DNV·GL

SURVEILLANCE NO. 3

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

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

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Authors: Julian Addison, Sigrun Bekkevold
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Objective:

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

Prepared by:

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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
TAC	Total Allowable Catch
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

<table>
<tr><td>Fishery name</td><td colspan="3"></td></tr>
<tr><td>Unit(s) of Assessment (UoA)</td><td colspan="3">Estonia North East Arctic cold water prawn fishery
<table>
<tr><td>Species:</td><td>Northern shrimp, cold water prawn (Pandalus borealis)</td></tr>
<tr><td>Stock:</td><td>Barents Sea shrimp (ICES Division I and II) / FAO 27</td></tr>
<tr><td>Geographical area:</td><td>Barents Sea and Svalbard in FAO statistical area 27, ICES Ia,b and IIb.</td></tr>
<tr><td>Harvest method:</td><td>Bottom trawl</td></tr>
<tr><td>Management:</td><td>• Estonia and Denmark Fisheries Management /EU Commission
• NEAFC
• Norwegian Fisheries Management (Svalbard FPZ)
The stock is managed according to ICES advice.</td></tr>
<tr><td>Client group:</td><td>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.</td></tr>
<tr><td>Other eligible fishers:</td><td>There are no other identified eligible fishers, as there are no other vessels fishing for cold water prawns (Pandalus borealis) licensed under Estonian fisheries management in the Unit of Certification. If at a later date more 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 client group will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC certificate.</td></tr>
</table></td></tr>
<tr><td>Date certified</td><td>7 November 2013</td><td>Date of expiry</td><td>7 November 2018</td></tr>
<tr><td>Surveillance level and type</td><td colspan="3">Surveillance level 6 (surveillance level 2 or more (normal surveillance) according to v. 1.3)

On-site surveillance</td></tr>
<tr><td>Date of surveillance audit</td><td colspan="3"></td></tr>
<tr><td rowspan="5">Surveillance stage</td><td>1st Surveillance</td><td colspan="2"></td></tr>
<tr><td>2nd Surveillance</td><td colspan="2"></td></tr>
<tr><td>3rd Surveillance</td><td colspan="2">x</td></tr>
<tr><td>4th Surveillance</td><td colspan="2"></td></tr>
<tr><td>Other (expedited etc)</td><td colspan="2"></td></tr>
<tr><td>Surveillance team</td><td colspan="3">Lead assessor: Julian Addison
Assessor(s): Sigrun Bekkevold</td></tr>
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This report contains the findings of the third annual MSC Fisheries surveillance audit conducted for the Estonia NEA cold water prawn fishery on 10 November 2016.

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

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, although Russian vessels declared zero landings each year from 2009 to 2012 and only minimal landings since then. Vessels from other countries, including those from Estonia and Denmark 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, and within the total EU allocation of days in the Svalbard FPZ, Denmark agreed the transfer of 35 days with the Estonian authorities and 61 fishing days with the German authorities, providing a total of 127 fishing days in the Svalbard FPZ allocated to Denmark in 2015. In 2016 the allocation to Denmark was 92 days. 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. 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. Landings then declined further to 19,249 tonnes in 2013 and increased slightly to 20,964 tonnes in 2014. Since then landings have increased significantly to 33,624 tonnes in 2015 due to increased fishing effort and favourable market conditions for both raw and processed shrimps, and for 2016 ICES projected landings to be 36,000 tonnes (Figure 1).

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. The Danish vessel is Ocean Tiger R38. Estonian vessels landed 4521, 5289 and 5897 tonnes of shrimps in ICES Area I and II in 2013, 2014 and 2015 respectively, equating to approximately 23%, 25% and 18% of the overall landings from the Barents Sea stock in the respective years. Provisional figures for 2016 up to the end of October 2016 show landings of 6423 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 shrimp were not landed until January 2015. Landings by the Danish vessel in 2015 (based on sales note data) were 1169 tonnes equating to approximately 3.5% of the overall landings from the Barents Sea stock. Approximately 60% of the landings were from

the Svalbard zone in 2015. Preliminary data up to the end of October for 2016 show landings of 1374 tonnes.

