considers F_{lim} (170% of F_{msy}), the fishing mortality that would drive the stock to B_{lim} .

The most recent assessment in 2017 (NAFO/ICES, 2017) shows that there has been no change in stock status since the original assessment. The estimated biomass has been above B_{msy} since the start of the fishery in the 1970s, and the fishing mortality rate has been well below F_{msy} throughout the duration of the fishery (Figure 2). Assuming a catch of 28,000 tonnes in 2017, the assessment estimated that fishing mortality in 2017 would be $0.08 \times F_{msy}$, and that biomass in 2018 is projected to be $1.68 \times B_{msy}$. The assessment estimates the risk associated with exceeding the various reference points. In 2017, the risk of F being above F_{msy} was 2.1%, the risk of biomass falling below $B_{trigger}$ and B_{lim} was 0.4% and 0.0% respectively, and the risk of F exceeding F_{lim} was 0.9% (NAFO/ICES, 2017). The 2017 assessment also provides model predictions of risk associated with a range of catch levels up to 350,000 tonnes per annum. Assuming a catch of 28,000 tonnes for 2017, catch options up to 80,000 tonnes for 2018 have a low probability of exceeding F_{msy} (<10%) and F_{lim} (<5%), or of the biomass going below $B_{trigger}$ (<1%) by the end of 2018, and all are likely to maintain the stock at its current high level (NAFO/ICES, 2017). More detail of the most recent values of the various stock indices can be found in the 2017 stock assessment report (NAFO/ICES, 2017).

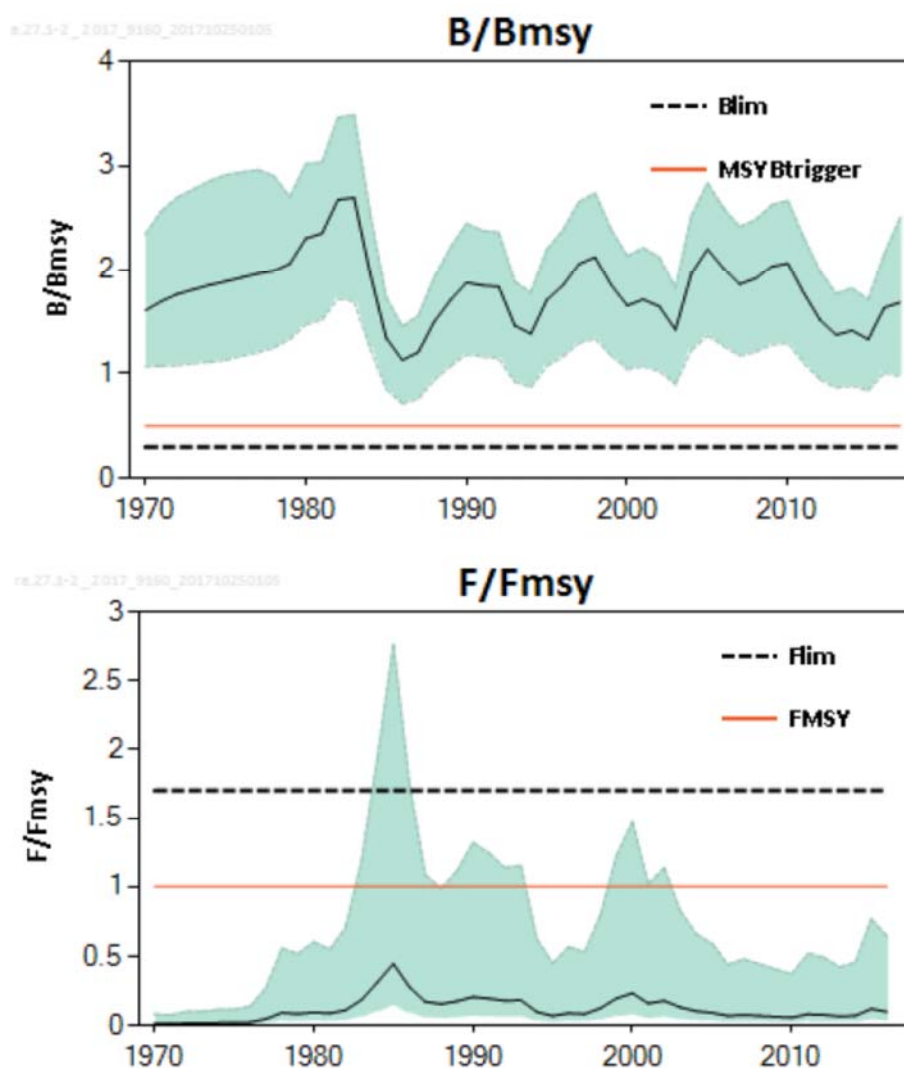



Figure 2. Estimated time series of relative biomass (B/B_{msy}) and fishing mortality (F/F_{msy}). The solid black lines are the median with 90% probability intervals. The dotted lines are the B_{lim} and F_{lim} reference points and the red lines are the $MSYB_{trigger}$ and F_{msy} reference points. (Source: ICES, 2017a).

In conclusion, the most recent stock assessment by NIPAG shows that there is no change in the status of the stock. Based on the 2017 stock assessment, ICES advises that catches of up to 70,000 tonnes in 2018 would maintain stock biomass well above B_{msy} , and move the exploitation rate a little closer to, but still well below, F_{msy} . Catches are again forecast to be much lower than 70,000 tonnes.

2.1.2 Atlantic cod

Bycatch of cod in the Estonian shrimp fishery in the NEAFC area of the Loophole was included as a separate UoC following the conclusion of an expedited assessment in September 2017. As described in the expedited assessment report (DNV GL, 2017), the stock assessment methodology is under constant review and was benchmarked in 2015. The 2016 formulation of the assessment approach used an age-based analytical assessment (XSA) with cannibalism estimated. Furthermore, the model included an account of the growth linked to the capelin abundance.



Catches were used in the model and in the forecast. Following the benchmark from 2015, cannibalism was also estimated for the period 1946–1983; previously it was included only from 1984 to the present. The stock assessment is of high quality since the issues with non/reported catches were solved about 10 years ago. The assessment model was changed from XSA to SAM in 2017 following an InterBenchmark meeting in April 2017 (ICES, 2017b). There was also a change in the recruitment model. These changes led to a considerable downwards adjustment of the 2008 and later cohorts, while the abundance of the 2007 and older cohorts was revised upwards. The 2017 assessment (ICES, 2017c) demonstrated that the spawning–stock biomass (SSB) has been above $MSY_{Btrigger}$ since 2002 (Figure 3). The SSB reached a peak in 2013 and now shows a downward trend. Fishing mortality (F) was reduced from well above F_{lim} in 1997 to below F_{MSY} in 2008, and the most recent estimate is likely to be below F_{MSY} (Figure 3). There has been no strong recruitment since the 2004 and 2005 year classes. The state of the stock and the fishery relative to reference points is shown in Table 3.

Following the 45th Session of the Joint Russian–Norwegian Fisheries Commission in 2015, ICES evaluated a number of alternative harvest control rules (HCRs) for Northeast Arctic cod. ICES concluded that they were all in accordance with the ICES standard that the annual probability of SSB being below the biomass limit level should be no more than 5%. The harvest control rule for cod was modified in October 2016 and the option chosen was among those ICES deemed as being precautionary. At the 46th Session of the Joint Russian–Norwegian Fisheries Commission in 2016, the management plan including the harvest control rule was updated (ICES, 2017d). The most recent ICES advice (ICES, 2017d) provides catch options based on the current management plan and on a series of alternative harvest control rules. ICES advises that when the Joint Russian–Norwegian Fisheries Commission management plan is applied, catches in 2018 should be no more than 712,000 tonnes, a reduction of nearly 100,000 tonnes from the advice given in 2016.

Since 2012, Estonia have landed between 220 and 450 tonnes of cod from the Loophole as bycatch in the shrimp fishery. The quota for 2017 is 491 tonnes, which is a very small percentage of the overall quota for cod in the Barents Sea of 712,000 tonnes based on an estimate of SSB of 1.8 million tonnes in 2017 (ICES, 2017d).

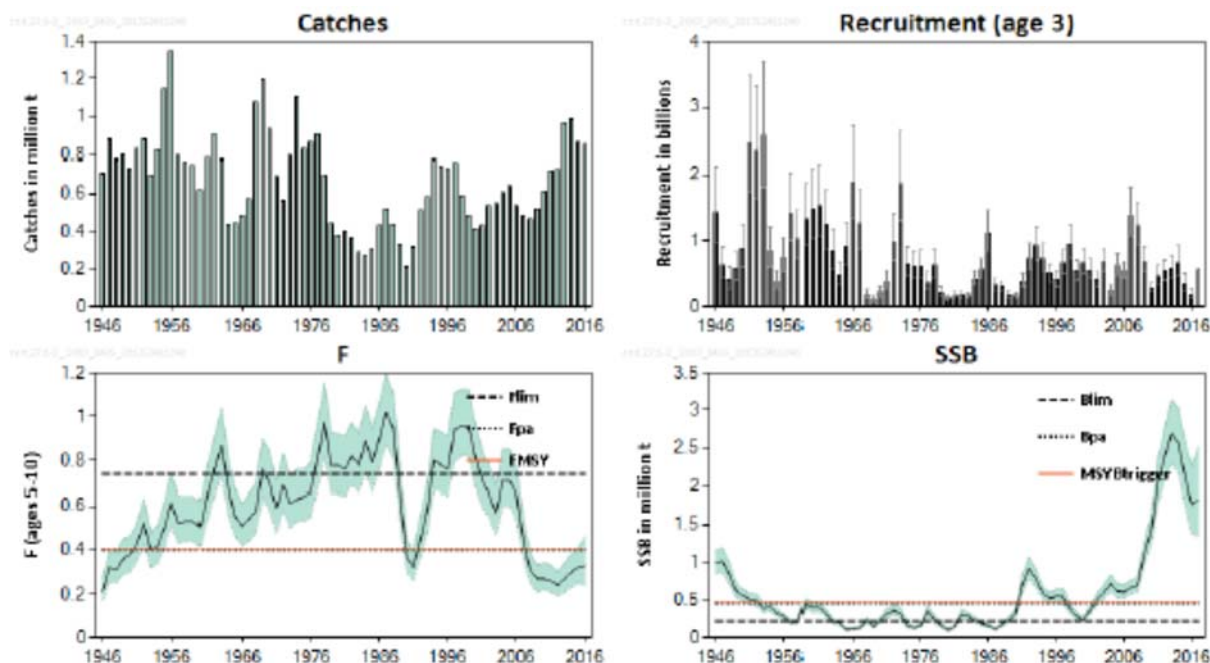


Figure 3. Cod in subareas 1 and 2 (Northeast Arctic). Catch, recruitment, F , and SSB. Recruitment, F , and SSB have confidence intervals (95%) in the plot. For this stock, FMGT = FMSY and SSBMGT = MSY Btrigger = Bpa; therefore, the horizontal lines representing these points in the graph overlap. (Source: ICES, 2017d).


Table 3. Cod in sub-areas 1 and 2. State of the stock and fishery relative to reference points. (Source: ICES, 2017d).

