The Annual Report on the Fishing Fleet of Estonia 2014

Summary on the balance between fishing opportunities and fishing capacity

Given annual report evaluates the balance between fishing opportunities and fishing capacity of Estonia's fishing fleet in year 2014. For the evaluation, altogether 6 indicators has been calculated – SHI, SAR, ROI, CR/BR, inactive fleet indicator and vessel utilisation indicator. All indicators except SHI and SAR observe changes over 5-year period. Inactive fleet indicator and vessel utilisation indicator are calculated for all fleet segments except coastal segments (VL0010 and VL1012). Due to the lack of data under STECF JRC the SHI, SAR, ROI and CR/BR are calculated only for the Baltic Sea fleet segments and the latest data is only for 2013.

In 2014 the number of vessels and total engine power increased slightly while the gross tonnage decreased. At the same time the fleet ceiling continued to decrease as the decommissioning of four vessels under the 2007-2013 program was finalised. Given the calculation of indicators and the evaluation of the results an overall assessment of the situation in Estonia's fleet is rather positive – the balance has been more or less achieved and there is some room left for adapting with the changes in stocks.

Biological sustainability indicators

In 2013, SHI was above 1 in 3 fleet segments (VL1218TM, VL1824TM, VL2440TM), but when taking into consideration a longer period (3 years) then the values are all under 1 in previous years, therefore a longer time-series is needed for concrete conclusions. Concerning the SAR indicator the situation has not changed substantially over three-year period. Only stock, which can be considered at risk according to STECF JRC and which is an important target species is Baltic herring in the Gulf of Riga.

Economic indicators

Out of 4 fleet segments active in the Baltic Sea (VL1824 and VL2440 are clustered together) 2 (VL0010 and VL1012) showed significant profitability both in long-term (ROI) and in short-term (CR/BER) in 2013. Although the ROI indicator decreased in segment VL1218 (ratio 2.81 in 2013 with interest rate 4.96 %), taking into consideration that in previous three years the segment was profitable, this decrease might be temporary. Lowest ratios are for segment VL2440, but in 2013 the ratio showed signs of improvement (ratio 0.16 in 2013 compared to -4.52 in 2012). As three vessels were removed from VL2440 with public aid in 2014 then further improvements in ratio may not be seen before 2015.

Vessel use indicators

Compared to 2013 the number of inactive vessels decreased, but the calculation of balance indicators was somewhat complicated due to three vessels in length class VL1218 with marginal number of days at sea. Vessel Utilisation Indicator (ratio in kWdays) showed an increase in 2014 for segments VL1824, VL2440 and VL40XX. The ratio of VL1218 in 2014 decreased substantially, which is caused by three vessels with marginal number of fishing days in 2014.

As is explained in Section C, Estonia's fishing capacity ceiling on January 1, 2014 was 48 655 kW and 19 906 GT, and the capacity ceiling given in Annex II of the Regulation (EU) No 1380/2013 is 52 566 kW and 21 677 GT. The difference will be used in coastal fleet segment.

Section A

Description of fleets

On EU level, the Estonian marine fishing vessels belong into the MFL segment. On national level, the Government Regulation of 09.03.2004 No 62 determines the criteria for grouping fishing vessels into 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, vessels with an overall length above 12 metres), high seas fishery segment (4S3, overall length over 24 m) and coastal fishing segment (4S2, less than 12 metres in length).

Table 1. Estonian marine fishing fleet on 31.12.2014.