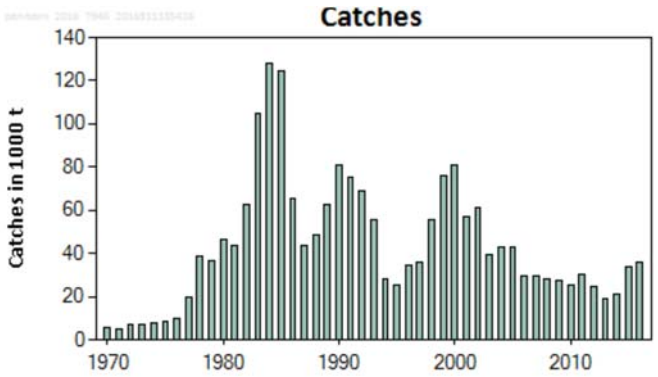


Figure 1. Total catches of *Pandalus borealis* in the Barents Sea from 1970 to 2015. (Source: ICES, 2016).

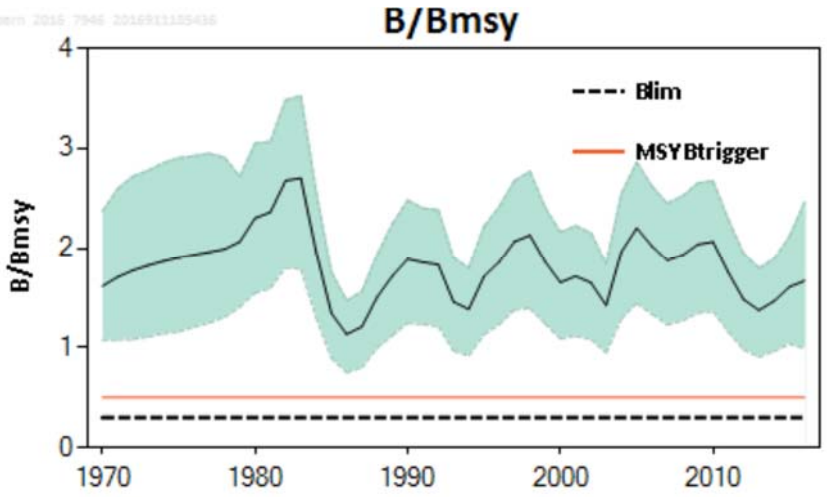
The stock in the Barents Sea and Svalbard area (ICES Sub-areas I and II) is assessed along with other Northwest Atlantic Fisheries Organization (NAFO) and International Council for the Exploration of the Sea (ICES) stocks by the joint NAFO/ICES *Pandalus* Assessment Group (NIPAG). The most recent assessment was carried out at the NIPAG meeting in Bergen, Norway in September 2016 (NAFO/ICES, 2016). 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, 2015).

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, 2015a). 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 standardised CPUE showed a significant increase in 2015 and 2016, although still below the long term mean (NAFO/ICES, 2016). 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, 2015b). 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, 2015b) and Russian (Zakharov, 2014) surveys showed no major changes from 2004 to 2013.

The assessment model estimates biomass in relation to Bmsy and fishing mortality in relation to Fmsy, and considers two other reference points that ICES uses within its MSY framework for

providing advice: Btrigger (50% of Bmsy), a biomass encountered with low probability if Fmsy is implemented, and Blim (30% of Bmsy), the biomass below which recruitment is expected to be impaired. The assessment also considers Flim (170% of Fmsy), the fishing mortality that would drive the stock to Blim.

The most recent assessment in 2016 shows that there has been no change in stock status since the original assessment. The estimated biomass has been above Bmsy since the start of the fishery in the 1970s, and the fishing mortality rate has been well below Fmsy throughout the duration of the fishery (Figure 2). Assuming a catch of 36.000 t in 2016, the assessment estimated that fishing mortality in 2016 would be 0.10 x Fmsy, and that biomass in 2017 is projected to be 1.67 x Bmsy. The assessment estimates the risk associated with exceeding the various reference points. In 2016, the risk of F being above Fmsy was 2.7%, the risk of falling below Btrigger and Blim was 0.4% and 0.1% respectively, and the risk of exceeding Flim was 1.2% (NAFO/ICES, 2016). The 2016 assessment also provides model predictions of risk associated with a range of catch levels up to 100,000 t per annum. Assuming a catch of 36,000 t for 2016, catch options up to 90,000 t for 2017 have a low probability of exceeding Flim (<5%), or of the biomass going below Blim (<1%) by the end of 2017, and all are likely to maintain the stock at its current high level (ICES, 2016). More detail of the most recent values of the various stock indices can be found in the 2016 stock assessment report (NAFO/ICES, 2016).