		Fishing pressure			Stock size		
		2014	2015	2016	2015	2016	2017
Maximum Sustainable Yield	F_{MSY}	✓	✓	✓	MSY	✓	✓
				Below	$B_{Trigger}$	✓	Above trigger
Precautionary Approach	F_{pa}	✓	✓	✓	B_{pa} , B_{lim}	✓	✓
	F_{lim}			Harvested sustainably			Full reproductive capacity
Management plan	F_{MGT}	✓	✓	✓	B_{MGT}	✓	✓
				Below			Above

2.2 Impact on the ecosystem

2.2.1 Cold water prawn


Shrimp are caught using small-mesh trawl gear with a minimum stretched mesh size of 35 mm. All trawls are equipped with mandatory sorting grids, limiting the by-catch of juvenile fish. Temporary closing of areas in the Norwegian EEZ and Svalbard FPZ where excessive bycatch of juvenile cod, haddock, Greenland halibut, redfish or shrimp <15 mm CL is encountered also reduces bycatch.



The majority of vessels operate on the soft sea bed, which causes no lasting damage to the substrate. Some vessels operate in the areas with harder substrate, and use rock – hopper gear. In both cases, trawl doors make contact with the sea bed and directly impact habitat structure. Any direct impact of the fishing gear on the habitat structure is likely to have been lower in 2013 and 2014 following reductions in fishing effort, although fishing effort increased in 2015. Work continues under the Norwegian MAREANO Project to map sediment types across the Barents Sea and the Norwegian Sea and the project expanded further northwards in 2016 with many new transects that will map an increasing range of shrimp fishing areas. To date a comparison between MAREANO survey data and Norwegian VMS data for shrimp trawlers from 2012 to 2015 shows little or no interaction with sensitive habitats identified by the MAREANO Project. In Norway, there are several ongoing projects aimed at developing more effective and environmentally friendly trawl gear for shrimp fisheries, which are looking at improving the effectiveness of sorting grids in existing trawls and reducing the weight of the gear in order to limit impact and reduce fuel use (Modulf Overvik, Norwegian Directorate of Fisheries, pers. comm.).

Since the original certification report the UoC has been extended to cover a Danish vessel, a Lithuanian vessel and a UK vessel. Expedited audit reports concluded that there would be no impact on the scores concerning bycatch (2.2), ETP species (2.3) and ecosystem impacts (2.5) because the Danish, Lithuanian and UK vessels will operate with identical fishing gear and mesh size in the same geographic region and target the same stock as the Estonian fleet that was assessed during the original assessment. In relation to retained species (2.1), at the time of the site visits information provided to the team showed that no species other than cold water prawn is retained since the Danish and Lithuanian cold water prawn vessels do not currently have quota to land species other than shrimp (but see landings information below for 2017), and the UK vessel is not currently fishing, and therefore the addition of the Danish, Lithuanian and UK vessels will have no impact on the scores for retained species. The expedited assessments considered that the Danish and Lithuanian vessels might fish in different fishing areas which could have a different impact on vulnerable bottom habitats. The information presented at the site visits however showed that the Danish and Lithuanian vessels are likely to operate on exactly the same fishing grounds in the Svalbard FPZ and NEAFC Zone as the Estonian vessel, and that the UK vessel is not currently fishing. The Estonian shrimp fleet consists of 3 vessels and so with the addition of a Danish vessel, a Lithuanian vessel and a UK vessel, the Unit of Certification would increase to 6 vessels. The total impact of the fishery was and remains therefore very limited when the total area of the Barents Sea is taken into account. The areas that are fished have generally been fished many times before which means that these areas have already been disturbed before and the fauna comprise of opportunistic, short-lived organisms.

Since 2012 a small cod (*Gadus morhua*) quota of 250 tonnes for the Barents Sea was allocated to Estonia. The cod quota has since been increased and is 491 tonnes for 2017. Client vessels will, in such cases, still use sorting grids, but cod will be retained by rigging an additional net (sack) to the net opening in the upper side of the net. The larger cod will be retained in this additional net. The Danish vessel does not use a sack attached to the shrimp trawls and so has no landings of cod from the shrimp fishery. The Lithuanian vessel does land some bycatch of cod from the shrimp fishery (137 tonnes up to the end of September in 2017), but this cod is not currently included within the UoC, although it will be assessed during the ongoing re-assessment of the fishery. The UK vessel is not currently fishing but does have some cod quota in the Loophole, and therefore will in the future use a sack attached to the shrimp trawls, and this UK vessel is currently being assessed in the cod UoC.



The current stock status of cod in the Barents Sea is described above in section 2.1.2 and on the basis of this information the team concluded that there is a high degree of certainty that the cod stock is within biologically based limits and fluctuating around its target reference points.

Since 2016 Estonian vessels have also caught and retained Greenland halibut (*Reinhardtius hippoglossoides*) in the NEAFC area of the Loop Hole as part of an EU quota of 2000 tonnes. However Norway disputes this EU quota of halibut and the issue is discussed further in section 2.3. Landings of Greenland halibut by Estonian vessels in the Loop Hole area totalled 348 and 514 tonnes in 2016 and 2107 respectively. Lithuanian landings of Greenland halibut in the Loop Hole totalled 66 tonnes up to the end of September in 2017.

Greenland halibut is a relatively long-lived, low productivity species which requires low fishing pressure and the stock is currently in a relatively stable state. The most recent stock assessment (ICES, 2017c) concluded that the fishable biomass (length ≥ 45 cm) increased from 1992 to 2013 and has been relatively stable thereafter (Figure 4). The harvest rate has been low since 1992, but has been increasing since a low value in 2009. Total catches from the stock are above 20,000 tonnes and the harvest rate is around 0.03. The landings by Estonian and Lithuanian vessels in 2017 of around 580 tonnes ($< 3\%$) is not therefore a threat to the stock development.

Other species caught and retained in the Estonian and Lithuanian fisheries are long rough dab (American plaice), *Hippoglossoides platessoides*, and wolffish species, *Anarhichas spp.*. In 2016, long rough dab comprised 16.7% of the total catch in the Estonian shrimp fishery. ICES WGIBAR (ICES, 2017f) reports that long rough dab is probably the most abundant flatfish in the Barents Sea and is found at a wide range of depths and temperatures and occurs over the entire Barents Sea. The estimates of biomass based on data from the ecosystem survey (IESSNS) ranged between 300–600 thousand tonnes (Figure 5), and the CPUE index for the Russian winter survey suggests that the stock has been without trend for about two decades (Figure 6). The total catch of long rough dab in the Barents Sea is probably less than 0.5 % of the standing biomass, although Fishbase estimates the resilience of this species to be low. There is no ICES advice for this species, but the expedited assessment recommended that the status of long rough dab should be assessed against biologically-defined reference points.

For wolffish, the abundance and biomass of all three species is relatively low, but they are all widely distributed throughout the Barents Sea. The stock size of Atlantic wolffish and spotted wolffish, as measured by area swept-clear estimates, has been relatively stable since 2004; the Northern wolffish has varied between 35,000 and 90,000 tonnes.

An observer programme was initiated in 2015 for the Estonian fleet as part of the EU Data Collection Framework (DCF). In addition to measuring all shrimps caught, the observers record any bycatch (whether retained or discarded) including ETP species, take photographs of species that are not normally caught on board the shrimp vessel and will record any catch of corals and sponges (Kalvi Hubel, Estonian Marine Institute, University of Tartu, pers. comm.). In 2017, three trips observer trips were undertaken representing approximately 10% of all shrimp fishing trips made by Estonian vessels in the Barents Sea. As the Danish, Lithuanian and UK vessels will fish in the same areas as the Estonian vessels, the Estonian observer programme provides a representative record of catches across the four countries. The Clients reported that no gear had been lost in 2016 and 2017.

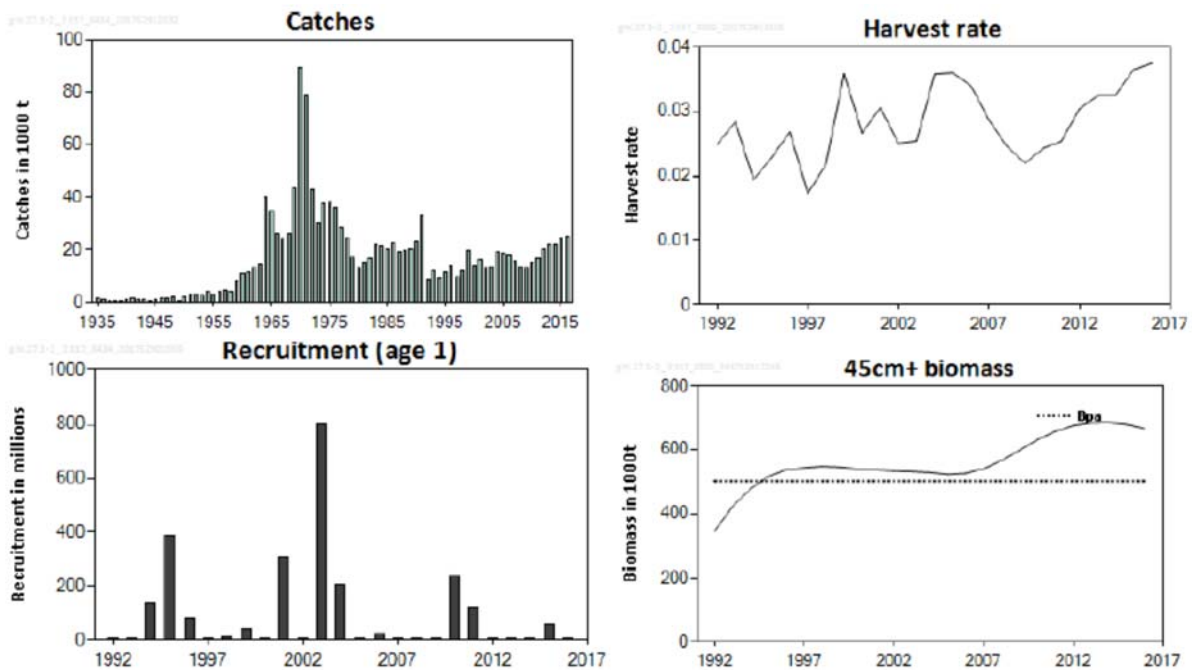


Figure 4. Greenland halibut in subareas 1 and 2. Catches (thousand tonnes), harvest rate (catch in year divided by stock at start of year), recruitment at age 1 (millions) and fishable biomass (thousand tonnes). (Source: ICES, 2017e).



Figure 5. Catch per unit effort of long rough dab in the Russian autumn-winter survey (1982-2016). N.B. no survey in 2016. (Source: ICES, 2017f)

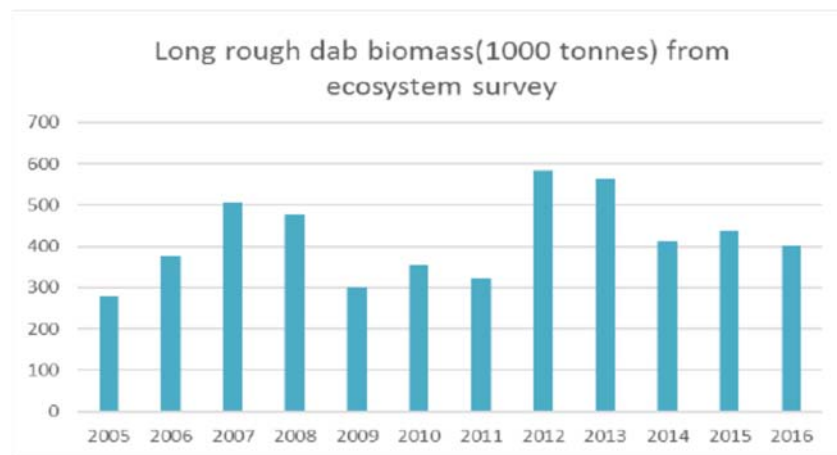


Figure 6. Stock biomass of long rough dab during the ecosystem survey, 2005-2016, calculated using bottom trawl estimates (swept area). (Source: ICES, 2017f)

2.2.2 Atlantic cod


UoC 2 concerns cod caught as a bycatch in shrimp trawls in the Estonian fishery. As such any changes to the impact of the UoC on the ecosystem are identical to those described in section 2.2.1 for the cold water prawn UoC.