Length class (m)	National segment	No of vessels	kW	GT	Average age	Average kW	Average GT	Average length (m)
VL0010	4S2	1 392	17534	1621	21	13	1	6
VL1012		82	4 459	564	24	54	7	11.6
VL1218	4S1	11	1 307	172	24	119	16	14
VL1824		6	1 855	754	23	309	126	22
VL2440		19	6 160	2 530	31	324	133	27
VL40XX	4S3	5	13 174	7 697	28	2635	1539	60
Total		**1 515**	**44 489**	**13 339**				

The Baltic Sea coastal fishing segment is divided between two distinctive length classes: VL0010 and VL1012. These vessels are used in the Baltic Sea coastal waters up to 12 nautical miles or up to the 20-metre isobaths. Length class VL0010 has the largest number of vessels, 92 % of the whole Estonian marine fishing fleet and their total engine power and gross tonnage make up 39 % and 12 % of the fleet respectively. As can be seen from the Table 2 below, the total landings by vessels in length class VL0010 is relatively small considering the number of vessels, making only 5 % of the total landings. These boats are used for fishing for different species (European perch, smelt, Baltic herring, flounder, pike-perch, roach, northern pike, etc.) mostly with different passive, static gear.

Length class 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 length class VL1012 is relatively small and their total engine power and gross tonnage make up only 10 % and 4 % of the fleet respectively, but the quantity of fish (Baltic herring) landed by these vessels makes 11 % of the total landings.

By DCF classification, the Baltic Sea trawling segment is divided between three length classes: VL1218, VL1824 and VL2440. These vessels are mostly used for fishing sprat and Baltic herring in the Baltic Sea. Some of the vessels of the length classes VL1824 and VL2440 target cod as well. When combined, vessels of these three length classes make up only 2 % of the total number of vessels, but their total engine power and gross tonnage make up 21 % and 26 % of the fleet respectively. Total landings of the three length classes was 44 364.69 tonnes, which is 68 % of all landings by Estonian fishing vessels in 2014.

The length class VL40XX comprises of distant water trawling vessels used for fishing various regulated and non-regulated species in the Atlantic. Although vessels in length class VL40XX make up to 30 % of the total engine power and 58 % of the total gross tonnage of the whole fleet, the total of landings by these vessels was 10 850.35 tonnes, which is 17 % of all landings by Estonian fishing vessels in 2014.

Table 2. Main fisheries and total landings in year 2014 (main species and gear are sorted by relevance, in decreasing order). * FYK – Fyke nets, FPN - Stationary uncovered pound nets

Length class (m)	National segment	Main fishing area(s)	Target species	Main gear	Total landings (t)
VL0010	4S2	Baltic Sea, coastal	European perch, Baltic herring, smelt	FYK*, GNS	3280.54
VL1012			Baltic herring	FPN*	7122.08
VL1218	4S1	Baltic Sea	Baltic herring, sprat	OTM, PTM, OTB	839.37
VL1824			sprat, Baltic herring, cod		10034.78
VL2440				OTM, OTB	33490.54
VL40XX	4S3	NAFO, NEAFC, SVA, GRL	Northern prawn, redfishes, American plaice	OTB	10850.35
Total					**65617.66**

Link with fisheries

Estonian commercial fishery 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. In case of ITE, national limits on gears in order to limit fishing effort are set by 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 rights with other companies or with other EU countries, and with other contracting parties in case of RFMO or FPA. 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 allocation then the owner will not be granted a fishing permit and the allocated quantity is divided between other applicants. If a fishing permit has not been issued or catches have not been reported under the fishing permit for a three consecutive years, then the fishing rights owner loses its historical fishing rights allocation.

Fishing is allowed only if a relevant fishing permit is issued, irrespective whether fishing for regulated or non-regulated species. There are two types of fishing permits: fisherman's fishing permit and fishing vessel fishing permit. Fishing vessel fishing permit is issued for a specific fishing vessel and that vessel must have a valid fishing licence. Fishing vessel fishing permits are used for vessels fishing in distant waters and for trawlers in the Baltic Sea, therefore covering length classes VL1218-VL40XX (national segments 4S1 and 4S3). The quantity allowed to fish (in tonnes or in fishing days) and other special conditions (fishing area, gear) are marked on a fishing vessel fishing permit.