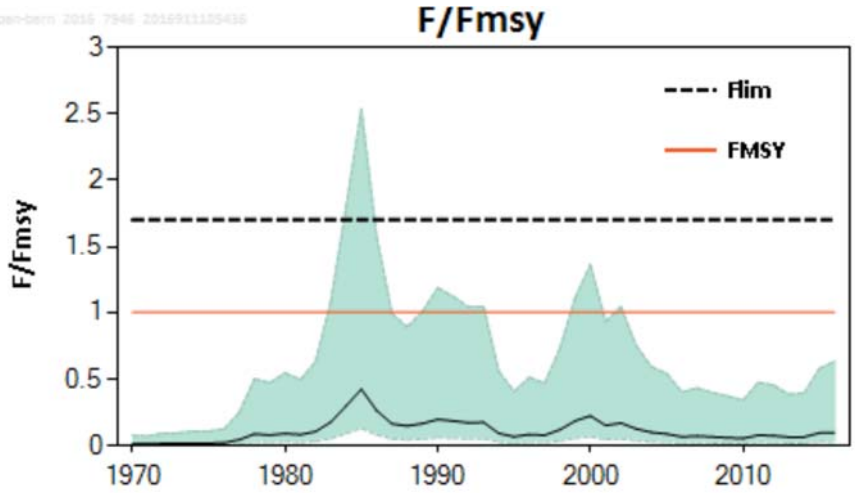


Figure 2. Estimated time series of relative biomass (B/Bmsy) and fishing mortality (F/Fmsy). The solid black lines are the median with 90% probability intervals. The dotted lines are the Blim and Flim reference points and the red lines are the MSYBtrigger and Fmsy reference points. (Source: ICES, 2016).

In conclusion, the most recent stock assessment by NIPAG shows that there is no change in the status of the stock. Based on the 2016 stock assessment, ICES advises that catches of up to 70,000 tonnes in 2017 would maintain stock biomass well above Bmsy, and move the exploitation rate a little closer to, but still well below, Fmsy. Catches are again forecast to be much lower than 70,000 tonnes.

2.2 Impact on the ecosystem

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 will be expanding 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 2012 a small cod (*Gadus morhua*) quota of 250 tonnes for the Barents Sea was allocated to Estonia. 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. In 2016 Estonian vessels 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.

Apart from the bycatch of Greenland halibut, no new potential impacts of the fishery on the ecosystem have been identified.

2.3 Changes to the management system

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 and Danish 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 Estonian and Danish 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. Estonian and Danish 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.

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 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 Ministry (see condition 3). In addition, an observer programme 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). The Client confirmed that in 2016 observers had been present on the vessels Taurus and Stefano.

Although some minor changes to the management system as described above have been implemented in 2015, the 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 and Danish 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 and Denmark which would have a significant influence on the way in which the shrimp fishery is managed.

Outside the control of the Estonian fisheries authorities, there remains the problem that Norway disputes the quota that the EU has set for Greenland halibut, against which Estonia has landed halibut in 2016. The audit team considered this issue in some detail.

MSC Certification Requirements paragraph 7.4.2 require that:

"A fishery shall not be eligible for certification if there is no mechanism for resolving disputes, or if it overwhelm the fishery.

If a fishery ..is the subject of dispute…the CAB shall consider:

a) If the fisheries management regime …includes a mechanism for resolving disputes.

b) If there is a mechanism for resolving disputes, whether that mechanism is adequate to deal with…existing disputes

c) If disputes overwhelm the fishery enough to prevent it from meeting the MSC's fisheries standard"

The audit team considered the current dispute about Greenland halibut bycatch in NEAFC waters in relation to the above paragraph of the MSC CR, 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.

2.4 CoC considerations

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 (auction, cold/freezer store or processing plant). One of the vessels, Taurus, is replaced by a new vessel named Steffano, but this has no influence on the CoC. Taurus was sold to Lithuania in October 2016, and is now included in a current scope extension process for being added to the Estonian certificate.

No changes in the CoC were observed during the surveillance activities.

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.