2.3 Changes to the management system

2.3.1 Cold water prawn

The original MSC certification report provided the details of fishery management for the northeast Arctic cold water prawn fishery. No TAC has been established for this stock, but the fishery is regulated by effort control and a partial TAC (Russian zone only). Licenses are required for the Russian and Norwegian vessels and their fishing activity is constrained only by bycatch regulations (mesh size and sorting grids) and extensive use of area closures when small shrimp (< 15mm CL) or small fish (red fish, Greenland halibut, cod and haddock) are present in catches above defined limits. Estonian, Danish, Lithuanian and UK vessels are not permitted to fish in the Norwegian and Russian EEZs and so are restricted to fishing within the Svalbard FPZ and in an area of international waters managed by NEAFC to the south east of Svalbard known as the 'Loop Hole'. Management regulations differ across the various fishing zones and vessels require licences from the relevant Ministries to fish in each of the two areas. Fishing activity by vessels is monitored rigorously through recording of fishing position by VMS and electronic (ERS) log book data, although at very high latitudes there may be no internet connection and data must be sent by other means. Client vessels are subject to inspections by Norwegian inspectors in the Svalbard FPZ, by EU control vessels, Norwegian and Russian vessels or any other NEAFC contracting party's inspectors in the international waters. In practice inspections are usually undertaken by Norwegian and Russian vessels. The Estonian, Danish and Lithuanian clients report regular boardings by inspection vessels in 2016 and 2017.

There have been no major changes to the key elements of the management system described above. As noted at last year's surveillance audit, the Estonian electronic log book (ERS) system has now been updated to include a field for the recording of VME species by the vessel skipper and



these data can be easily retrieved by the Estonian Ministry (see condition 3). The Danish vessel is required by the owner to record any interactions with corals or sponges in their internal weekly catch report, and the Lithuanian vessel will record any interactions in the 'Remarks' column on their log book. In addition, an observer programme for the Estonian fishery was initiated in 2016 under the EU's Data Collection Framework (DCF) which monitors bycatch, discards and may also identify if fishing has occurred in any Vulnerable Marine Ecosystems (VMEs). In 2017, three trips observer trips were undertaken representing approximately 10% of all shrimp fishing trips made by Estonian vessels in the Barents Sea (Kalvi Hubel, Estonian Marine Institute, University of Tartu, pers. comm.). There is no observer programme in the Danish, Lithuanian and UK fisheries, but as all vessels will fish in the same areas as the Estonian vessels, the Estonian observer programme provides a representative record of catches across the four countries.

Although some minor changes to the management system as described above have been implemented since 2015, the relevant Ministries emphasised that the status of the stock determines the short and long term objectives, and currently no additional management measures are required due to the good state of the shrimp stock.

Estonian, Danish and Lithuanian Ministries undertake cross-checks of VMS records and log book records on the ERS system and monitor cold-store landings. These cross-checks confirm that there has been no systematic misreporting of fishing activity and landings, and the Ministries confirm that there have been no compliance issues with UoC vessels since the fishery was certified.

There have been no changes to personnel or responsibilities within the relevant Ministries and scientific institutes in Estonia, Denmark, Lithuania and UK which would have a significant influence on the way in which the shrimp fishery is managed.

Outside the control of the Estonian and Lithuanian fisheries authorities, there remains the problem that Norway disputes the quota that the EU has set for Greenland halibut, against which Estonia and Lithuania has landed Greenland halibut in 2016 and 2017. The audit team considered this issue in some detail at the third surveillance audit, and concluded that there are mechanisms in place within NEAFC to resolve disputes (and they have been shown to be successful in previous disputes), and that the EU and Norway regularly hold bilateral meetings on fisheries management issues. Also the dispute is in relation to a bycatch species rather than the target species in the fishery and therefore the audit team considered that the dispute does not currently overwhelm the fishery. At this fourth surveillance audit, there was no evidence that the dispute had been resolved.

2.3.2 Atlantic cod

UoC 2 concerns cod caught as a bycatch in shrimp trawls in the Estonian fishery. As such any changes to the management system for the UoC are identical to those described in section 2.3.1 for the cold water prawn UoC.

2.4 CoC considerations

2.4.1 Cold water prawn

The MSC Fisheries certificate (F-DNV-144850) applies only to the fishing vessels specified in Appendix 5 of this surveillance report up to the sale at point of landing (cold/freezer store or processing plant). The certificate includes vessels from Estonia, Denmark, Lithuania and UK. The Lithuanian vessel was included in the certificate in May 2017 and the UK vessel in October 2017. However the UK vessel has not yet started fishing, but plan to start spring 2018.

No changes in the CoC were observed during the surveillance activities compared to the 3rd surveillance for the Estonian and Danish shrimp fishery or the initial certification (scope extension of the certificate) of the Lithuanian and UK vessels.

Land-based peeling/processing plants, as well as cold/freezer stores, that perform anything more than movement of products must have separate CoC certification in accordance with MSC Certification Requirements

2.4.2 Atlantic cod

The retain of cod taken as by-catch by Estonian vessels in the loophole (the international area), based on EU's "Other member states quota", was certified in September 2017 by scope extension of the Estonian shrimp certificate. In periods Estonian vessels also have had a small cod quota swapped from other nations which has implied a targeted cod fishery in the beginning of the year. If this will be relevant in the future it will take place on separate fishing trips, and there is no risk for mixing certified from non-certified cod.

During this surveillance audit no changes compared to the traceability system described in the certification report for the scope extension has been observed. The traceability system is the same as for shrimps.

2.5 Catch data

Table 4 TAC and Catch Data cold water prawns

TAC	Year	2017	Amount	N/A
UoA share of TAC	Year	2017	Amount	N/A
UoC share of TAC	Year	2017	Amount	N/A
Total green weight catch by UoC	Year (most recent)	2016	Amount	8460 t
	Year (second most recent)	2015	Amount	7661 t

Provisional Estonian, Danish and Lithuanian landings data for 2017 up to mid-October 2017 are 10172 tonnes, suggesting that overall landings are going to be significantly higher in 2017 than in the previous two years.

Table 5 TAC and Catch Data cod

TAC		Year	2017	Amount	491 t
UoA share of TAC		Year	2017	Amount	N/A (Olympic system)
UoC share of TAC		Year	2017	Amount	N/A (Olympic system)
Total green weight catch by UoC		Year (most recent)	2016	Amount	391 t
		Year (second most recent)	2015	Amount	278 t

It should be noted that currently UoC2 for cod bycatch applies only to Estonian vessels.

2.6 Summary of Assessment Conditions

Table 2 Summary of Assessment Conditions

Condition number	Performance indicator (PI)	Status	PI original score	PI revised score
1	1.2.1	Behind target (Milestones revised – see Table 11)	70	Not revised
2	1.2.2	On target, milestones revised at 3 rd Surveillance Audit – see Table 12.	75	Not revised
3	2.4.3	Closed at 4 th surveillance audit	75	80

3 THE ASSESSMENT PROCESS

3.1 Scope of the assessment

The MSC Fisheries CR and Guidance v2.0 define the Unit of Certification (UoC) (i.e., the unit entitled to receive an MSC certificate) as follows:

“The target stock or stocks (= biologically distinct unit/s) combined with the fishing method/gear and practice (including vessel type/s) pursuing that stock and any fleets, groups of vessels, or individual vessels of other fishing operators.”

The fisheries covered by this certification are defined as described in Tables 6 and 7 below.

Table 6 UoC cold water prawn

Species:	Northern shrimp, cold water prawn (<i>Pandalus borealis</i>)
Stock:	Barents Sea shrimp (ICES Division I and II) / FAO 27
Geographical area:	Barents Sea and Svalbard in FAO statistical area 27, ICES Ia,b and IIb.
Harvest method:	Bottom trawl
Management:	<ul style="list-style-type: none">• Estonia, Denmark, Lithuania, UK Fisheries Management / EU Commission• NEAFC• Norwegian Fisheries Management (Svalbard FPZ) <p>The stock is managed according to ICES advice.</p>
Client group:	Reyktal Ltd. and Reval Seafood Ltd represented by the following vessels: Steffano, Ontika (owned by Reyktal Ltd), Reval Viking (owned by Reval Seafood Ltd) P/R Ocean Tiger represented by the following vessel: Ocean Tiger R38. UAB Marlinas represented by the following vessel: Taurus Onward Fishing Company Ltd represented by the following vessel: Norma Mary
Other eligible fishers:	<p>For the Estonian shrimp fishery there are currently no other eligible fishers, as there are no other vessels fishing for cold water prawns (<i>Pandalus borealis</i>) licensed under Estonian fisheries management in the Unit of Certification. If at a later date more Estonian vessels are added to the Estonian shrimp fishery in the Barents Sea, their eligibility to share the certificate will be considered upon the application. New vessels owned by the Estonian client will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC certificate.</p> <p>For the Danish, Lithuanian and UK fishery there are currently no vessels other than Ocean Tiger, Taurus and Norma May licensed to fish in the Unit of Certification. If at a later date the client group adds more vessels to their fleet that fish in the Barents Sea for shrimp under their respective countries regulations, they will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC certificate. Vessels outside the client group are not eligible to share the MSC certificate</p>

Table 7 UoC cod

Species:	Atlantic cod (<i>Gadus morhua</i>)
Stock:	North East Arctic cod
Geographical area:	Barents Sea and Svalbard in FAO statistical area 27, ICES 1a
Harvest method:	Bottom trawl
Management:	<ul style="list-style-type: none"> Estonia, Fisheries Management / EU Commission NEAFC The stock is managed according to ICES advice.
Client group:	Reyktal Ltd. and Reval Seafood Ltd represented by the following vessels: Steffano, Ontika (owned by Reyktal Ltd), Reval Viking (owned by Reval Seafood Ltd)
Other eligible fishers:	For the Estonian shrimp fishery there are currently no other eligible fishers, as there are no other vessels fishing for cold water prawns (<i>Pandalus borealis</i>) and retaining cod as a by-catch licensed under Estonian fisheries management in the Unit of Certification. If at a later date more Estonian vessels are added to the Estonian shrimp fishery in the Barents Sea which retain cod, their eligibility to share the certificate will be considered upon the application. New vessels owned by the Estonian client will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC cod certificate.

3.2 History of the assessments

3.2.1 Summary of the original assessment

Cold water prawn

The intent of the Estonia North East Arctic Cold Water Prawn fishery to become MSC certified was announced on 18 October 2012, and the fishery received its certification on 7 November 2013. Scope of certification is up to the point of landing and chain of custody commences from the point of sale/landing.

The default assessment tree, set out in the MSC Certification Requirements, version 1.2, was used for the initial assessment. The original assessment was carried out by DNV GL Lead Auditor and Team Leader Anna Kiseleva and Principle Experts Julian Addison (Principle 1) and Bert Keus (Principles 2 & 3). Following guidance from the client, 34 stakeholders were identified and consulted during the assessment process.

