The Annual Report on the Fishing Fleet of Estonia 2018

Summary on the balance between fishing opportunities and fishing capacity

The annual report evaluates the balance between fishing opportunities and fishing capacity of Estonia's fishing fleet in year 2018. For the evaluation, altogether 6 indicators have been calculated – SHI, SAR, ROI (ROFTA), CR/BR, inactive fleet indicator and vessel utilisation indicator. All indicators observe changes over 5-year period. Due to the lack of data under STECF JRC, the SHI and SAR are presented only for the Baltic Sea fleet segments and the latest data is available for year 2016, which can not be used for analysing the balance between fishing effort and capacity for 2018. The economic indicators for fleet segment VL40XX will be presented in a separate report due to the confidentiality restrictions.

Compared to 2017, the number of vessels, total main engine power and gross tonnage increased in 2018. Still, Estonia has followed the entry-exit scheme as foreseen under the common fisheries policy and fleet capacity is in compliance with the reference levels.

Based on the calculations and analysis of the balance indicators presented in section F, it can be stated, that all fleet segments are balanced, in general. The evaluation of balance indicators shows that an overall assessment of the situation in Estonia's fleet is rather positive – the structural balance has been achieved and there is some room left for adapting with the changes in stocks. Negative values for single years or for single indicators should not be overemphasized as they may not accurately reflect general trends in fleet segments. In conclusion, no structural overcapacity exists in Estonia's fishing fleet segments.

In analysing balance indicators, it is important to also refer to the statement by the Expert group in Expert Working Group EWG-17-08 report (in document STECF-18-14), that *the indicator values for all of the indicators being used to assess the balance between capacity and fishing opportunities merely inform on whether fleet segments should be scrutinised further to determine whether an action plan is warranted. The indicator values (either singly or in combination) cannot be considered reliable metrics to identify which fleet segments require an action plan.*

Due to above mentioned reasons the assessment does not clearly demonstrate that the fishing capacity is not effectively balanced with fishing opportunities and does not identify structural overcapacity. Moreover, all Baltic Sea stocks analysed in the assessment are subject to quota management and the Estonian fisheries management is based on ITQ-s and ITE-s which are effective tools for vessel owners for keeping capacity in structural balance with their fishing opportunities. Therefore, preparation of the action plan is not relevant.

Biological sustainability indicators

The latest data available on SAR and SHI was for 2016, thus there are no changes in the interpretation of the data compared to the year 2017 annual report. Nevertheless, the values have changed compared to STECF's previous report. SHI value has been above 1 for more than 3 consecutive years (2012-2016) in fleet segments TM VL1218, TM VL1824, TM VL2440, which may refer to unsustainable fishing. Nevertheless, as was stated in the STECF JRC report (STECF-15-15), SHI indicator above 1 may reflect political decisions to reach F_{MSY} not immediately, but by 2020. Sustainable management of the most concerned stocks,

Baltic herring and sprat in the Baltic Sea, are subject for multi-annual plan, which came into effect mid-July 2016. Thus, the target to reach F_{MSY} in 2020 is achievable.

According to the STECF 18-14 – Balance capacity - Indicator table.xlsx, there was no SAR found for fleet segments PG VL1012, TM VL1218, TM VL1824 and TM VL2440. Segment PG VL0010 is considered to be in balance. Thus, the SHI and SAR data do not correlate and it is very difficult to draw any grounded conclusions based solely on those two balance indicators.

Economic indicators

For the last three years (2015-2017), the ROI has been positive in all Baltic Sea fleet segments. It is important to stress that most of the fish landed by vessels in segments TM VL1218 and TM VL2440 is owned by producer organisations in charge of the whole chain from catches to processing to exports, therefore their profits are generated at the export stage and not at the moment of landing. Also, as Baltic sea trawling fleet has been historically more dependent on the eastern market, then the Russian embargo may have affected the economic results together with the overall economic standstill.

Vessel use indicators

The total number of inactive vessels in fleet length classes VL1824, VL2440 and VL40XX is low – only 1 vessel. The highest proportion of inactive vessels is in segment VL1218 – 5 vessels. Three of these inactive vessels were deleted from the fishing fleet register during 2018. As individual fleet segments consist of a relatively small number of vessels, then few vessels with very low number of fishing days affect the indicator value of a whole segment. The highest vessel use indicator is in the distant water fishing fleet (VL40XX). The lowest is in coastal fleet PG VL0010, which can be expected due to various socio-economic, fishery-specific and weather-related vessel use factors.

Section A

Description of fleets

On EU level, all Estonian marine fishing vessels belong into the MFL segment. On national level, the Regulation of the Minister of Rural Affairs No 79 of 28.11.2017 determines the criteria for grouping fishing vessels into national fleet segments based on overall length (LOA), fishing gear, main target species and fishing grounds. The national segments for marine fishing vessels are: the Baltic Sea trawling segment (4S1), high seas fishery segment (4S3) and coastal fishing segment (4S2). The number of fishing vessels in the Estonian marine fishing fleet at the end of 2018, together with their main characteristics, is given in the table below.

Table 1. Estonian marine fishing fleet in 2018 according to the DCF.

National segment	DCF fleet segment	Clustered segment	No of vessels	kW	GT	Average age	Average kW	Average GT	Average length (m)
4S2	PG VL0010		1613	18158	1728	23	11	1	5
	PG VL1012		71	3655	487	28	51	7	12
4S1	TM VL1218	TM VL2440	1	307	35	29	307	35	16
	INACTIVE VL1218		4	261	47	27	65	12	13
	TM VL1824*		6	1914	746	28	319	124	23
	TM VL2440*		19	6804	2782	33	358	146	27
	INACTIVE TM VL2440		1	221	117	41	221	117	25
4S3	VL40XX		5	15385	9834	24	3077	1967	65

Total			**1 720**	**46 705**	**15 776**				

* Following fleet segments are clustered together as the number of vessels in a segment is low: TM VL1824 with TM VL2440. The clustering has been done according to the Chapter III.5 of 12 July 2016 Commission Implementing Decision (EU) 2016/1251, which states that in cases where there is a risk of natural persons and/or legal entities being identified, clustering may be applied to report economic variables in order to ensure statistical confidentiality.

Fleet segments PG VL0010 and PG VL1012

The Baltic Sea coastal fishing segment is divided between two distinctive fleet segments PG VL0010 and PG VL1012. These vessels are used in the Baltic Sea coastal waters up to 12 nautical miles or up to the 20-metre isobaths.

Fleet segment PG VL0010 has the largest number of vessels, 94% of the whole Estonian marine fishing fleet and their total engine power and gross tonnage make up 39% and 11% of the fleet respectively. As can be seen from the Table 2 below, total landings by vessels in fleet segment PG VL0010 are relatively small considering the number of vessels, making only 4% of the total landings of marine fisheries. These vessels are used for fishing for different species (European perch, smelt, Baltic herring, flounder, pike-perch, roach, northern pike, etc.) with various passive gears.

Fleet segment PG VL1012 comprises of vessels used for fishing for Baltic herring in the Baltic Sea with stationary uncovered pound nets, mostly in a short spring season from April to June. The total number of vessels in fleet segment PG VL1012 is relatively small, comprising 4% of the whole fleet, and their total engine power and gross tonnage make up only 8% and 3% of the fleet respectively, but quantities landed by these vessels makes 8% of the total landings of marine fisheries and 20% of all Baltic herring landings.

Fleet segments TM VL1218, TM VL1824 and TM VL2440

By DCF classification, the Baltic Sea trawling segment consists of three fleet segments: TM VL1218, TM VL1824 and TM VL2440. These vessels are used for fishing sprat and Baltic herring in the Baltic Sea. Cod fishing has lost its importance as cod stocks are in decline and fishing grounds are farther away, thus making fishing for cod not profitable. There were no vessels specialised on cod fishing in 2018 and no cod catches were reported. Vessels that were used for cod fishing before are fishing now for sprat and Baltic herring or have been removed from the fleet. Combined, vessels of segments TM VL1218, TM VL1824 and TM VL2440 make up only 2% of the total number of vessels, but their total engine power and gross tonnage make up 20% and 24% of the fleet respectively. Total landings by the Baltic Sea trawling fleet were 56 499.8 tonnes, which corresponds to 67% of total landings from marine commercial fisheries in 2018.