2.5 Catch data

Table 2 TAC and Catch Data

TAC	**Year**	2016	**Amount**	N/A
UoA share of TAC	**Year**	2016	**Amount**	N/A
UoC share of TAC	**Year**	2016	**Amount**	N/A
Total green weight catch by UoC	**Year (most recent)**	2015	**Amount**	7,066 t
	Year (second most recent)	2014	**Amount**	5,289 t

Provisional Estonian and Danish landings data for 2016 up to 31 October 2016 are 7797 tonnes, suggesting that overall landings are going to be significantly higher in 2016 than in the previous two years.

2.6 Summary of Assessment Conditions

Table 3 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 7)	70	Not revised
2	1.2.2	Behind target (Milestones revised – see Table 8)	75	Not revised
3	2.4.3	On target	75	Not revised

3 THE ASSESSMENT PROCESS

3.1 Scope of the assessment

The MSC Fisheries CR and guidance v2 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 Table 4 below.

Table 4 UoC

Fishery name:		Estonia North East Arctic cold water prawn fishery
Unit of certification	**Species:**	Northern shrimp, cold water prawn *(Pandalus borealis).*
	Stock:	Barents Sea stock (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:	• Estonia and Denmark Fisheries Management / EU Commission • NEAFC • Norwegian Fisheries Management (Svalbard FPZ) 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) P/R Ocean Tiger represented by the following vessel: Ocean Tiger R38.
	Other eligible fishers:	There are no other identified eligible fishers, as there are no other vessels fishing for cold water prawns (*Pandalus borealis*) licensed under Estonian fisheries management in the Unit of Certification. If at a later date more 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 client group will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC certificate.

3.2 History of the assessments

3.2.1 Summary of the original assessment

The intent of the Estonia North East Arctic Cold Water Prawns 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 5 Principle scores – 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.

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

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.

Table 6 show the list of participants and issues discussed in the meetings with the client and the authorities in Tallinn.

Table 6. List of participants and issues discussed

Date	Name and affiliation	Key issues
10.11.2016 Client meeting	**Client group** • Mati Saravet, MD Reyktal • Alexander Baryshev, captain Ontika **DNV GL:** • Sigrun Bekkevold • Julian Addison (remote)	1. Review of basic info about the company: • Changes in ownership or organisational structure • Roles and responsibilities in the MSC Fishery certification process • Updated vessel list 2. Review of fishing operations: • 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 3. Review of impact on ecosystem: • 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 4. Compliance with rules and regulations • Disputes with national/ international authorities during 2015/2016.

		• Records of sanctions and penalties (if any) for 2015/2016. 5. Chain of Custody start: • Review of traceability system on board and at landing • Labelling of products/changes in labeling of products • List of landing sites in 2015/2016 • First point of landing • First point of sale • Main products/change in product range • Main markets 6. Review of progress against conditions and recommendations <u>Conditions:</u> Condition 1 - regulations limiting fishing effort in international waters Condition 2 - harvest control rules Condition 3 - information on bycatch and spatial distribution of the fishery
10.11.2016 Meeting with the Ministries	**Ministry of Rural Affairs and Ministry of Environment:** • Aare Tuvi, Ministry of Environment • Elo Rasmann, Ministry of Environment • Epp Meremaa, Ministry of Rural Affairs • Gunnar Lambing, Ministry of Rural Affairs **Reyktal**: • Mati Saravet **DNV GL:** • Sigrun Bekkevold • Julian Addison	• 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 • 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 season including other species retained in shrimp trawls for both Svalbard FPZ and 'Loophole'. • Updated VMS data for the NEA CWP fisheries • Changes in research strategy or programmes for the fishery

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, at the same time, 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 7: 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 and Ib), 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	**Annual surveillance 1**: Show written evidence of consultation with relevant authorities and stakeholder groups in relation to options limiting fishing effort in international waters **Annual surveillance 2:** Provide an evaluation of options considered for potential mechanisms for limiting fishing effort At the 2nd surveillance audit, the audit team revised the milestones for this condition as follows: **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. **Annual surveillance 4:** Implement regulations for limiting shrimp fishing effort within the NEAFC region known as the Loophole through consultation with relevant authorities.		
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 in the Barents Sea. 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.		
Progress on Condition [Year 1]	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. 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.
Progress on Condition [Year 2]	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 (see Figure 2). This closure applies to all bottom fishing including shrimp trawling. 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. 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 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. 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:

	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. **Annual surveillance 4:** Implement regulations for limiting shrimp fishing effort within the NEAFC region known as the Loophole through consultation with relevant authorities.
Progress on Condition [Year 3]	At this 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.
Status of condition	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: **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. **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. 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.