The fishery attained a score of 80 or more against each of the MSC Principles and did not score less than 60 against any of the individual MSC Criteria. In the initial certification the scores of the three Principles were:

Table 8 Principle scores cold water prawn– Original assessment:

Principle	Score
Principle 1 – Target Species	84,4
Principle 2 – Ecosystem	85,7
Principle 3 – Management System	89,9

The fishery achieved a score of below 80 against 3 scoring indicators. The assessment team has therefore set 3 conditions for continuing certification that the client is required to address. The assessment team also made one 'non-binding' recommendation.

Conditions and recommendations are presented in full in section 4 of this annual surveillance report.

Cod

The intent of adding cod retained as bycatch in the Estonia North East Arctic Cold Water Prawn fishery to become MSC certified was announced on 1 February 2017, and the fishery received its certification on 19 September 2017. Scope of certification is up to the point of landing and chain of custody commences from the point of sale/landing.

The default assessment tree, set out in the MSC Certification Requirements, version 1.2, was used for the scope extension assessment. The assessment was carried out by DNV GL Project manager and CoC responsible Sigrun Bekkevold and Team Leader and Principle Expert Hans Lassen. Following guidance from the client, around 60 stakeholders were identified and consulted during the assessment process.

The fishery attained a score of 80 or more against each of the MSC Principles and did not score less than 60 against any of the individual MSC Criteria. In the initial certification the scores of the three Principles were:

Table 9 Principle scores – Original assessment:


Principle	Score for shrimp UoC1	Score for cod UoC2
Principle 1 – Target Species	84.4	98.1
Principle 2 – Ecosystem	85.7	85.7
Principle 3 – Management System	89.9	91.9

3.2.2 First annual surveillance – 2014

The first surveillance audit was performed as an on-site audit and conducted according to MSC Certification Requirements, version 1.3, 14 January 2013. The default assessment tree, set out in the MSC Certification Requirements, was used for this surveillance.

The surveillance was announced on the MSC website on 4 September 2014 followed with a supporting notice to stakeholders issued by the MSC on the same date. Direct email notification was also sent to the stakeholders that had previously been identified for this fishery, inviting interested parties to contact the audit team.

The surveillance visit for this fishery was conducted in Tallinn on 16 October 2014. Members of the original assessment team, Julian Addison, and DNV GL project manager, Sigrun Bekkevold, gathered input from the various stakeholders, including the Ministry of Agriculture, the Ministry of Environment as well as from the client fishery. Scientists from the Estonian Marine Institute,



University of Tartu, were not available during the site visit to meet the audit team, but provided detailed information to the team through e-mail correspondence.

In conjunction with this surveillance audit, a change of Unit of Certification was evaluated to include a Danish vessel fishing in the same areas as the Estonian fleet. The surveillance team was augmented with a member of the original assessment team, Bert Keus, to undertake this evaluation by conducting meetings with the Danish client and Danish authorities.

The fishery remained in conformance with the scope criteria relating to unilateral exemption and destructive fishing practices (Certification Requirements v1.3 section 27.4.4). The fishery cannot be considered as an enhanced fishery as it does not meet the enhanced fisheries criteria required under the MSC CR 27.4.12.

There were no changes to scoring of performance indicators at the 1st surveillance audit.

3.2.3 Scope extension process - 2014

Based on the gap-analysis performed in conjunction with the first surveillance audit by the surveillance team augmented with a member of the original assessment team, Bert Keus, the Unit of Certification was extended to include a Danish Vessel. The scope extension report and a revised vessel list were published on the MSC website in March 2015.

<https://fisheries.msc.org/en/fisheries/estonia-north-east-arctic-cold-water-prawn-fishery/@assessments>

3.2.4 Second annual surveillance – 2015


The second surveillance audit was performed as an on-site audit and conducted according to MSC Certification Requirements, version 1.3, 14 January 2013. The default assessment tree, set out in the MSC Certification Requirements, was used for this surveillance.

The surveillance was announced on the MSC website on 1 October 2015 followed with a supporting notice to stakeholders issued by the MSC on the same date. Direct email notification was also sent to the stakeholders that had previously been identified for this fishery, inviting interested parties to contact the audit team.

The surveillance visit for this fishery was conducted in Tallinn on 5 November 2015. Members of the original assessment team, Julian Addison, and DNV GL project manager, Sigrun Bekkevold, gathered input from the various stakeholders, including the Estonian Ministry of Rural Affairs, Ministry of Environment as well as from the Estonian client fishery. Scientists from the Estonian Marine Institute, University of Tartu provided detailed information to the team through e-mail correspondence.

The team also gathered information from the Danish client and the Danish authorities represented by Danish AgriFish Agency by e-mail and telephone.

The fishery remained in conformance with the scope criteria relating to unilateral exemption and destructive fishing practices (Certification Requirements v1.3 section 27.4.4). The fishery cannot



be considered as an enhanced fishery as it does not meet the enhanced fisheries criteria required under the MSC CR 27.4.12.

There were no changes to scoring of performance indicators at the 2nd surveillance audit.

3.2.5 Third annual surveillance – 2016

The third surveillance audit was performed as an on-site audit and conducted according to MSC Certification Process Requirements, version 2.0. The default assessment tree, set out in the MSC Certification Requirements, version 1.2, was used for this surveillance.

The surveillance was announced on the MSC website on 6 October 2016 followed by a supporting notice to stakeholders issued by the MSC on the same date. Direct email notification was also sent to the stakeholders that had previously been identified for this fishery, inviting interested parties to contact the audit team.

The surveillance visit for this fishery was conducted in Tallinn on 10 November 2016. Members of the original assessment team, Julian Addison, and DNV GL project manager, Sigrun Bekkevold, gathered input from the various stakeholders, including the Estonian Ministry of Rural Affairs, Ministry of Environment as well as from the Estonian client fishery. Scientists from the Estonian Marine Institute, University of Tartu provided detailed information to the team through e-mail correspondence. Julian Addison participated in the meetings remotely.

The team also gathered information from the Danish client and the Danish authorities represented by Danish AgriFish Agency by e-mail.

The fishery remains in conformance with the scope criteria relating to unilateral exemption and destructive fishing practices (Certification Requirements v2.0 section 7.4). The fishery cannot be considered as an enhanced fishery as it does not meet the enhanced fisheries criteria required under the MSC CR 7.4.

3.2.6 Scope extension process – 2016/2017

Following the third surveillance audit, changes in the Unit of Certification were evaluated to include firstly a Lithuanian vessel fishing in the same areas as the Estonian fleet, and secondly a UK vessel fishing in the same areas as the Estonian fleet. Members of the original assessment team, Julian Addison, and DNV GL project manager, Sigrun Bekkevold undertook the scope extension for the Lithuanian vessel, and members of the original assessment team, Bert Keus, and DNV GL project manager, Sigrun Bekkevold undertook the scope extension for the UK vessel. The assessment teams met with the Lithuanian and UK clients and the relevant authorities.

Following the expedited audits to assess the scope extensions, the Unit of Certification was extended to include both the Lithuanian vessel and the UK vessel. The scope extension reports and revised vessel lists for the Lithuanian and UK vessels were published on the MSC website in May 2017 and October 2017 respectively.

<https://fisheries.msc.org/en/fisheries/estonia-north-east-arctic-cold-water-prawn-fishery/@assessments>

3.2.7 Fourth annual surveillance – 2017

The fourth surveillance audit was performed as an on-site audit and conducted according to MSC Certification Process Requirements, version 2.0. The default assessment tree, set out in the MSC Certification Requirements, version 1.2, was used for this surveillance.

The surveillance included the fisheries that were added to the certificate in 2017; a Lithuanian and a UK vessel fishing for cold water prawn in the Barents Sea, and also cod retained as by-catch by the Estonian vessels.

The surveillance was announced on the MSC website on 5 September 2017 followed by a supporting notice to stakeholders issued by the MSC on the same date. Direct email notification was also sent to the stakeholders that had previously been identified for this fishery, inviting interested parties to contact the audit team.

The surveillance visit for this fishery was conducted in Tallinn, Estonia and Vilnius, Lithuania 16-17 October 2017. There were also skype meetings in early November 2017. Members of the original assessment team for the cold water prawn certification, Julian Addison, and DNV GL project manager, Sigrun Bekkevold, gathered input from the various stakeholders, including the Estonian, Danish and Lithuanian authorities, Estonian Marine Research institute, and Estonian, Danish, Lithuanian and UK clients.

Table 10 show the list of participants and issues discussed in the meetings with the clients, research and the authorities.

Table 10 List of participants and issues discussed

Stakeholder	Name, Affiliation	Date	Key issues
Client representatives:			Review of basic info about the company: <ul style="list-style-type: none"> Changes in ownership or organisational structure Roles and responsibilities in the MSC Fishery certification process Updated vessel list
Reyktal & Reval Seafood,	Mati Saravet, Eduard Prigask, Andrei Gorskov	16.10.2017	Review of fishing operations: <ul style="list-style-type: none"> Catch data for the most recent fishing season including other species retained in shrimp trawls for both Svalbard FPZ and 'Loophole'. Changes in fishing season, allocation of fishing days, fishing areas and gear used (specifications) Changes in recording of catch and effort data
P/R Ocean Tiger	Peter Pedersen, Asbjørn Terpet		
UAB Marlinas	Aivar Labanauskus		
Onward Fishing Company Ltd	Jon Carden (by skype)	18.10.2017	Review of impact on ecosystem: <ul style="list-style-type: none"> Changes in recording of bycatch of fish and shellfish species, marine mammals, ETP species and birds Changes in discarding practices Changes in the overlap of the fishery with sensitive habitats and closed areas

			<p>Compliance with rules and regulations</p> <ul style="list-style-type: none"> Disputes with national/ international authorities during 2015/2016/2017. Records of sanctions and penalties (if any) for 2015/2016/2017. <p>Chain of Custody start:</p> <ul style="list-style-type: none"> Review of traceability system on board and at landing Labelling of products/changes in labelling of products List of landing sites in 2016/2017 First point of landing First point of sale Main products/change in product range Main markets <p>Review of progress against conditions</p>
Research:			
Estonian Marine institute	Kalvi Hubel	16.10.2017	<ul style="list-style-type: none"> Change in the role of Marine Institute Change of stock status, stock structure and recruitment Changes in data collection systems New research programmes for the shrimp fishery under assessment Level of discarding (composition of species, quantities) Level of by-catch (composition of species, quantities) Monitoring programmes for ETP species. Can the extent of interactions with ETP species be quantified? Impact of fisheries on ecosystem Impact of fisheries on marine habitats Progress in relation to condition 3
Authorities:			
Ministry of Rural Affairs and Ministry of Environment of Estonia	Epp Meremaa, Silver Sirp	16.10.2017	<ul style="list-style-type: none"> Function, role and responsibility Changes in harvest strategy for NEA CWP fisheries, including regulations limiting fishing effort and harvest control rules Short-term and long-term management objectives for the NEA CWP fisheries Changes in consultation and decision-making process for the stocks of the NEA CWP fisheries Changes in mechanisms for resolution of legal disputes
Ministry of Agriculture, Fisheries Control and Monitoring Div. of Lithuania	Tomas Dambrauskis, Eglė Radaitytė	17.10.2017	<ul style="list-style-type: none"> Changes in regulations for the NEA CWP fisheries in the relevant geographical area Changes in control, surveillance and monitoring routines/regulations applied to the NEA CWP fisheries in the relevant geographical area Fishermen's compliance with laws and regulations. Significant discrepancies found at landing control for the NEA CWP fisheries in the last year Catch data for the most recent fishing
Danish Agrifish Agency (skype)	Hanne Christiansen	07.11.2017	

			season including other species retained in shrimp trawls for both Svalbard FPZ and 'Loophole'. <ul style="list-style-type: none"> • Updated VMS data for the NEA CWP fisheries • Changes in research strategy or programmes for the fishery
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The fishery remains in conformance with the scope criteria relating to unilateral exemption and destructive fishing practices (Certification Requirements v2.0 section 7.4). The fishery cannot be considered as an enhanced fishery as it does not meet the enhanced fisheries criteria required under the MSC CR 7.4.