Fleet segment VL40XX

Length class VL40XX comprises of distant water trawling vessels used for fishing various regulated and non-regulated species in the Atlantic Ocean. Five vessels in length class VL40XX make up to 33% of the total engine power and 62% of the total gross tonnage of the whole fleet. Total landings by these vessels were 17 160.1 tonnes in 2018, which makes 20% of total landings from marine commercial fisheries in 2018.

Table 2. Main fisheries and total landings in year 2018.

DCF fleet segment	National segment	Main fishing area(s)	Main target species	Main gear	Total landings (t)
PG VL0010	4S2	Baltic Sea, coastal	European perch, Baltic herring, smelt, European flounder	FYK, FPN, GNS	3 304
PG VL1012			Baltic herring	FPN	7 132
TM VL1218	4S1	Baltic Sea	Baltic herring, sprat	OTM, PTM	52
TM VL1824				OTM	13 267

TM VL2440				OTM	43 181
VL40XX	4S3	NAFO, NEAFC, SVA, GRL	Northern prawn, redfish, cod, Greenland halibut, American plaice	OTB	17 160
Total					**84 097**

Link with fisheries

Commercial fishery in Estonia is based on the system of individual transferrable quotas (ITQ) and individual transferrable effort (ITE), allocated to companies, i.e. fishing rights owners, based on their 3-year historical fishing rights.

Baltic Sea trawling fleet is catching mainly herring and sprat which are subject to quotas agreed in EU level and allocated as individual fishing rights to companies. This kind of management ensures that companies themselves are keeping optimal capacity for utilization of their fishing opportunities.

In case of ITE, national limits on gears in order to limit fishing effort are set based on national scientific advice, and the total number is divided between fishing rights owners based on their 3-year historical fishing rights.

It is allowed to swap given year's fishing quotas with other companies or with other countries. A company has the right to waive or sell its historical fishing rights. If the fishing rights owner has not paid for its current year's allocation, the owner will not be granted a fishing authorisation and the allocated quantity is divided between other applicants. If a fishing authorisation has not been issued or catches have not been reported under the fishing authorisation for a three consecutive years, the fishing rights owner loses its historical fishing rights.

Fishing is allowed only if a relevant fishing authorisation is issued, irrespective whether fishing for regulated or non-regulated species. There are two types of fishing authorisations: fisherman's fishing authorisation and fishing vessel's fishing authorisation. Fishing vessel's fishing authorisation is issued for a specific fishing vessel and that vessel must have a valid fishing licence.

Fisherman's fishing authorisation is in use in coastal fisheries, where ITE system is in use and allowed fishing effort - the type and number of fishing gears – is marked on a fishing authorisation. Fishing authorisations are issued to a fishing rights owner and authorisation is not directly linked with a specific vessel, because not all fishing is conducted with fishing vessels (for example ice-fishing in winter, fishing in shallow waters). Starting from 1 December 2017, fisherman's fishing authorisation is given for a specific vessel for vessels of fleet segment PG VL1012 using pound nets to fish for Baltic herring or demersal saine to fish for European flounder. As coastal fishing uses mostly passive gears, capacity management through vessel kW and GT is not appropriate tool for regulating effort in this kind of fisheries. Fishing effort in the fishery where passive gear is used depends on number of gear multiplied with time when gear is actually fishing. Therefore, limitation of capacity in this kind of fishery is not relevant at all and has no reasonable justification for management and protection of fish stocks. However, vessels that are used must have a valid fishing licence.

Estonia has fishing opportunities in the Baltic Sea, in the NAFO and NEAFC Regulatory Areas, and shrimp fishing days in the Svalbard area. In addition, Estonia's distant water fishing vessels fish for non-regulated species in the Barents Sea and NAFO. In coastal fishery, most of the target species are non-regulated on EU-level, but regulated by national effort limitation scheme (ITE).

Baltic Sea fisheries

The evolution of Estonia's initial fishing opportunities (as adopted with the EU TAC regulation) in the Baltic Sea is shown below in chart 2. Subdivisions 25-27, 28.2, 29 and 32 Baltic herring has shown steady increase in TAC since 2012. At the same time Gulf of Riga Baltic herring quota has been fluctuating and has been decreasing since 2016. After cuts in 2015 and 2016 sprat quota has been increasing in 2017 and 2018. Both cod and salmon fishing opportunities continued to decline as in previous years.

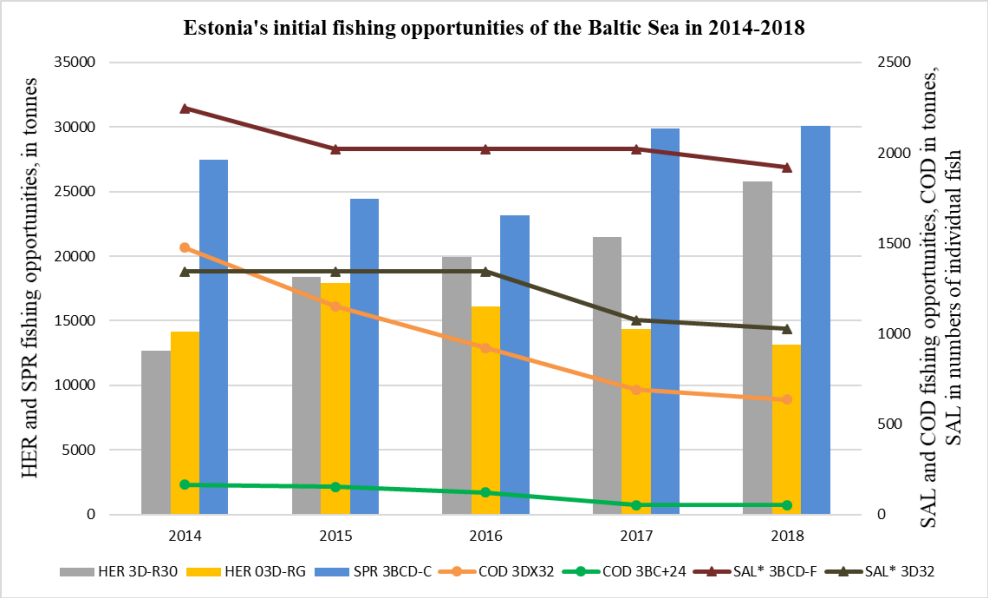

Chart 2. Estonia's initial fishing opportunities in the Baltic Sea in the years 2014-2018.

Landings of regulated species and total landings in 2018 by the Baltic Sea coastal and trawling fleets are shown in the table 3 below. Baltic herring is an important species both for the coastal and trawling fleets. Of the coastal fleet, 77% of all landed quantities and 47% in Baltic Sea trawling fleet, is Baltic herring. Catches of the Atlantic salmon and cod have been marginal in all Baltic Sea fleet segments. There were no catches of cod or Atlantic salmon in the Baltic Sea trawling fleet segments in 2018. Atlantic salmon was caught mostly by the coastal fleet segment PG VL0010, marginal quantity was caught by the fleet segment PG VL1012. The dependence on species regulated on EU-level is marginal only in the fleet segment PG VL0010. Other Baltic Sea fleet segments specialize on the exploitation of the EU-level regulated species – mostly sprat and Baltic herring.

Table 3. Landings of regulated species and total landings in the Baltic Sea in 2018 (in tonnes).