Table 8: 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	**Annual surveillance 1**: Show written evidence of consultation with relevant authorities and stakeholder groups in relation to options for HCRs. **Annual surveillance 2:** Provide an evaluation of options considered for potential HCRs At the 2nd surveillance audit in 2015, the audit team revised the milestones for this condition as follows: **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. **Annual surveillance 4:** Implement HCR through consultation with relevant authorities.		
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 in the Barents Sea. 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.		
Progress on Condition [Year 1]	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 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. 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.
Progress on Condition [Year 2]	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. 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. 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:

	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. **Annual surveillance 4:** Implement HCR through consultation with relevant authorities.
Progress on Condition [Year 3]	At this 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. 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.
Status of condition	The audit team agreed with the Client and the Ministries that work to meet this condition should be aligned with work being carried out by Norway. 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 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.

Table 9: 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 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. **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.		
Client action plan	The client will through ELDFA work closely with the Estonian Marine Institute, university of Tartu, based on its co-operation agreement. 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 Maine Institute for further analyzing.		
Progress on Condition [Years 1 & 2]	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.		

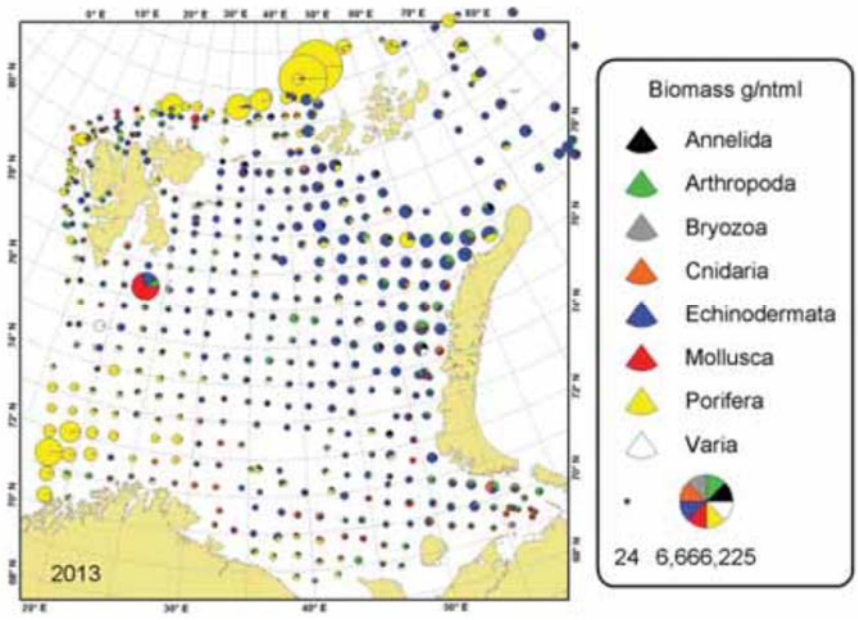


Figure 3. Biomass distribution of main taxonomic groups per station in the Barents Sea during the ecosystem survey 2013 (Prokhorova, 2013).

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 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.).

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.

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.

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.
Progress on Condition [Year 3]	The Estonian fleet continues to record any by-catches of coral and sponges in every fishing haul in a designatedl 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.).
Status of condition	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 need therefore to introduce new management responses. The condition was considered to be on target at this 3rd surveillance audit.

Table 10: 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	**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. **Rationale:** Genetics studies of *Pandalus borealis* have concluded that the populations of the Barents Sea and Svalbard can be considered to be a single population (Martinez *et al*., 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.
Recommendation	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.
Observations:	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. 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. 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.

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 11).

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;
- 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;

Table 11 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.**

6 REFERENCES

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APPENDICES

Appendix 1. Re-scoring evaluation tables

Not applicable

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 program

Appendix 5. List of member vessels

Taurus (EK-9914) – part of the client group vessels until mid-October 2016
Steffano (EK-1601) – part of the client group vessels from July 2016
Ontika (EK 1502, previously EK-0101)
Reval Viking (EK-1202)
Ocean Tiger (R38)

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