3.3 Harmonisation

Two other cold water prawn fisheries in the Barents Sea, those for Norway and the Faroe Islands, have also been certified. Although the fisheries have not previously been harmonised formally, the certificate for the Norwegian fishery has been extended for a further year until March 2018 specifically to allow all three Barents Sea cold water prawn fisheries to undergo the re-certification process in 2017 using MSC Certification Requirements v2.0. This will ensure complete harmonisation including consistency of outcomes and also ensuring simultaneous milestones in the Client Action Plans.

In addition to cold water prawn fisheries, there are a number of other certified trawl fisheries in the Barents Sea and it will be necessary to harmonise the assessment of the cold water prawn fisheries with these other fisheries particularly in relation to their potential impact on habitat. An initial harmonisation meeting of P2 assessment team members was held in November 2015 by the MSC to discuss harmonisation of habitat scoring for Barents Sea trawl fisheries. The meeting centred around the reasons why there was such a variation in scores across fisheries, but no overall conclusions were drawn as to how the fisheries should be harmonised. In addition, a workshop was held in Oslo in April 2016 to discuss harmonisation under CRv2.0. The output of this workshop and future meetings will provide guidance on harmonisation of Barents Sea cold water prawn fisheries with other certified Barents Sea fisheries.

4 RESULTS

Table 11: Condition 1. Absence of limitations on fishing effort in International Waters (The 'Loop Hole')

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.2.1. There is a robust and precautionary harvest strategy in place	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.	70
Condition	By the fourth annual surveillance, regulations limiting fishing effort in international waters (ICES Ia), that are responsive to the state of the stock, should be implemented to demonstrate that the elements of the harvest strategy work together towards achieving management objectives for the Barents Sea shrimp stock as a whole.		
Milestones	<p>Annual surveillance 1: Show written evidence of consultation with relevant authorities and stakeholder groups in relation to options limiting fishing effort in international waters</p> <p>Annual surveillance 2: Provide an evaluation of options considered for potential mechanisms for limiting fishing effort</p> <p>At the 2nd surveillance audit, the audit team revised the milestones for this condition as follows:</p> <p>Annual surveillance 3: Ensure that shrimp is included in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement through consultation with the relevant authorities.</p> <p>Annual surveillance 4: Implement regulations for limiting shrimp fishing effort within the NEAFC region known as the Loophole through consultation with relevant authorities.</p> <p>At the 3rd surveillance audit, the audit team revised the milestones for this condition as follows:</p> <p>Annual surveillance 4: Ensure that shrimp is included in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement through consultation with the relevant authorities.</p> <p>Annual surveillance 5, i.e. within the period of certification: Implement regulations for limiting shrimp fishing effort within the NEAFC region known as the Loophole through consultation with relevant authorities.</p>		
Client action plan	ELDFA (Estonia Long Distance Fishing Organization), representing Reyktal and Reval Seafood, has limited power to influence on precautionary harvest strategy and harvest control rule. However ELDFA will work to express its views and recommendations to the Ministry of Environment in Tallinn, which again can do same towards the EU Commission (DGMARE). EU is one of the contracting parties of NEAFC, which is the managing body of the fishing zones		

	<p>in the Barents Sea.</p> <p>EDLFA will work with Norwegian and Faroese fishing stakeholders involved in the MSC program in order to press further for a change within NEAFC towards adaptation of a harvest control rule.</p>
Progress on Condition [Year 1]	<p>At the 1st surveillance audit in 2014, the Client reported that representations had been made to the Estonian Ministry of Environment expressing the view that regulations are required to limit fishing effort within the international waters known as the 'Loophole', which falls under the jurisdiction of NEAFC. Within NEAFC, dialogue on conservation issues is initiated by the Coastal States. During the site visit, the Ministry of Environment confirmed both verbally and in writing that discussions had commenced with the Commission on regulation of shrimps in the Barents Sea, and on how the Commission would work with the Coastal States (mainly Norway) in order to make progress on this condition. The Ministry of Environment cautioned that the good status of the shrimp stock would make it difficult to persuade other coastal states that the shrimp fishery needs additional management measures.</p> <p>At the 1st surveillance audit, the condition required that written evidence should be provided of consultation with relevant authorities and stakeholder groups in relation to options limiting fishing effort in international waters. The audit team recognised that progress in meeting this condition is likely to be slow, but it appears that progress had been made and the condition was considered to be on target at the 1st surveillance audit.</p>
Progress on Condition [Year 2]	<p>At the 2nd surveillance audit, the Client reported that further representations had been made to the Estonian Ministries expressing the view that regulations are required to limit fishing effort within the international waters known as the 'Loophole'. The audit team were informed that a proposal had been made to NEAFC by the Faroese delegation that shrimp be included within the list of species in Annex 1 (Regulated Resources) of the NEAFC Scheme of Control and Enforcement thereby ensuring that shrimps are subject to recommendations under the NEAFC Convention. The proposal was referred to the Permanent Committee on Control and Enforcement, and is expected to be discussed further at the NEAFC annual meeting in November 2015. The Ministries confirmed therefore that although dialogue has been opened, no decision has yet been made on the inclusion of shrimps in Annex 1 and therefore options for potential mechanisms for limiting fishing effort in the Loop Hole have not yet been considered within NEAFC. NEAFC have however introduced a new closed area within the Loop Hole in which bottom fishing is not permitted. This closure applies to all bottom fishing including shrimp trawling.</p> <p>The Client confirmed that independently they will be looking at the current and potential future levels of fishing effort across national fleets within the international area, and to investigate methods for controlling the level of fishing effort. The Ministries agreed to work with the client on this issue.</p> <p>At this 2nd surveillance audit, it was reported that dialogue had been opened between the contracting parties within NEAFC, but that as the proposal to include shrimp in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement had not yet been agreed, options for potential mechanisms for limiting fishing effort in the Loop Hole have not yet been considered. The 2nd year milestone had not therefore been reached and the audit team considered that the condition was behind target. The Ministries reiterated the view expressed at the 1st surveillance audit that the good status of the shrimp stock would make it difficult to persuade other coastal states that the shrimp fishery needs additional management measures. Nevertheless the audit team recognised that NEAFC's decision to close an area of the eastern side of the Loop Hole to bottom fishing had provided some additional control of shrimp fishing effort in the Loop Hole. The audit team noted the difficulty faced by the Client in meeting milestones for this condition as it needed action on behalf of NEAFC to meet the condition and that such action may not occur quickly, but recognised that the Client was</p>

	<p>independently reviewing mechanisms for restricting fishing effort in the international zone and the Ministries were lobbying strongly for shrimp fisheries management to be incorporated within the NEAFC Scheme of Control and Enforcement.</p> <p>In view of the need for agreement to be reached by all contracting parties to NEAFC in order to meet this condition, the audit team acknowledged that the timescales for progress on this condition prescribed during the original assessment had been unduly optimistic. The audit team considered that progress, although slow, was being made against this condition and that remedial action was not necessary therefore. The audit team considered however that the milestones for this condition should be revised as follows:</p> <p>Annual surveillance 3: Ensure that shrimp is included in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement through consultation with the relevant authorities.</p> <p>Annual surveillance 4: Implement regulations for limiting shrimp fishing effort within the NEAFC region known as the Loophole through consultation with relevant authorities.</p>
Progress on Condition [Year 3]	<p>At the third surveillance audit, the Ministries re-iterated their view that the Estonian shrimp fleet in NEAFC waters was strictly limited as was the case for all the other countries that fish for shrimp in NEAFC waters, and that in view of the good status of the shrimp stock, it would be difficult to persuade other coastal states that the shrimp fishery needs additional management measures. Despite lobbying from the Client and further attempts to lobby NEAFC to include shrimp in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement, the Estonian Ministries confirmed that no further progress had been made.</p> <p>The audit team re-acknowledged that the timescales for progress on this condition prescribed during the original assessment had been unduly optimistic, and indeed the audit team had again been over-optimistic when they revised the milestones at last year's surveillance audit, because of the long time required to implement new management measures within Regional Fisheries Management Organisations such as NEAFC. The audit team considered that, although progress was behind target, remedial action was not necessary but that the milestones for this condition should be revised as follows:</p> <p>Annual surveillance 4: Ensure that shrimp is included in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement through consultation with the relevant authorities.</p> <p>Annual surveillance 5, i.e. within the period of certification: Implement regulations for limiting shrimp fishing effort within the NEAFC region known as the Loophole through consultation with relevant authorities.</p> <p>The audit team also agreed with the Client that before the next surveillance audit the CAB should consult with MSC as to whether there was an option to carry forward this condition into the re-assessment because of the long time required to implement new management measures within Regional Fisheries Management Organisations (RFMO) such as NEAFC, particularly in cases such as the shrimp fishery where new management measures may not be a priority for the RFMO.</p>
Progress on Condition [Year 4]	<p>At this fourth surveillance audit, the various Ministries re-iterated their view that the Estonian, Danish, Lithuanian and UK shrimp fleet in NEAFC waters was strictly limited as was the case for all the other countries that fish for shrimp in NEAFC waters, and that in view of the good status of the Barents Sea shrimp stock, it would be difficult to persuade other coastal states that the shrimp fishery needs additional management measures. Despite lobbying</p>

	<p>from the Estonian Client and further attempts to lobby NEAFC to include shrimp in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement, the various Ministries confirmed that (as of October 2017) the inclusion of shrimp in Annex 1 had not yet occurred. Nevertheless the Danish AgriFish Agency stated that the annual NEAFC meeting will be held in mid-November 2017 when the issue of including shrimps in Annex 1 will be raised again.</p>
Status of condition	<p>The audit team once again acknowledged that the timescales for progress on this condition prescribed during the original assessment had been unduly optimistic, and indeed the audit team had again been over-optimistic when they revised the milestones at the second surveillance audit, because of the long time required to implement new management measures within Regional Fisheries Management Organisations such as NEAFC. The audit team considered that, although progress was behind target, remedial action was not necessary but that the milestones for this condition should be revised as follows:</p> <p>Annual surveillance 5, i.e. within the period of certification: Ensure that shrimp is included in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement through consultation with the relevant authorities. Implement regulations for limiting shrimp fishing effort within the NEAFC region known as the Loophole through consultation with relevant authorities.</p> <p>The audit team acknowledged that because of the difficulties involved with implementing new management measures within Regional Fisheries Management Organisations such as NEAFC, it was unlikely that the Client group would be able to meet this condition within the period of certification. As such the CAB is currently in consultation with MSC as to whether there was an option to carry forward this condition into the re-assessment because of the long time required to implement new management measures within Regional Fisheries Management Organisations (RFMO) such as NEAFC, particularly in cases such as the shrimp fishery where new management measures may not be a priority for the RFMO.</p>