DCF fleet segment	**COD 3DX32**	**COD 3BC+24**	**HER 3D-R30**	**HER 03D-RG**	**SAL 3BCD-F**	**SAL 3D32**	**SPR 3BCD-C**	**Total landings (t)**
PG VL0010	0.98	0	757.47	188.95	1.69	6.45	0.58	3304.42
PG VL1012	0	0	392.9	6725.13	0.02	0	0.02	7132.36
TM VL1218	0	0	22.94	0	0	0	29.19	52.13
TM VL1824	0	0	4842.95	1 083.85	0	0	7336.25	13266.96
TM VL2440	0	0	16188.95	4522.9	0	0	22259.51	43180.7
Total	**0.98**	**0**	**22205.2**	**12520.8**	**1.71**	**6.45**	**29625.6**	**66936.6**

Overall, 82% of HER 3D-R30, 95% of HER 03D.RG, 95% of SPR, 0.4% of COD 3DX32, 0 % of COD 3BC+24, 27% of SAL 3BCD-F (581 pieces out of 2139 pieces) and 63% of SAL

3D32 (1043 pieces out of 1652 pieces) Estonia's year 2018 quotas (final quotas after quota swaps with other Member States) were exhausted.

Concerning species targeted by coastal fleet, which are not regulated at the EU-level, according to the 2018 report from the University of Tartu Estonian Marine Institute, the general recommendation is not to increase fishing effort. The report includes also the recommendation to decrease fishing effort, to decrease catches of juveniles and to increase the efficiency of protecting fish during spawning season. The number and type of fishing gear allowed to use in coastal fishery in 2018 was kept mostly at the same level as in previous years.

Catches of the main species, excluding Baltic herring, and total catch by coastal fleet (PG VL0010 and PG VL1012) in 2014 - 2018 are shown in chart 3 below. As can be seen from the chart 3 below, the main species other than Baltic herring caught by coastal fleet are European perch, European smelt, European flounder, pike-perch, roach and garfish.

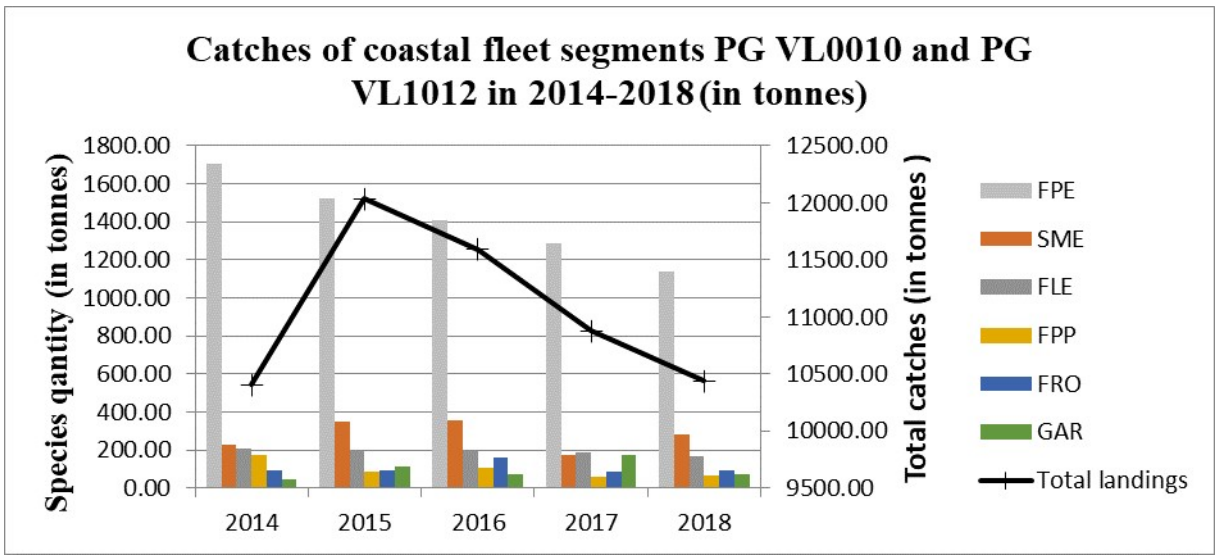

Chart 3. Catches of main non-regulated species, excluding Baltic herring, and total catch by coastal fleet (PG VL0010 and PG VL1012) in 2014 – 2018.

Distant water fisheries (VL 40XX)

After several years of reductions in NAFO 3L Northern prawn quota the fishery closed finally in 2015. That together with the continuing moratoria of NAFO 3M Northern prawn means that there hasn't been any shrimp fishing in NAFO RA by Estonian fishing vessels since 2015. Thus, fishing for non-regulated species (mostly Northern prawn in the Barents Sea), cooperation for quota swaps and charter agreements have become more important for Estonia's distant water fishing fleet. Also, the importance of combined fishery of Northern prawn and cod in Barents Sea has increased over the years. NAFO RA has remained important fishing ground for various groundfish species – cod, redfish, Greenland halibut, skates.

The proportion between Estonia's own initial fishing opportunities and total landings in 2018 is shown in the table 4 below. The biggest difference in Estonia's own fishing opportunities and actual landings is in NEAFC RA, where Estonia owns various small fishing opportunities, most of them for deep sea species. Estonia has not used these fishing opportunities since 2007 as the allocated quantities are too small to conduct targeted fishing. These fishing opportunities are exchanged for other fishing opportunities in the NAFO RA and NEAFC RA. Northern prawn constitutes most of the landed quantities by distant water fishing fleet - 47% (8018.6 t out of 17160 t). Overall, 99% of RED 3LN, 98% of RED 3M,

104% of COD 3M, 99% of GHL 3LMNO, 11% of SKA 3LNO, 37% of WIT 3NO and 0% of SQI 3 and 4 Estonia's year 2018 quotas (final quota after quota swaps with other Member States) in NAFO RA were exhausted.

Table 4. The comparison between total landed quantities (both regulated and non-regulated species) and the amount of Estonia's own initial fishing opportunities (excluding swaps) in distant water fleet segment in year 2018.

Area	Estonia's fishing opportunities (t)	Total landings (t)
NAFO	3188	5972
NEAFC	301	11103
Svalbard shrimp fishing days	377	
East-Greenland	0	84

The evolution of Estonia's fishing opportunities is shown below. As can be seen from chart 4, GHL 3LMNO quota increased slightly in 2018 compared to 2017, while the quotas of COD 3M and WIT 3NO declined. In NEAFC RED 51214D quota has continued decline. Also, MAC quota has decreased. Others have remained at the same low level.

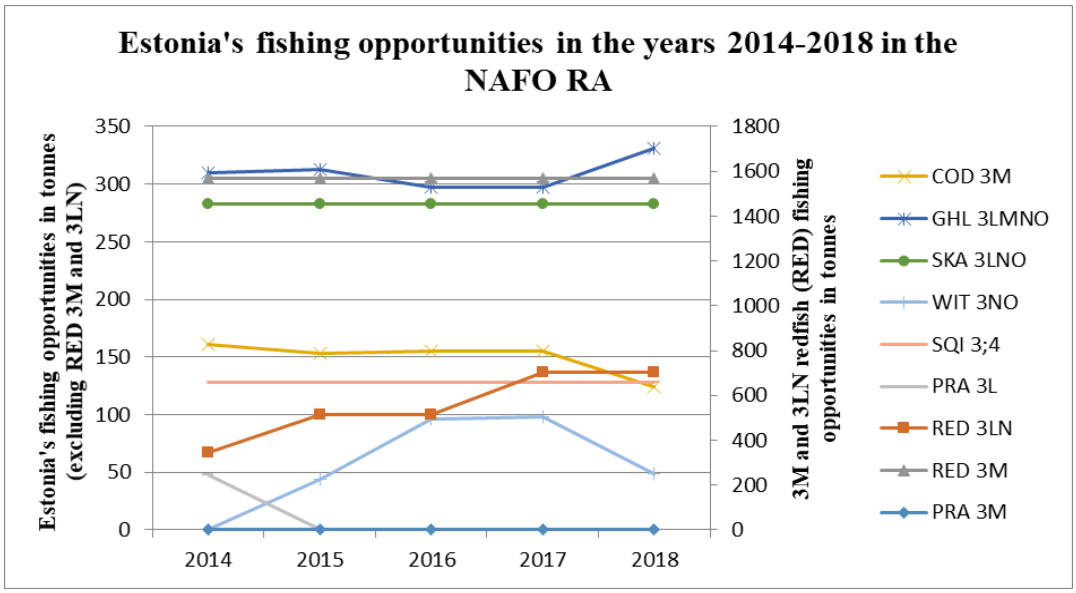

Chart 4. Initial fishing opportunities allocated to Estonia in the NAFO RA in years 2014-2018.

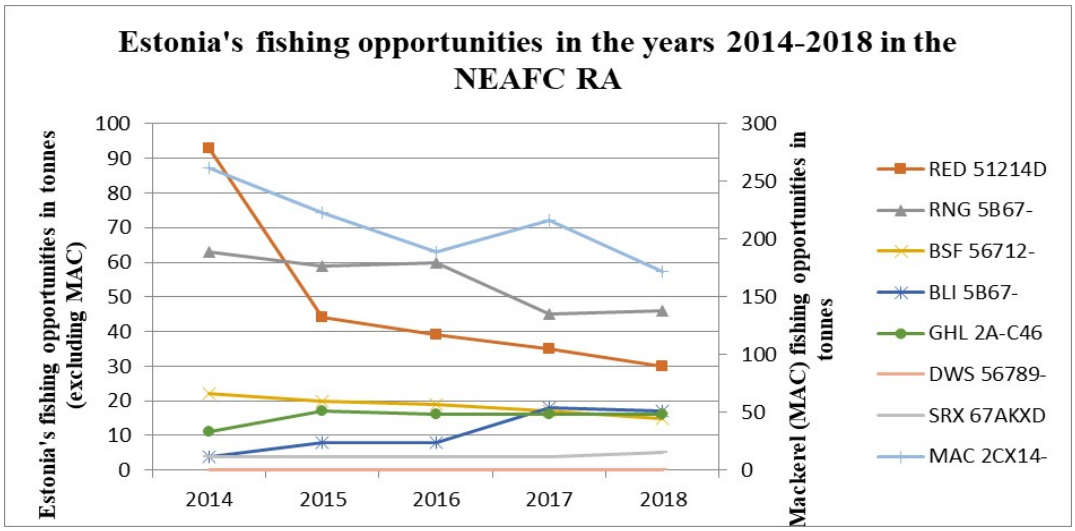

Chart 5. Initial fishing opportunities allocated to Estonia in the NEAFC RA in years 2014-2018.

Over the period of last five years (2014-2018) the main changes in target species has been the increasing importance of fisheries in the Barents Sea and Svalbard areas because of the moratoria of PRA 3M and 3L in NAFO RA. Northern prawn is the most important species in catch volume making 47%-59% of all fleet segment VL 40XX catches in last five years (2014-2018). Catches of Northern prawn and cod in the Barents Sea have increased steadily during the period of 2013-2017. Also, COD 3M catch was considerably higher in 2017 than in previous years. Total landed quantity has increased from 11 956 t in 2013 to 15 135 t in 2017. Landed quantities of the main species during 2013-2017 is shown below in chart 5.

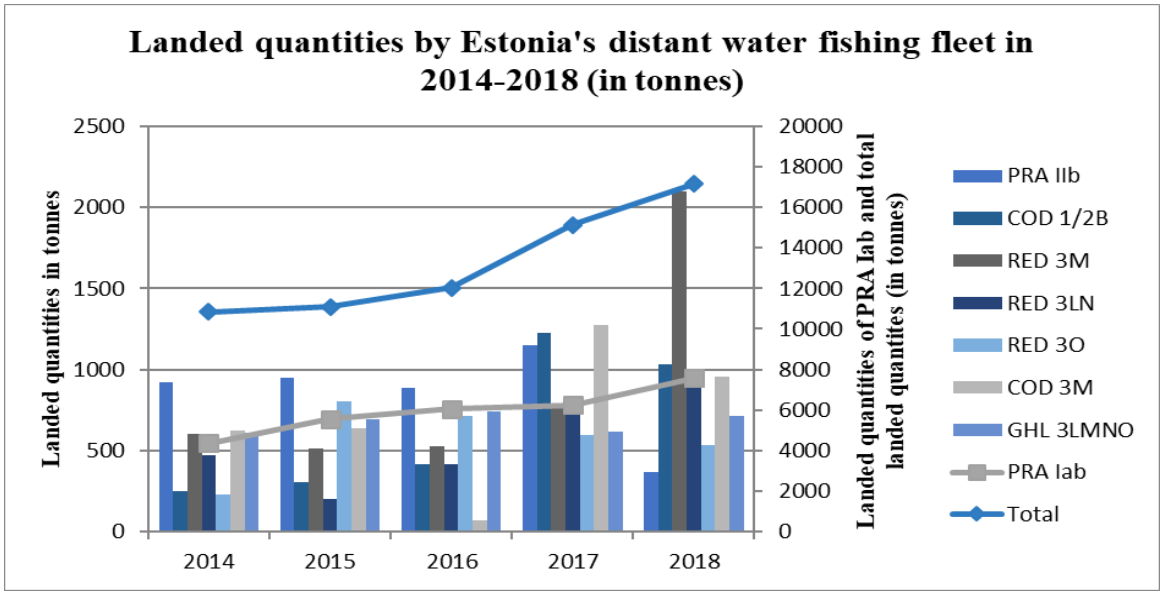

Chart 6. Landed quantities by Estonia's distant water fishing fleet (VL 40XX) in 2014-2018, in tonnes. Only the most important stocks are shown together with the total landed quantity.

Developments in fleet

By the end of 2018, there were 1 720 vessels in the Estonian marine fishing fleet. The total number of vessels increased compared to 2017 because of entries of new vessels into length class VL0010. One vessel was added into segment VL1824. All other segments saw a reduction of the number of vessels or the number of vessels remained the same.

The development of the fleet in last 15 years since the joining with the EU in May 1, 2004, is given below in charts 6 to 8. Although the number of vessels has increased over the period of 2004-2018, the total gross tonnage and engine power have decreased considerably due to the exit of larger trawling vessels from the fleet and replacing them with small coastal fishing vessels with length under 10 m and using passive gears. By length classes, the number of vessels has decreased in all length classes except in length class VL0010. As can be seen from the charts 6 to 8 below, the most stable vessel length classes over the 15 year period have been VL1012 and VL1824, where only minor changes have occurred by all three characteristics. Sharpest decline in the number of vessels, engine power and gross tonnage have taken place in the Baltic Sea trawling fleet length classes VL1218 and VL2440 and also in the distant water fleet VL40XX. The main drivers behind the decline in those length classes have been both economic and environmental as to better adjust with smaller fishing opportunities and to ensure profitability.

During 2018, 56 vessels (4143 kW, 1602 GT) were deleted from the fleet, out of which 1 was from DCF fleet segment VL40XX (2355 kW, 1410 GT), 4 were from DCF fleet segment TM VL1218 (624 kW, 74 GT), 7 from segment PG VL1012 (603 kW, 52 GT) and 44 from segment VL0010 (562 kW, 66 GT).

Total of 182 vessels (6872 kW, 3291 GT) entered the fleet in 2018, most of them, 178 vessels (918 kW, 119 GT) entered into DCF fleet segment PG VL0010. One vessel was registered in DCF fleet segment TM VL 1218 (245 kW, 35 GT) and two in TM VL2440 (1059 kW, 365 GT). One new vessel entered fleet segment VL40XX (4650 kW, 2772 GT).