Table 12: Condition 2: Absence of harvest control rules

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.2.2 There are well defined and effective harvest control rules in place.	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.	75
Condition	By the fourth annual surveillance, well defined harvest control rules shall be implemented for the shrimp stock as a whole to ensure that the exploitation rates are reduced as limit reference points are approached.		
Milestones	<p>Annual surveillance 1: Show written evidence of consultation with relevant authorities and stakeholder groups in relation to options for HCRs.</p> <p>Annual surveillance 2: Provide an evaluation of options considered for potential HCRs</p> <p>At the 2nd surveillance audit in 2015, the audit team revised the milestones for this condition as follows:</p> <p>Annual surveillance 3: Ensure that shrimp is included in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement through consultation with the relevant authorities, and through liaison with the Norwegian fishery client, provide an evaluation of options considered for potential HCRs.</p> <p>Annual surveillance 4: Implement HCR through consultation with relevant authorities.</p> <p>At the 3rd surveillance audit in 2016, the audit team revised the milestones for this condition as follows:</p> <p>Annual surveillance 3 of the recertification (expected in 2021): Implement HCR through consultation with relevant authorities.</p>		
Client action plan	<p>ELDFA (Estonia Long Distance Fishing Organization), representing Reyktal and Reval Seafood, has limited power to influence on precautionary harvest strategy and harvest control rule. However ELDFA will work to express its views and recommendations to the Ministry of Environment in Tallinn, which again can do same towards the EU Commission (DGMARE). EU is one of the contracting parties of NEAFC, which is the managing body of the fishing zones in the Barents Sea.</p> <p>EDLFA will work with Norwegian and Faroese fishing stakeholders involved in the MSC program in order to press further for a change within NEAFC towards adaptation of a harvest control rule.</p>		
Progress on Condition [Year 1]	<p>At the 1st surveillance audit the Client reported that representations had been made to the Estonian Ministry of Environment expressing the view that there needs to be an explicit harvest control rule for the Barents Sea shrimp fishery. A harvest control rule is likely to apply to the whole fishery, so dialogue will be required with a number of authorities. Within NEAFC, dialogue on conservation issues is initiated by the Coastal States. During the site visit, the Ministry of Environment confirmed both verbally and in writing that discussions had commenced with the Commission on regulation of shrimps in the Barents Sea including the introduction of a harvest control rule, and on how the Commission would work with the Coastal States (mainly</p>		

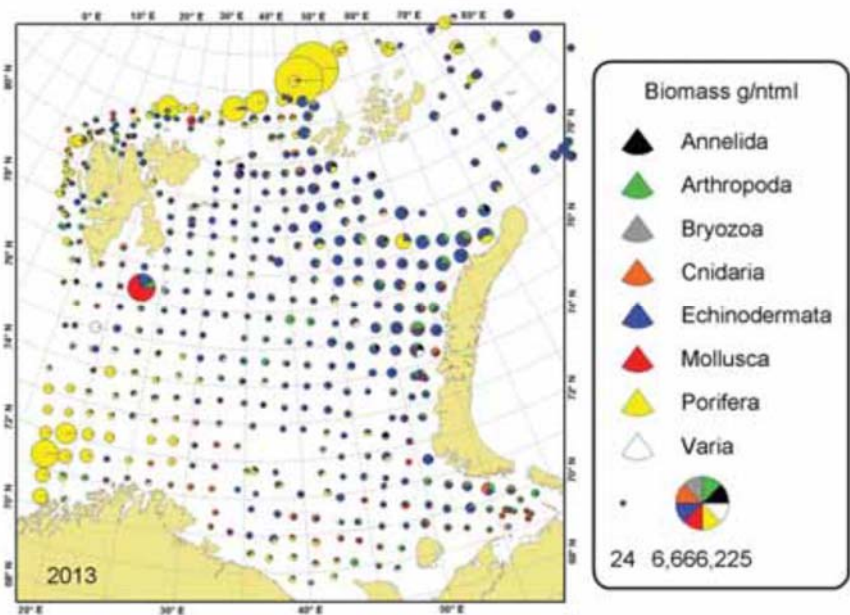
	<p>Norway) in order to make progress on this condition. The Ministry of Environment cautioned that the good status of the shrimp stock would make it difficult to persuade other coastal states that there is an urgent need to implement a harvest control rule for the shrimp fishery.</p> <p>At the 1st surveillance audit, the condition required that written evidence should be provided of consultation with relevant authorities and stakeholder groups in relation to options for HCRs. The audit team recognised that progress in meeting this condition was likely to be slow, but it appeared that progress had been made and the condition was considered to be on target.</p>
Progress on Condition [Year 2]	<p>At the 2nd surveillance audit, the Client reported that further representations had been made to the Estonian Ministries expressing the view that there needs to be an explicit harvest control rule for the Barents Sea shrimp fishery. Implementation of a harvest control rule for the whole Barents Sea shrimp stock will require dialogue between Norway, Russia and contracting parties of NEAFC. The audit team were informed that a proposal had been made to NEAFC by the Faroese delegation that shrimp be included within the list of species in Annex 1 (Regulated Resources) of the NEAFC Scheme of Control and Enforcement thereby ensuring that shrimps are subject to recommendations under the NEAFC Convention. The proposal was referred to the Permanent Committee on Control and Enforcement, and is expected to be discussed further at the NEAFC annual meeting in November 2015. The Ministries confirmed therefore that although dialogue has been opened, no decision has yet been made on the inclusion of shrimps in Annex 1 and therefore options for potential harvest control rules for the shrimp fishery had not yet been considered.</p> <p>At the 2nd surveillance audit, it was reported that dialogue had been opened with NEAFC on shrimp fisheries management, but that as the proposal to include shrimp in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement had not yet been agreed, options for potential harvest control rules for the shrimp fishery had not yet been considered. The 2nd year milestone had not therefore been reached and the audit team considered that the condition was behind target. The audit team noted the difficulty faced by the Client in meeting milestones for this condition as it needed action on behalf of NEAFC and the Norwegian and Russian authorities to meet the condition and that such action may not occur quickly, but recognised that the Ministries are lobbying strongly for shrimp fisheries management to be incorporated within the NEAFC Scheme of Control and Enforcement. The Client is aware that the largest fleet from Norway within the Barents Sea fishery has also received MSC certification and that the Norwegian fishery certification assessment also raised a condition against the absence of a well-defined harvest control rule. The third annual surveillance audit of the Norwegian fishery took place in February 2015, during which the audit team were advised that the development of a HCR is part of a wider management plan for the shrimp fishery under consideration by the Norwegian Ministry of Trade, Industry and Fisheries. The Ministry advised that the process of developing a shrimp management plan had been initiated, but not yet finalised, and no information was available currently. During discussions the audit team recognised that the development of a HCR within a wider management plan for the Barents Sea shrimp fishery was not necessarily a priority because the fishery is regulated through effort control and area management, stock biomass estimates throughout the history of the fishery have been well above B_{msy} and that the current exploitation rate results in catches of around 20.000 tonnes when ICES advice for 2015 is that catches of up to 70.000 tonnes would maintain the current high stock biomass. The audit team noted that under such circumstances, there is scope within the new Certification Requirements v2.0 for timescales for implementing a HCR to be extended.</p>

	<p>In view of the need for agreement to be reached within NEAFC by all contracting parties, and between NEAFC and Norway and Russia, in order to meet this condition, the audit team acknowledged that the timescales for progress on this condition prescribed during the original assessment had been unduly optimistic. The audit team considered that progress, although slow, was being made against this condition and that remedial action was not necessary therefore. The audit team considered however that the milestones for this condition should be revised as follows:</p> <p>Annual surveillance 3: Ensure that shrimp is included in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement through consultation with the relevant authorities, and through liaison with the Norwegian fishery client, provide an evaluation of options considered for potential HCRs.</p> <p>Annual surveillance 4: Implement HCR through consultation with relevant authorities.</p>
Progress on Condition [Year 3]	<p>At the third surveillance audit, despite lobbying from the Client and further attempts to lobby NEAFC to include shrimp in the list of species in Annex 1 of the NEAFC Scheme of Control and Enforcement, the Estonian Ministries confirmed that no further progress had been made. The audit team concurred with the Ministries' view that meeting this condition would require negotiations with NEAFC, Norway and Russia, and recognised that the development of a HCR is part of a wider management plan for the shrimp fishery under consideration by the Norwegian Ministry of Trade, Industry and Fisheries. The Norwegian Marine Resources Act provides the legislative framework within which a shrimp fishery management plan can be developed, but the audit team recognised that any management plan would also need to be agreed within international fora such as NEAFC and the Norway/Russia Commission.</p> <p>The audit team agreed therefore that work to meet this condition should be aligned with that being carried out by Norway. At the fourth surveillance audit for the Norwegian fishery in September 2016, the Ministry of Trade, Industry and Fisheries confirmed that the process of developing a shrimp management plan had been initiated, but had still not been finalised. The Norwegian Ministry confirmed that their priority is to complete the development of the management plan for the North Sea and Skagerrak shrimp fishery along with their EU counterparts because there had been recent declines in stock biomass in the North Sea and Skagerrak. The implementation of the North Sea and Skagerrak management plan is expected to provide guidance in the development of a similar management plan for the Barents Sea fishery. The Client continues to express their support for the implementation of a HCR as part of the development of a wider management plan by Norwegian authorities.</p> <p>The Norwegian Ministry of Trade, Industry and Fisheries had previously confirmed that a HCR, as part of a wider management plan for the shrimp fishery in the Barents Sea, will not be implemented within the period of the Norwegian certification, even taking into account the extension of the Norwegian certificate to March 2018. The assessment team concluded therefore that this condition on the Estonian fishery will also not be met within the period of certification, and that this condition is therefore behind target. However the assessment team noted that the MSC has issued new guidance in relation to the timeframe required in which to meet conditions raised against PI 1.2.2 in relation to harvest control rules. The MSC has acknowledged that for certified fisheries in which the stock biomass has consistently been above Bmsy during the history of the fishery, and that F is consistently below Fmsy, additional time may be given to the Client in meeting any condition which requires the implementation of a well-defined</p>

	HCR under PI 1.2.2. This additional flexibility can only be granted to fisheries that will undergo the re-certification process under MSC CRv2.0, and that any additional time required to meet the condition must not extend beyond the third annual surveillance audit of the re-certification. The audit team concluded that as biomass has been above Bmsy for the entire history of the Barents Sea fishery, that F is consistently below Fmsy, and that the fishery will commence the re-certification process in 2017 using MSC CRv2.0, it is appropriate under new MSC Guidelines to extend the deadline for meeting this condition to the third surveillance audit of the recertified fishery. The third surveillance audit would be expected to take place in 2021. The audit team emphasised to the Client that the new deadline for meeting the condition is an absolute final deadline and cannot be extended further.
Progress on Condition [Year 4]	At this fourth surveillance audit, the audit team confirmed that work to meet this condition had been aligned with that being carried out by Norway. At the fifth surveillance audit of the Norwegian fishery in April 2017, the Norwegian Ministry of Trade, Industry and Fisheries re-confirmed that the process of developing a shrimp management plan including a Harvest Control Rule had been initiated, but had still not been finalised. As detailed in the third surveillance audit report for the Estonian fishery, the audit team concluded that as biomass has been above Bmsy for the entire history of the Barents Sea shrimp fishery, that F is consistently below Fmsy, and that the fishery will commence the re-certification process using MSC CRv2.0, it is appropriate under new MSC Guidelines to consider extending the deadline for meeting this condition to the third surveillance audit of the recertified fishery. The third surveillance audit of the recertification would be expected to take place in 2021. The Client Group continues to express their support for the implementation of a HCR, and will continue to lobby the relevant Ministries to develop a HCR in conjunction with advice from the relevant scientific institutes.
Status of condition	Following the extension of the deadline for this condition granted by the audit team at the third surveillance audit, this condition can be considered to be on target. The CAB is currently in discussions with MSC to agree the extension of the deadline for meeting this condition. The recertification assessment has now commenced using MSC CRv2.0 and, on agreement with MSC, this condition will be carried over into the new certificate.