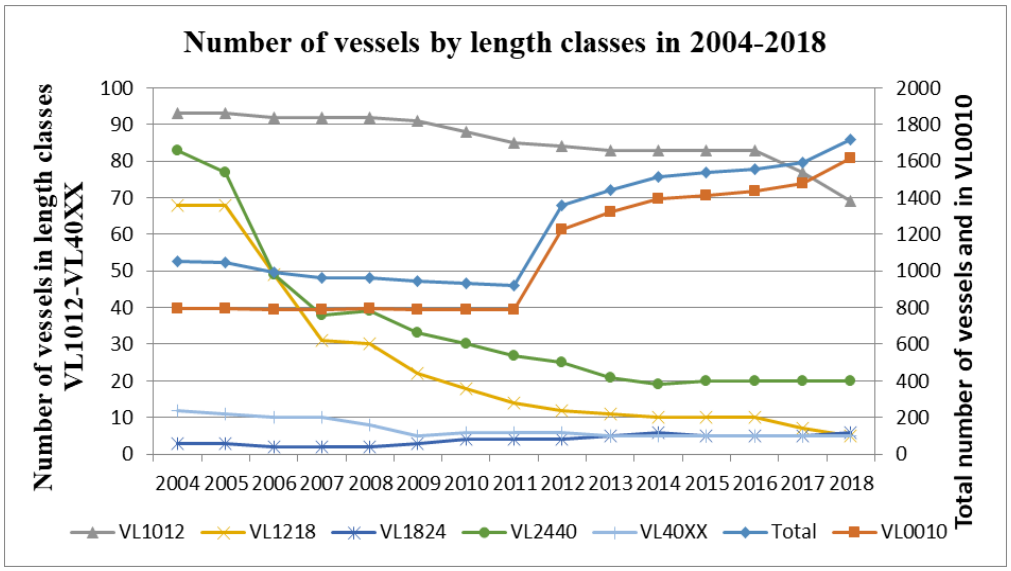

Chart 7. Developments in the number of vessels in Estonian marine fishing fleet by vessel length classes in 2004-2018.

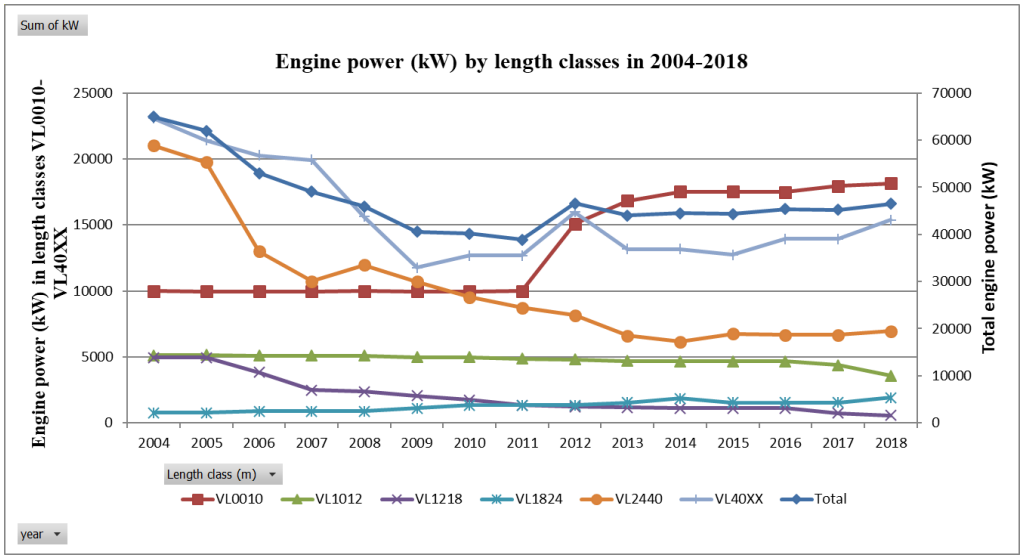

Chart 8. Developments in the main engine power of vessels in Estonian marine fishing fleet by vessel length classes in 2004-2018.

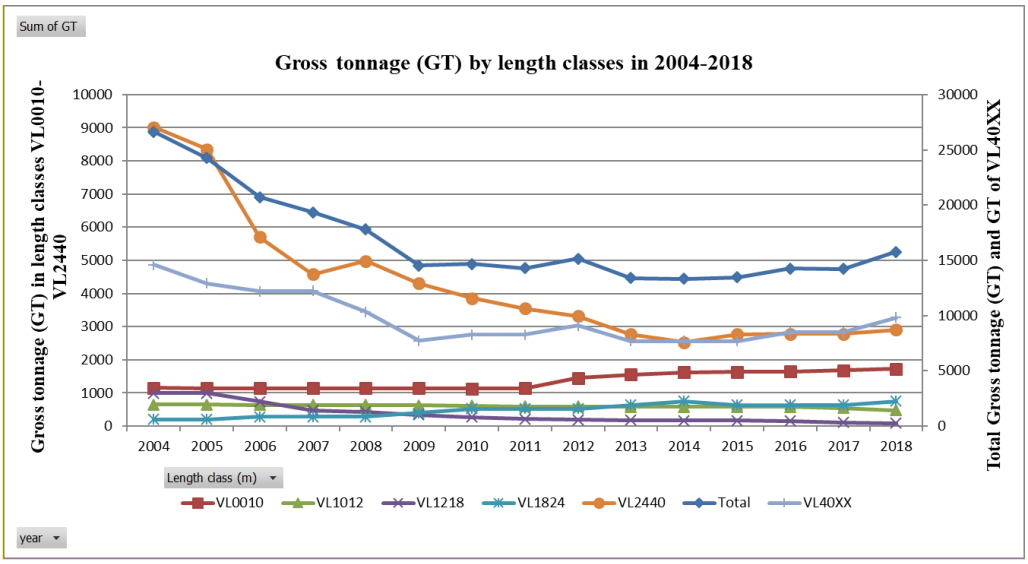

Chart 9. Developments in the gross tonnage of vessels in Estonian marine fishing fleet by vessel length classes in 2004-2018.

Section B

Effort reduction schemes and impact on fishing capacity of effort reduction schemes

Estonia adheres to numerous effort control and reduction schemes established by legal acts of national, EU or RFMO level. Different seasonal/regional temporary fishing restrictions apply, as well establishing yearly list of vessels allowed to fish for cod in the Baltic Sea and vessels allowed to fish in the Gulf of Riga. Every year, temporary fishing restrictions for the effort reduction are enforced in the Baltic Sea coastal and trawl fisheries to ensure sustainable use of fishery resources. In Svalbard fishing area, the number of shrimp fishing days and the number of vessels that may fish at the same time in the area, are limited.

National fishing capacity reduction schemes have been used for reducing fishing capacity and consequently fishing effort. Between 2006 and 2014, total of 62 (16998 kW and 7312 GT) vessels were removed from Estonia's fishing fleet with public aid. Most of them, 60 vessels, were removed from the Baltic Sea trawling fleet, out of which 16 belonged into length class VL1218 and 44 into length class VL2440. No vessels were removed with public aid from the length class VL1824. Other two vessels out of the total 62 vessels were removed from the distant water fleet VL40XX. Effort reduction schemes did not include coastal fleet segments, length classes VL0010 and VL1012, as fishing in coastal fishery is regulated by ITE system.

Taking into account the long-term dynamics of the relevant fish stocks, no further decommissioning schemes are foreseen as fishing capacity has generally reached the targets set by National Fishing Effort Adjustment Plans and there is no structural overcapacity.

Section C

Compliance with entry/exit scheme and with level of reference

As in previous years, in 2017, Estonia followed the entry-exit scheme as foreseen under the common fisheries policy. Every entry into the fleet register or increase in tonnage and/or engine power is compensated by the removal of at least equal quantity of capacity from the fleet. The fishing capacity of a vessel deleted from the register with public aid cannot be replaced. Since the accession to the European Union in 2004, Estonia has always been in compliance with the reference levels.

Table 5. Compliance with the entry/exit scheme and with level of reference in year 2018.

	Management of the entry/exit scheme in 2017	**GT**	**kW**
1	**Fleet ceiling on 01/01/2014 according to Annex II of the European Parliament and the Council Regulation (EU) No 1380/2013**	**21 677**	**52 566**
2	Capacity of the fleet on 01/01/2018	14086	44971
3	Entries of vessels of more than 100 GT financed with public aid	0	0
4	Other entries or capacity increases (not included in 3 & 5)	3291	7070
5	Increases in tonnage GT for reasons of safety	0	
6	**Total entries (3 + 4 + 5)**	3291	7070
7	Exits financed with public aid*	0	0
8	Other exits (not included in 7)	1602	5398
9	**Total exits (8)**	1602	5398
10	Power of engines replaced with public aid conditional to power reduction		0
11	**Capacity of the fleet on 31/12/2018 (2+6 - 9)**	15775	46644
12	**Fleet ceiling on 31/12/2018****	**21 329**	**51 850**

* All exits with public aid were finalised in 2014, thus they do not reflect in total exits of 2018 (line 9).

** With reference to our 15 June 2016 letter No 6.2-2/996 and 30 June 2016 letter No 3130753 from the Commission, when subtracting the capacity of 4 vessels removed from the fleet with public aid between 17 October 2013 and 30 December 2013, **the actual fleet ceiling on 31/12/2018 was 19 543 GT and 47 939 kW**.

Section D

Summary of weaknesses and strengths of fleet management system and plans for improvements

The main strength of the Estonian fleet management system is the system of transferable fishing concessions in the form of both ITQ and ITE, which allows owner of the fishing rights to decide when to fish or give the right to someone else, thus helping to optimize the use of fishing opportunities and to help to balance fishing opportunities with the fishing capacity. Allocation of quotas based on historical fishing rights give a certain stability regarding long-term investments. This is also an initiative for the companies to use the optimal number of vessels in order to utilize their fishing possibilities in economically reasonable way. IT solution for semi-automatic cross-check was established between several national registers and fisheries information system in 2017, which will improve data cross-checks.

General level of compliance with fleet policy instruments

Entry/exit scheme is fully applied and the fleet ceiling set for the Estonian fishing fleet has not been exceeded.

Section E

Changes of the administrative procedures relevant to fleet management

As of 1st December 2017, the management of fishing fleet register is done by the Fishing Regulation Office of the Veterinary and Food Board, which belongs to the area of government of the Ministry of Rural Affairs.

Section F

Application of the balance indicators

For the calculation of the balance indicators the Guidelines of the 02.09.2014 document COM(2014) 545 final are used. Where appropriate, a traffic light system for visualising the results is used. Under the DCF, the data on expenditure, income and capital value for distant water fleet segment (length class VL40XX) is not included as the number of active vessels in this length class is too small and it is not possible to cluster the segment with other fleet segments. Thus, the calculations of economic indicator for the length class VL40XX is not presented in this report and is submitted separately.

As was referred to in Section A, there is currently one clustered fleet segment, which is formed due to a small number of vessels. TM VL1824 and TM VL2440 are clustered to form segment TM VL2440. Clustering is possible as vessels in both of these length classes fish in the same area, for the same species and they use the same gear. In case the data is available, time-period of 5 years is used for calculating the indicators.

In general, it is important to stress that vessels belonging to the same fishery (i.e. fishing in the same area, for the same species/stocks, using similar gear) should be analysed together as dividing them into smaller subsets (e.g. based on DCF fleet segments) might distort the results, especially in case the number of vessels is very low as is both the case with fleet segments TM VL1218 and TM VL1824.

Biological sustainability indicators

The calculation of biological sustainability indicators is based on the latest data available on STECF JRC web-page (http://stecf.jrc.ec.europa.eu/reports/balance). Data is available for up to 2016 for both SAR and SHI.

Sustainable Harvest Indicator, SHI

Sustainable Harvest Indicator is given for each DCF fleet segment. According to the Guidelines, SHI > 1 may indicate that fleet segment is relying on a stock of which fishing opportunity is set above MSY if this has occurred in 3 consecutive years.

Table 6. Sustainable Harvest Indicator for each DCF fleet segment in period of 2012-2016.

DCF fleet segment	2012	2013	2014	2015	2016
PG VL0010	0.6	0.6	0.8	1.1	1.3
PG VL1012	0.6	0.6	0.8	1.1	1.2
TM VL1218	1.1	1.3	1.2	1.2	1.1
DTS VL1218	0.6	0.6	0.8	1.1	NA
TM VL1824	1.1	1.2	1.3	1.3	1.2
DFN VL2440	-[1]	-[1]	-[1]	-[1]	-[1]
TM VL2440	1.1	1.3	1.3	1.3	1.1
DTS VL2440	3.6	-[1]	-[1]	-[1]	-[1]
VL40XX	-[2]	-[2]	-[2]	-[2]	-[2]

[1] DCF segment DFN VL2440 is a redundant segment as drift nets are banned in the Baltic Sea according to the Council Regulation (EC) 2187/2005. There was only one vessel in DTS VL2440 during 2013-2014 and no vessels since 2015.

[2] Insufficient data.

As can be seen from table 6, active fleet segments (PG VL0010, PG VL1012, TM VL1218, TM VL1824 and TM VL2440) have values 1 and above on a period of 2012-2016. According to the document STECF 18-14 – Balance capacity - Indicator table.xlsx, fleet segments PG VL1012, TM VL1824 and TM VL2440 are considered to be out of balance. At the same time, for two of those segments (TM VL1824 and TM VL2440) there seems to be no clear trend.

According to the Guidelines, SHI > 1 may indicate that fleet segment is relying on a stock of which fishing opportunity is set above MSY if this has occurred in 3 consecutive years. For fleet segments PG VL0010 and PG VL1012, SHI has not been over 1 in 3 consecutive years. Also, for PG VL0010 the cells are coloured red for all years in STECF 18-14 – Balance capacity - Indicator table.xlsx, which indicates that less than 40% of the fleet segment's annual landed value came from assessed stocks, thus it is an indication that the SHI value is unrepresentative.

Fleet segments TM VL1824 and TM VL2440 depend on two stocks – SPR 3BCD-C and HER 3D-R30. According to the latest ICES advice for 2019, for both stocks, for 2018 and 2019, the TAC has been within the F limits set in the Regulation (EU) 2016/1139 and for both stocks, the stock size has been above MSY Btrigger in years 2016-2018. Still, HER 3D-R30 has been evaluated as being fished above Fmsy in years 2015-2017 and SPR 3BCD-C in 2015 and 2017.

Fleet segment PG VL1012 depends on HER 03D-RG stock. According to the latest ICES advice for 2019, for 2018 and 2019, the TAC has been within the F limits set in the Regulation (EU) 2016/1139 and the stock size has been above MSY Btrigger in years 2016-2018. Nevertheless, HER 03D-RG has been evaluated as being fished above Fmsy in years 2015 and 2016, but fished at Fmsy in 2017.

It is also important to stress that, when compared to the data in document STECF 17-18 – Balance capacity - Indicator table.xlsx, the values for the same years have been changed, which raises the question of methodology used each year to assess the same indicators. In addition, it is of little value to analyse SHI/SAR data, when it is two years behind of actual situation.

When discussing the results of SHI, it is important to stress that, with reference to the report on the assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities by the Joint Research Centre (STECF-15-15), before 2020, an SHI indicator above 1 may reflect political decisions to reach F_{MSY} not immediately, but by 2020, as long as the target to reach F_{MSY} in 2020 can be achieved. In the Baltic Sea, the sustainable management of stocks is foreseen with the new multi-annual plan which came into effect mid-July 2016 (Regulation (EU) 2016/1139 of the European Parliament and of the Council of 6 July 2016 establishing a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks, amending Council Regulation (EC) No 2187/2005 and repealing Council Regulation (EC) No 1098/2007). Thus, the target to reach F_{MSY} in 2020 is achievable.