Table 13: Condition 3. Lack of information on by-catch of corals and sponges

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	2.4.3 Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types.	Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures)	75
Condition	The fishery is required to collect sufficient information on by-catches and spatial distribution of the fishery in order to detect any increase in risk for vulnerable bottom habitats (e.g. due to changes in fishing pattern or effectiveness of the move on rule).		
Milestones	Annual surveillance 1: Develop and implement procedures for monitoring and recording all by-catches of coral and sponges in every fishing haul. Provide the team with the collected data preferably with a map showing all		

	<p>recorded by-catches of sponges and corals. Provide the team with a map with all the VMS data on all UoC fishing vessels. Together with the team analyse the collected data to determine whether significant impacts are likely and where necessary develop appropriate management responses.</p> <p>Annual surveillance 2-4: Provide the team with the collected data preferably with a map showing all recorded by-catches of sponges and corals. Provide the team with a map with all the VMS data on all UoC fishing vessels. Show proof that appropriate management responses are taken where necessary.</p>
Client action plan	<p>The client will through ELDFA work closely with the Estonian Marine Institute, university of Tartu, based on its co-operation agreement.</p> <p>The client will also implement data collection program for recording by-catches corals and sponges in the NEAFC regulatory area and in the Svalbard Zone. This program will be implemented by using "MaxSea" Marine Navigation Software which is currently used on board or by collecting data using MSC Log book. All collected data will be provided to the Estonian Marine Institute for further analyzing.</p>
Progress on Condition [Years 1 & 2]	<p>The Estonian fleet has recorded any by-catches of coral and sponges in every fishing haul. The electronic log book (ERS) system has been upgraded to include a field for recording of VME species. Since certification, there have been no incidences of by-catch of coral and sponges. VMS data of all vessels in the UoC were provided to the Estonian Marine Institute, University of Tartu and these patterns of fishing activity were compared with the biomass distribution of the main taxonomic groups from the joint Norwegian/Russian ecosystem survey in 2013 (Figure 3). The Danish Client also provided output from the MaxSea plotter of the Ocean Tiger showing fishing positions during 2015.</p>  <p>Figure 3. Biomass distribution of main taxonomic groups per station in the Barents Sea during the ecosystem survey 2013 (Prokhorova, 2013).</p> <p>The VMS plots for 2013, 2014 and 2015 for the Estonian vessels show no change in fishing area for the vessels in the UoC, and confirm that the fishery does not overlap with the highest concentration areas of the sponges. Similarly the MaxSea plotter output for the Danish vessel suggests no overlap with the highest concentration areas of the sponges. (VMS and MaxSea plots of fishing activity of each individual vessel in the UoC were presented to the audit team, but are not reproduced here to protect commercial</p>

	<p>confidentiality.) The observed zero by-catches of corals and sponges would be expected within the Loop Hole area of the fishery, but would be less likely in the Svalbard FPZ fishing area. The zero by-catches may be a consequence of the use of the Nordmore grids with bar spacing of 22 mm that may inhibit the by-catch of sponges and corals (Silver Sirp, Estonian Marine Institute, pers. comm.).</p> <p>The condition required that procedures for monitoring and recording all by-catches of coral and sponges in every fishing haul had been developed and implemented at the first surveillance audit. In addition the client was required to provide a map showing all recorded by-catches of sponges and corals and a map with all the VMS data on all UoC fishing vessels. These initial data suggest that significant impacts are unlikely and therefore there appears to be no need to introduce new management responses. The condition was considered therefore to be on target at the 1st surveillance audit.</p> <p>In previous years UoC vessels have been making paper records of coral and sponge by-catches on each haul, which is inefficient as all other important information is recorded on the electronic reporting system (ERS). The Estonian Ministries have now introduced an additional field to the ERS where by-catches of corals and sponges can be recorded. Both Reyktal and the Estonian Marine Institute have access to the ERS, so the information would then be available to both these organisations.</p> <p>As no bycatch of corals and sponges was recorded during the two years following certification, maps of bycatch were not required. Comparison of VMS data from all shrimp vessels with the biomass distribution of the main taxonomic groups from the joint Norwegian/Russian ecosystem survey in 2013 suggested that significant impacts are unlikely. There appears to be no need therefore to introduce new management responses. The condition was considered to be on target at this 2nd surveillance audit.</p>
<p>Progress on Condition [Year 3]</p>	<p>The Estonian fleet continues to record any by-catches of coral and sponges in every fishing haul in a designated field on the electronic log book (ERS) system. Since certification, there have been no incidences of by-catch of coral and sponges. In 2016, the Danish also had no recorded catches of corals or sponges. VMS data of all vessels in the UoC were provided to the Estonian Marine Institute, University of Tartu and these patterns of fishing activity were compared with the biomass distribution of the main taxonomic groups from the joint Norwegian/Russian ecosystem survey in 2013 (Figure 3). The Danish Client also provided output from the MaxSea plotter of the Ocean Tiger showing fishing positions during 2016. The VMS plots for 2016 for the Estonian vessels show no change in fishing area for the vessels in the UoC, and confirm that the fishery does not overlap with the highest concentration areas of the sponges. Similarly the MaxSea plotter output for the Danish vessel suggests no overlap with the highest concentration areas of the sponges. (VMS and MaxSea plots of fishing activity of each individual vessel in the UoC were presented to the audit team, but are not reproduced here to protect commercial confidentiality.) The observed zero by-catches of corals and sponges would be expected within the Loop Hole area of the fishery, but would be less likely in the Svalbard FPZ fishing area. The zero by-catches may be a consequence of the use of the Nordmore grids with bar spacing of 22 mm that may inhibit the by-catch of sponges and corals (Silver Sirp, Estonian Marine Institute, pers. comm.).</p> <p>As no bycatch of corals and sponges was recorded during the three years following certification, maps of bycatch were not required. Comparison of VMS data from all shrimp vessels with the biomass distribution of the main taxonomic groups from the joint Norwegian/Russian ecosystem survey in 2013 suggested that significant impacts are unlikely. There appears to be no</p>

	need therefore to introduce new management responses. The condition was considered to be on target at this 3 rd surveillance audit.
Progress on Condition [Year 4]	The Estonian fleet continues to record any by-catches of coral and sponges in every fishing haul in a designated field on the electronic log book (ERS) system. The Danish vessel is required by the owner to record any interactions with corals or sponges in their internal weekly catch report, and the Lithuanian vessel will record any interactions in the 'Remarks' column on their log book. (The UK vessel is not currently fishing.) Since certification, there have been no incidences of by-catch of coral and sponges in any of the fleets. VMS data of all vessels in the UoC and output from the MaxSea plotter of the Danish vessel (Ocean Tiger) show no change in fishing area for the vessels in the UoC, and confirm that the fishery does not overlap with the highest concentration areas of the sponges. (VMS or MaxSea plots of fishing activity of each individual vessel in the UoC were presented to the audit team, but are not reproduced here to protect commercial confidentiality.)
Status of condition	As no bycatch of corals and sponges was recorded during the four years following certification, maps of bycatch were not required. Comparison of VMS data from all shrimp vessels with the biomass distribution of the main taxonomic groups from the joint Norwegian/Russian ecosystem survey in 2013 suggested that significant impacts are unlikely. There appears to be no need therefore to introduce new management responses, and as there are procedures in place to ensure that any future interactions with corals and sponges will be recorded, the audit team concluded that the condition could be closed.

Table 14: Recommendation 1. Lack of observer programme for Estonian shrimp vessels

Performance indicator 1.2.3	Relevant information is collected to support the harvest strategy
Score	80
Rationale	<p>SG 80 (a) Requirement: Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.</p> <p>Rationale: Genetics studies of <i>Pandalus borealis</i> have concluded that the populations of the Barents Sea and Svalbard can be considered to be a single population (Martinez <i>et al.</i>, 2006), and research surveys and observer programmes on some components of the fleet provide data on the size range and reproductive state of the stock. The licensing of all vessels, VMS, log books and obligatory catch returns ensure that the fleet composition is well understood. There is good information on the composition of the Estonian fleet, but the assessment team recommends that an observer programme is introduced for the Estonian fleet in the Barents Sea and Svalbard area to collect data on the catch and discards of shrimps and other species, and obtain representative samples of the size and sex distribution of shrimps.</p>
Recommendation	<p>The assessment team recommends that an observer programme is introduced for the Estonian fleet in the Barents Sea and Svalbard area to collect data on the catch and discards of shrimps and other species, and obtain representative samples of the size and sex distribution of shrimps.</p>
Observations:	<p>At the first surveillance audit, no progress had been reported in relation to this recommendation, although the Client confirmed that they would be happy to have observers on any of the UoC vessels.</p> <p>At the 2nd surveillance audit, the Ministries reported that the EU Data Collection Framework (DCF) has been updated and from 2016 observer data will be collected on shrimp vessels in the Barents Sea. One observer trip collecting shrimp length/sex samples and cod bycatch length data had been undertaken in December 2014 on Taurus. No bycatch of corals or sponges were recorded on this observer trip.</p> <p>At the 3rd surveillance audit, the Client, Ministries and Marine Institute reported that as part of the EU Data Collection Framework (DCF), three fishing trips (about 35 days per trip) will be covered with an observer on board in 2016. On the first two observer trips information from 269 hauls was recorded, including fishing effort, gear, location, catch, discards and bycatch. The carapace length, sex and maturity were recorded from a total of 24,041 shrimps. The third observer trip was in progress at the time of the surveillance audit.</p> <p>At the 4th surveillance audit, the Client, Ministries and Estonian Marine Institute reported that as part of the EU Data Collection Framework (DCF), three observer trips would be completed in 2017. In addition to measuring all shrimps caught, the observers record any bycatch (whether retained or discarded) including ETP species, take photographs of species that are not normally caught on board the shrimp vessel and will record any catch of corals and sponges (Kalvi Hubel, Estonian Marine Institute, University of Tartu, pers. comm.). These three observer trips represent approximately 10% of all shrimp fishing trips made by Estonian vessels in the Barents Sea. As the Danish, Lithuanian and UK vessels will fish in the same areas as the Estonian vessels, the Estonian observer programme provides a representative record of catches across the four countries, and as the observer programme will continue in future years, the audit team concluded that the recommendation should be closed.</p>

Table 15: Recommendation 2. Lack of biologically defined reference points for long rough dab.

Performance indicator 2.1.3	Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species
Score	80
Rationale	<p>SG 80 (b) Requirement: Information is sufficient to estimate outcome status with respect to biologically based limits.</p> <p>Rationale: All landings from the Barents Sea are recorded and accounted for in the annual stock assessments. Combined with results from the abundance surveys the information is sufficient to estimate outcome. Greenland halibut is subject to a full ICES assessment including setting of Bpa reference point. There is no biologically based limits defined for long rough dab but the harvest rate is very low and reference points based on life traits suggests that that conceivable reference points will be well above the present level. According to GCB3.7.2. The scoring issues in brackets only refer to assessments for which quantitative information is available to assess the fishery, so these scoring issues should not be scored for scoring elements that do not have the quantitative information available. The SG 80 score post is met.</p>
Recommendation	The assessment team recommends that the status of long rough dab (main retained species) should be assessed against biologically defined reference points.
Observations:	No progress had been made in relation to this recommendation.