According to the guidelines, in case of SHI, if more than 60 % of the value of the catch is made up of stocks for which values of F and Fmsy are unavailable the indicator is deemed to be unavailable. In such case, Member States should use available assessment information about one or more species that for reasons of historical abundance or consistency could be considered as indicators of the impact of fishing on an ecosystem. Primary stock harvested by vessels belonging to segment VL40XX during 2014-2018 was Northern prawn (PRA) in the NEAFC waters (Barents Sea) and in the Svalbard area. Main stocks harvested by distant water fishing fleet in the NAFO RA were redfish (RED) in 3M, cod in 3M and Greenland halibut (GHL) in 3LMNO.

Concerning Northern prawn in the ICES Subareas I and II, the stock has always been exploited far below F_{msy} and estimates of stock biomass have remained above MSYbtrigger according to the year 2018 advice from the ICES (Source: http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/pra.27.1-2.pdf).

According to the recent scientific advice for NAFO stocks (Source: https://www.nafo.int/Science/Stocks-Advice), COD 3M current SSB is estimated to be well above Blim. However, since 2015 recruitment has been very low. Thus, 2018 TAC was set lower than for 2017. For RED 3M stock, the stock currently has high biomass and spawning biomass but abundance and recruitment are declining. Therefore, if the objective is to maximize yields over the long term, TACs should be set at values closer to the lower end of the range 7 000 to 12 000 tonnes. RED 3M TAC has remained the same over the period. Concerning GHL 3LMNO, new Management Strategy was adopted in 2017 and it will be in force from 2018-2023. GHL 3LMNO TAC increased slightly in 2018 compared to 2017.

Stocks-at-risk indicator, SAR

The Stocks-at-risk (SAR) indicator should give an indication whether a fleet or a fleet segment catches stocks that are considered to be at risk. In that assessment, only stocks at risk that make up for more than 10% of the segment's landed quantities, or from which the segment takes more than 10%, are taken into account. SAR data was taken from the table STECF 18-14 – Balance capacity - Indicator table.xlsx. According to the STECF 18-14 – Balance capacity - Indicator table.xlsx, there was no SAR found for fleet segments PG VL1012, TM VL1218, TM VL1824 and TM VL2440. Segment PG VL0010 is considered to be in balance. Thus, the SHI and SAR data do not correlate and it is very difficult to draw any grounded conclusions based solely on those two balance indicators.

Table 7. SAR indicator for years 2012-2016.

DCF fleet segment	Stocks-at-risk				
	2012	2013	2014	2015	2016
PG VL0010	0	0	0	0	0
PG VL1012	-1	-1	0	-1	-1
TM VL1218	-1	-1	-1	-1	-1
DTS VL1218	-1	-1	-1	-1	
TM VL1824	-1	-1	-1	-1	-1
DFN VL2440[1]					
TM VL2440	-1	-1	-1	-1	-1
DTS VL2440	0	-1	-1		
VL 40XX[2]					

[1] See footnote 1 of the table 6.
[2] See footnote 2 of the table 6.

Economic indicators

Economic indicators are calculated for the period of 2013-2017 as the DCF economic data for 2018 is not yet available. Two indicators are calculated: return on investment (ROI) showing long-term viability of the fleet and ratio between current revenue and break-even revenue (BER) showing short-term viability. For the calculation of ROI indicator, an interest rate of a low risk long term investment has been calculated based on the five-year arithmetic average of Lithuanian and Latvian low risk long-term investment interest rates according to the European Central Bank as no harmonised long-term interest rate is available for Estonia.

Return on investment, ROI

Table 8 shows, using a traffic light system, the values of ROI and the indicator in four Baltic Sea segments. As can be seen from the table, fleet segments PG VL0010 and PG VL1012

have shown the most stable and profitable economic results in the long term. The value of ROI of fleet segment TM VL1218 has been fluctuating over time the most compared to other fleet segments and it has again declined in 2017. This can be explained by the small amount of vessels in a segment TM VL1218, which means that individual results may affect sharply the whole segment. The number of vessels in segment TM VL1218 is showing decreasing trend over the time. Although ROI value in fleet segment TM VL2440 has been low for the whole period under preview, it has been always positive and in recent years shows increasing trend.

Concerning both Baltic Sea trawling segments – TM VL1218 and TM VL2440 - it is important to note that most of the fish landed by trawlers is owned by producer organisations in charge of the whole chain from catch to processing to exports, therefore their profits are generated at the export stage and not at the moment of landing. Also, as Baltic sea trawling fleet has been historically more dependent on the eastern market, then the Russian embargo may have affected the economic results together with the overall economic standstill.

Table 8. Values of ROI and indicator in length classes VL0010, VL1012, VL1218 and VL2440 in years 2013-2017. According to the Guidelines, green values indicate that extraordinary profits are being generated, orange values indicate possible lack of long-term viability and red indicate possible economic over-capitalisation. * DTS VL1218 and TM VL1218 have been clustered together into TM VL1218, and vessels of length classes VL1824 and VL2440 have been clustered together to form a segment TM VL2440.

Segment	Year	2013	2014	2015	2016	2017
PG VL0010	**ROI**	10.49	6.71	2.88	9.34	8.39
PG VL0010	**Indicator**	3.01	-0.28	-2	5.81	6.65
PG VL1012	**ROI**	22.75	7.6	16.49	9.2	11.19
PG VL1012	**Indicator**	15.27	0.61	11.61	5.67	9.45
TM VL1218	**ROI**	1.20	-5.29	4.6	3.34	1.05
TM VL1218	**Indicator**	-6.28	-12.28	-0.28	-0.19	-0.69
TM VL2440	**ROI**	2.00	2.83	1.9	3.5	2.26
TM VL2440	**Indicator**	-5.48	-4.16	-2.98	-0.03	0.52
5 year average low risk long term interest rate of LTU and LVA		**7.48**	**6.99**	**4.88**	**3.53**	**1.74**

Ratio between current revenue and break-even revenue

For the calculation of BER, opportunity cost of capital is excluded from the calculation, therefore, the indicator shows only the short-term viability of the Baltic Sea fishing fleets. According to the Guidelines, ratio greater than 1 indicates that in short-term the income is sufficient for covering variable and fixed costs, indicating that the segment is profitable. Ratio below 1 can indicate that insufficient income is generated to cover variable and fixed costs. Negative ratio means that variable costs exceed current revenue, indicating that the more revenue is generated, the greater the losses will be.

As can be seen from the chart 9 below, during the period of 2013-2017, only once (in VL1218) has the ratio been negative and not once between 1 and 0. This indicates that in short term, all Baltic Sea fleets, both coastal and trawl, are profitable. In 2017, short-term profitabilty has increased in segments VL1012 and VL1218, while it has slightly decreased in VL0010 and VL2440.

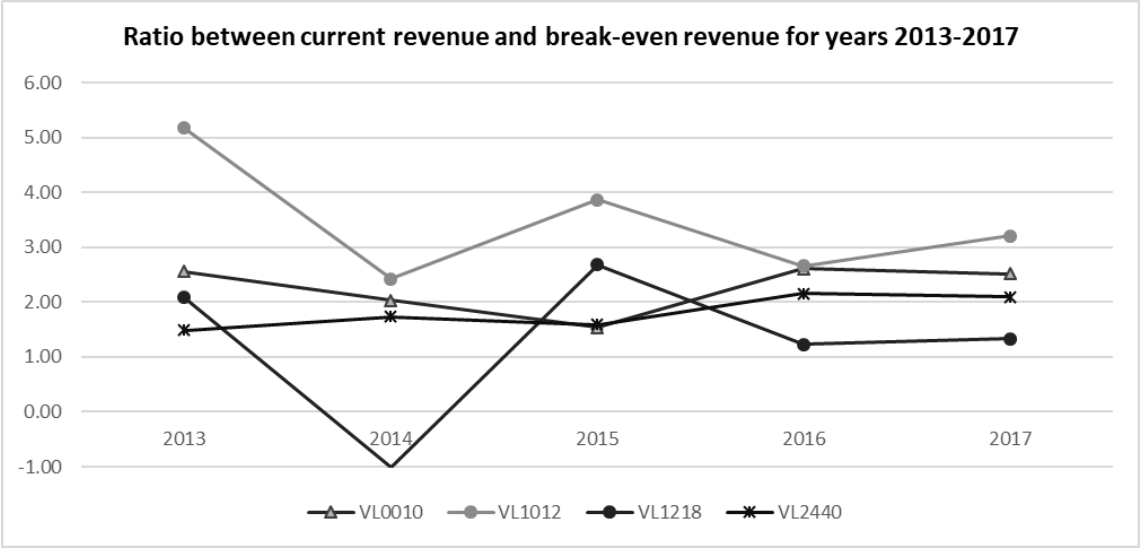

Chart 10. Ratio between current revenue and break-even revenue for years 2013-2017.