5 CONCLUSION

The fishery continues to be within the scope of the MSC fisheries standard (MSC FCR v2.0 § 7.4) according to the following determinations (MSC FCR v2.0 § 7.4):

- The target species is a fish (crustacean) and the fishery does not use poisons or explosives;
- The fishery is not conducted under a controversial unilateral exemption to an international agreement;
- The client or client group does not include an entity that has been successfully prosecuted for a forced labour violation in the last 2 years;
- The fishery has mechanisms for resolving disputes and disputes do not overwhelm the fishery;
- The fishery is not enhanced or based on an introduced species.

The audit team concluded that the Estonia North East Arctic cold water prawn fishery should remain certified (Table 16).

Table 16 Conclusion

Fishery	Status of certification	Comment
Estonia NEA Cold Water Prawn	Certified	The assessment team concludes that the MSC Certificate for this fishery shall remain active, subject to the agreed annual surveillance schedule and progress on the remaining conditions.

The main findings by the surveillance team were:

- The fishery exploits the Estonia North East Arctic cold water prawn fishery within sustainable limits, as has been the case in previous years. Stock biomass continues to be above Bmsy and fishing mortality remains below Fmsy;
- The fishery exploits the North East Arctic cod fishery within sustainable limits. Spawning stock biomass is well above MSYBtrigger and fishing mortality is below Fmsy;
- Fishing strategy, fishing gears and fishing grounds are to all practical purposes unchanged compared to previous years. VMS data and new information from the Norwegian MAREANO Project confirm that there is no significant overlap of shrimp fishing activity with sensitive habitats;
- The key management regulations are unchanged;
- Control and Enforcement activities and strategies were unchanged and no significant non-compliance has been reported;
- CoC conditions are unchanged;
- Condition 3 is closed and the revised scores for the UoCs are given in Table 17

Following the closing of Condition 3 and the re-scoring of PI 2.4.3 to 80, the revised scores are as follows:

Table 17 Summary of revised PI scores

Overall weighted Principle-level scores		UoC1	UoC2
Principle 1 - Target species		84.4	98.1
Principle 2 - Ecosystem		86.0	86.0
Principle 3 - Management		89.9	91.9

P	Wt	Component	Wt	Performance Indicator (PI)	Score UoC1	Score UoC2
1	1	Outcome	0.5	1.1.1 Stock status	100	100
				1.1.2 Reference points	80	100
				1.1.3 Stock rebuilding	N/A	N/A
		Management	0.5	1.2.1 Harvest strategy	70	100
				1.2.2 Harvest control rules & tools	75	100
				1.2.3 Information & monitoring	80	90
				1.2.4 Assessment of stock status	90	95
2	1	Retained species	0.2	2.1.1 Outcome	100	80
				2.1.2 Management	100	100
				2.1.3 Information	80	100
		Bycatch	0.2	2.2.1 Outcome	80	80
				2.2.2 Management	85	85
				2.2.3 Information	80	80
		ETP species	0.2	2.3.1 Outcome	85	85
				2.3.2 Management	90	90
				2.3.3 Information	80	80
		Habitats	0.2	2.4.1 Outcome	80	80
				2.4.2 Management	80	80
				2.4.3 Information	80	80
		Trophic function	0.2	2.5.1 Outcome	90	90
				2.5.2 Management	90	90
				2.5.3 Information	90	90
3	1	Governance and policy	0.5	3.1.1 Legal & customary framework	95	95
				3.1.2 Consultation, roles & responsibilities	90	90
				3.1.3 Long term objectives	100	100
				3.1.4 Incentives for sustainable fishing	90	90
		Fishery specific management system	0.5	3.2.1 Fishery specific objectives	80	80
				3.2.2 Decision making processes	90	90
				3.2.3 Compliance & enforcement	100	100
				3.2.4 Research plan	80	100
				3.2.5 Management performance evaluation	80	80

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APPENDICES

Appendix 1. Re-scoring evaluation tables

Table A.1. Original scoring of PI 2.4.3

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There is basic understanding of the types and distribution of main habitats in the area of the fishery.
			Work by both PINRO and IMR has provided good understanding of seabed substrate types and characteristic benthic infauna in different areas of the Barents Sea.
	b	Y	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear.
			The impact of trawls on different types of benthos has been well studied. Habitat mapping is ongoing and VMS data are available.
80	a	Y	The nature, distribution and vulnerability of all main habitat types in the fishery are known at a level of detail relevant to the scale and intensity of the fishery.
			Benthic mapping and sampling in the Barents Sea is carried out during an annual survey in close collaboration with Russian scientists. Annually since 2004, the Polar Research Institute of Fisheries and Oceanography- NM Knipovich (PINRO) and the Norwegian Institute of Marine Research (IMR) have had cooperation on studying and monitoring the invertebrate benthic animals, taken by bottom trawls, from the Norwegian-Russian Ecosystem Surveys covering the entire Barents Sea. The work is still ongoing.
			Benthic habitat mapping also takes place in the framework of the MAREANO project. Information from MAREANO is the main input into the benthic component of the Barents Sea integrated management plan. MAREANO provide a variety of interactive maps on their website. The areas of habitat that the MAREANO project has already mapped in detail give an indication of the level of information that is achievable, as this ambitious project continues and expands. The project has already identified main vulnerable areas. As stated above, even before this project, existing work by both PINRO and IMR provided a good understanding of seabed substrate types and characteristic benthic in fauna in different areas of the Barents Sea.
			The team has considered that general information on the distribution of invertebrate benthic species is available to a level of detail relevant to the scale and intensity of the fishery.
	b	Y	Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear.
			There is information available from VMS on the exact location of fishing activity, which allows both the spatial extent and timing to be determined. There is also sufficient data on the nature of impacts of trawl gears on bottom habitats. There is also some more localised (Barents Sea) research

			on the impacts of trawl gears. In particular, the work by S.G. Denisenko and N.V. Denisenko has strengthened understanding of the impact of bottom trawling on benthic communities in the Barents Sea.
	c	N	<p>Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p> <p>The collection of VMS data on the exact location of fishing activity will be continued. However also data on the effectiveness of the move on rule concerning VME are needed in order to make it possible to conclude that sufficient data continue to be collected to detect any increase in risk to habitat. Therefore a Condition was formulated.</p>
100	a	N	<p>The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.</p> <p>The areas of habitat that the MAREANO project has already mapped in detail give an indication of the level of information that is achievable. Not all areas have been covered however so it cannot be concluded that the distribution of all habitat types is known over their range.</p>
	b	N	<p>The physical impacts of the gear on the habitat types have been quantified fully.</p> <p>General impacts of bottom trawl gear have been studied, but the impacts of the shrimp trawling in the Barents Sea have not been quantified yet.</p>
	c	N	<p>Changes in habitat distributions over time are measured.</p> <p>Changes in habitat distributions may be detected in the future when the benthic surveys are repeated over time. Given the vast area that has to be covered distance between sample stations are large which make it difficult to conclude that changes in habitat distributions are measured over time.</p>
References			Denisenko N.V., Denisenko S.G. 1991. On impact of bottom trawling on benthos in the Barents Sea// Environmental situation and protection of flora and fauna of the Barents Sea. Apatity, published by Kola Science Centre of USSR Academy of Science. S. 158-164.
OVERALL PERFORMANCE INDICATOR SCORE:			75
CONDITION NUMBER (if relevant):			

Table A.1. New scoring of PI 2.4.3. Changes to rationales and scores are given in blue.

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>There is basic understanding of the types and distribution of main habitats in the area of the fishery.</p> <p>Work by both PINRO and IMR has provided good understanding of seabed substrate types and characteristic benthic infauna in different areas of the Barents Sea.</p>
	b	Y	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear.

			The impact of trawls on different types of benthos has been well studied. Habitat mapping is ongoing and VMS data are available.
80	a	Y	<p>The nature, distribution and vulnerability of all main habitat types in the fishery are known at a level of detail relevant to the scale and intensity of the fishery.</p> <p>Benthic mapping and sampling in the Barents Sea is carried out during an annual survey in close collaboration with Russian scientists. Annually since 2004, the Polar Research Institute of Fisheries and Oceanography- NM Knipovich (PINRO) and the Norwegian Institute of Marine Research (IMR) have had cooperation on studying and monitoring the invertebrate benthic animals, taken by bottom trawls, from the Norwegian-Russian Ecosystem Surveys covering the entire Barents Sea. The work is still ongoing.</p> <p>Benthic habitat mapping also takes place in the framework of the MAREANO project. Information from MAREANO is the main input into the benthic component of the Barents Sea integrated management plan. MAREANO provide a variety of interactive maps on their website.</p> <p>The areas of habitat that the MAREANO project has already mapped in detail give an indication of the level of information that is achievable, as this ambitious project continues and expands. The project has already identified main vulnerable areas. As stated above, even before this project, existing work by both PINRO and IMR provided a good understanding of seabed substrate types and characteristic benthic in fauna in different areas of the Barents Sea.</p> <p>The team has considered that general information on the distribution of invertebrate benthic species is available to a level of detail relevant to the scale and intensity of the fishery.</p>
	b	Y	<p>Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear.</p> <p>There is information available from VMS on the exact location of fishing activity, which allows both the spatial extent and timing to be determined. There is also sufficient data on the nature of impacts of trawl gears on bottom habitats. There is also some more localised (Barents Sea) research on the impacts of trawl gears. In particular, the work by S.G. Denisenko and N.V. Denisenko has strengthened understanding of the impact of bottom trawling on benthic communities in the Barents Sea.</p>
	c	Y	<p>Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p> <p>The collection of VMS data on the exact location of fishing activity has continued from all vessels in the UoC every year and has been compared with the biomass distribution of the main taxonomic groups from the joint Norwegian-Russian ecosystem survey in 2013. This comparison suggested that significant impacts of the fishery on VMEs are highly unlikely. There appears to be no need therefore to introduce new management responses, and as there are procedures in place in all national fleets to ensure that any future interactions with corals and sponges will be recorded, it can be concluded that sufficient data continue to be collected to detect any increase in risk to habitat. The SG80 is met.</p>
100	a	N	<p>The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.</p>
			<p>The areas of habitat that the MAREANO project has already mapped in detail give an indication of the level of information that is achievable. Not all areas have been covered however so it cannot be concluded that the</p>

			distribution of all habitat types is known over their range.	
	b	N	The physical impacts of the gear on the habitat types have been quantified fully.	
			General impacts of bottom trawl gear have been studied, but the impacts of the shrimp trawling in the Barents Sea have not been quantified yet.	
	c	N	Changes in habitat distributions over time are measured.	
Changes in habitat distributions may be detected in the future when the benthic surveys are repeated over time. Given the vast area that has to be covered distance between sample stations are large which make it difficult to conclude that changes in habitat distributions are measured over time.				
References			Denisenko N.V., Denisenko S.G. 1991. On impact of bottom trawling on benthos in the Barents Sea// Environmental situation and protection of flora and fauna of the Barents Sea. Apatity, published by Kola Science Centre of USSR Academy of Science. S. 158-164.	
OVERALL PERFORMANCE INDICATOR SCORE:				80
CONDITION NUMBER (if relevant):				



Appendix 2. Stakeholder submissions

No stakeholder submissions were received which had any significant impact on scoring, rationales or conditions.



Appendix 3. Additional detail on conditions/ actions/ results

Not applicable



Appendix 4. Revised Surveillance Program

There are no proposed revisions to the surveillance programme.



Appendix 5. List of member vessels

Estonia

Steffano (EK-1601) – part of the client group vessels from July 2016

Ontika (EK 1502, previously EK-0101)

Reval Viking (EK-1202)

Denmark

Ocean Tiger (R38)

Lithuania

Taurus (KL 898)


United Kingdom

Norma Mary (H110)



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