Vessel use indicators

Vessel use indicators have been calculated for years 2014-2018. The proportion of inactive vessels has been calculated for length classes VL1218-VL40XX only, as in coastal fisheries (VL0010 and VL1012) different vessels are used depending on the season, directed species and fishing gear used. For example, Baltic herring is targeted by coastal fisheries during a relatively short spring season and some of those vessels are not used in other fisheries throughout the year. In addition, fishing in coastal fisheries is an important way to diversify economic activities in peripheral areas and is not always the main economic activity for fishers. Therefore, it is not reasonable to calculate the proportion of inactive vessels in coastal fleet segments PG VL0010 and PG VL1012. For the same reasons, the results of the calculation of vessel use indicator in fleet segments PG VL0010 and PG VL1012 should be taken with caution.

Inactive Fleet Indicator

The number of active fishing vessels in length classes VL1218-VL2440 has decreased from 35 in 2013 to 28 in 2018. According to the Guidelines, it is considered normal that 10 % or less of the vessels in a fleet segment are inactive. There were 6 inactive vessels over the course of 2018. In addition, 2 vessels reported only one fishing day during 2018. Three of these inactive vessels – all from segment TM VL1218 – were deleted from the fishing fleet register during 2018 (one in May and two in February). Also, two other inactive vessels belonged to the fleet segment TM VL1218 and one into TM VL2440. The number of active vessels in length class VL40XX has been stable during last 5 years, staying around 5 vessels. In 2018 there were 5 active vessels in VL40XX.

Vessel Utilisation Indicator

For calculation of vessel utilisation indicator, only active vessels, which have had at least one day at sea during a year, are included. For data comparability reasons an observed maximum activity level was chosen for calculations instead of theoretical. The ratio between the average effort per vessel in a fleet segment and the observed maximum effort actually exerted by a vessel in kWdays was calculated in length classes VL1218, VL1824, VL2440 and VL40XX.

Table 9 shows that the number of average fishing days has fluctuated in all fleet segments. In 2018, two vessels had less than 10 fishing days – 1 days. Both vessels belong to segment TM VL1218. This segment has had over the viewed period lowest maximum and average days at sea. The situation has stabilised and become more homogenous concerning active vessels in length classes VL2440 and VL40XX in recent years.

Table 9. Minimum, maximum and average days at sea in fleet segments TM VL1218, TM VL1824, TM VL2440 and VL40XX in years 2014-2018.

	VL1218			VL1824			VL2440			VL40XX		
Year	**Min**	**Max**	**Average**	**Min**	**Max**	**Average**	**Min**	**Max**	**Average**	**Min**	**Max**	**Average**
2014	1	56	28	83	149	119	15	147	108	283	326	306
2015	1	103	47.5	35	151	123.5	5	179	129.6	292	348	323
2016	7	74	37	89	147	119	86	152	112	166	331	274
2017	2	117	34.4	119	161	146.8	56	173	132.6	218	329	279
2018	1	15	6	45	170	136	57	178	137	253	316	284

The calculation of ratio between the average effort and the observed maximum effort in kWdays for different fleet segments in the period of 2014-2018 is shown in chart 10 below. The Guidelines suggest that ratio below 0.7 should be considered as showing structural overcapacity. The ratios of two length classes – VL40XX and VL1824 have been over 0.8 the whole period of 2014-2018. Also, the ratio has been over 0.7 for the last five years in length class VL2440, which means that the fleet has stabilized and fishing opportunities are used more efficiently. The ratio of VL1218 has been below 0.7 the whole period and shown no sign of improving. This indicates that vessels in this fleet segment are not sufficiently harnessed in fishing activities.

There are several reasons why the ratio is low for length class VL1218. Number of average fishing days in length class VL1218 is considerably lower than that in VL1824 and VL2440 because these vessels are smaller and the usage of those vessels is more dependent on the weather conditions (e.g. ice, storms), thus they are less effective than larger trawlers. Also, it should be taken into consideration, that there were only 3 active vessels in this fleet segment in 2018 and only one of the vessels fished more than 1 day. For fleet segment TM VL2440, the vessel with the lowest fishing days only entered the fleet in September 2018.

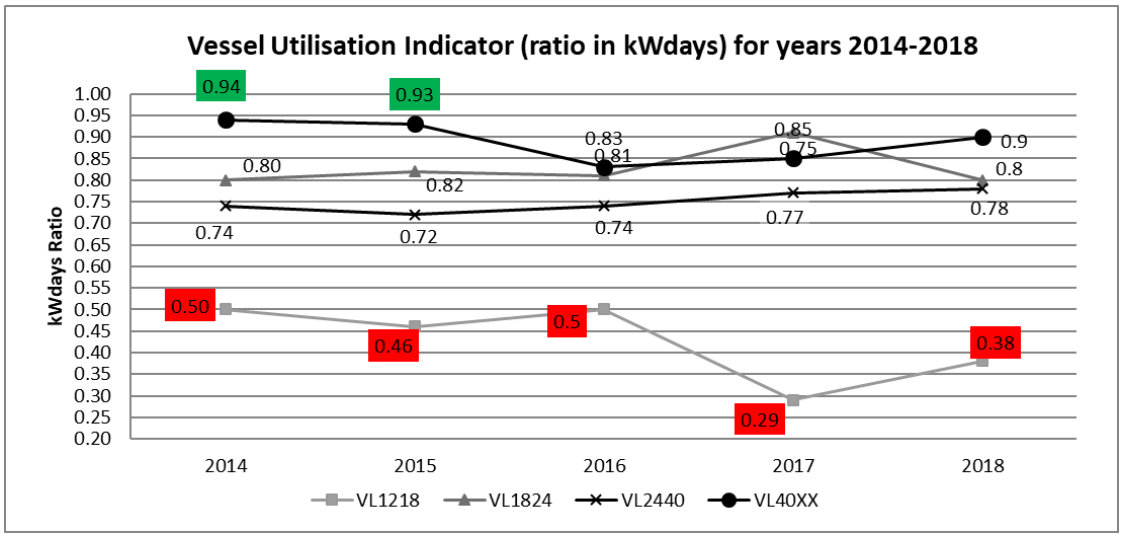

Chart 11. Vessel Utilisation Indicator (ratio in kWdays) for years 2014-2018. Red colour (below 0.7) indicates that there may be a substantial under-utilisation. Green colour (above 0.9) may refer to largely homogenous level of activity in the fleet segment according to the Guidelines.

For fleet segments PG VL0010 and PG VL1012, the vessel use indicator is given in GTdays. The indicator is low in those segments as fishing is often not the only economic activity and, in case of segment PG VL1012, the main target species is Baltic herring, which is harvested mostly on a relatively short period in spring. Also, fishing in shallow waters can be done without a vessel and fishing in the winter time is generally made without a vessel due to the ice coverage. Large heterogeneity of the vessel use in the segment has a considerable impact

on the vessel use ratio especially in PG VL0010. This has been stressed also by STECF (STECF-13-28) that a low vessel utilisation rate for smaller vessels would be expected.

Table 10. Vessel use indicator in GTdays for segments PG VL0010 and PG VL1012 in 2014-2018.

DCF fleet segment	2014	2015	2016	2017	2018
PG VL0010	0.19	0.19	0.24	0.27	0.33
PG VL1012	0.34	0.57	0.48	0.46	0.44