Fisherman's fishing permit is in use in coastal fisheries (length classes VL0010 and VL1012, i.e. national segment 4S2), where ITE system is in use and allowed fishing effort - the type and number of fishing gears – is marked on a fishing permit. Fishing permits are issued to a fishing rights owner and permit is not directly linked with a specific vessel, because not all fishing is conducted with fishing vessels (for example ice-fishing in winter). Since coastal fishing mostly uses passive gears, regulating effort through vessel kW and GT is not relevant in this kind of fisheries. 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 Area, and in Svalbard. In addition, Estonia's distant water fishing vessels fish for non-regulated species (mostly Northern prawn) in the Barents Sea and NAFO, and Northern prawn in Greenland waters under the EU-Greenland FPA. In coastal fishery, most of the

target species are non-regulated on EU-level, but regulated by national effort limitation scheme (ITE).

The evolution of Estonia's initial fishing opportunities (as adapted with TAC regulation) in the Baltic Sea is shown below in chart 1. As can be seen from chart 1, Atlantic salmon in areas 22-31 has made the sharpest decline, while both cod fishing opportunities have been rather stable over the four-year period. Fishing opportunity of sprat has shown some fluctuations, while Baltic herring in Gulf of Riga has shown signs of improvement in last three years. In the Baltic Sea trawling segment (VL1218, VL1824 and VL2440), changes in the fishing opportunities of sprat and Baltic herring have an impact on the volume of total catches, since all vessels (including those also targeting cod) fish for both at some time during the year. As can be seen from table 3, Atlantic salmon and cod are not important target species for trawling fisheries as landed quantities are small compared to fishing opportunities.

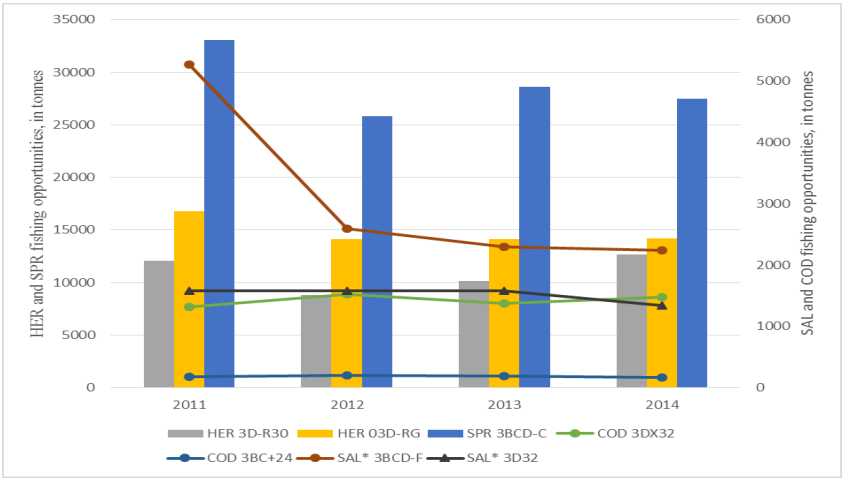

Chart 1. Estonia's initial fishing opportunities in the Baltic Sea in years 2011-2014.

Baltic Sea fishing opportunities allocated to Estonia are divided between coastal and trawling segment. Baltic herring is an important species both for the coastal and trawling segment. Catches of sprat and cod by coastal fishery have been marginal as well as catches of Atlantic salmon. This is shown in table 3 below, where landings of regulated species and total landings of 2014 by coastal and trawling fleets are shown. In 2014, 95 % of HER 3D-R30, 89 % of HER 03D.RG, 95 % of SPR, 10 % of COD 3DX32, 0 % of COD 3BC+24, 25 % of SAL 3BCD-F and 68 % of SAL 3D3s Estonia's quota was exhausted.

Table 3. Total landings of regulated species in the Baltic Sea coastal and trawling fisheries in year 2014 (in tonnes).

Length class (m)	HER	SPR	COD	SAL	Total landings
VL0010	439.89	0.58	7.02	5.22	3280.54
VL1012	7095.74	0	0	0.002	7122.08
VL1218	425.63	413.04	0	0	839.37
VL1824	3280.89	6563.63	106.35	0	10034.78
VL2440	11887.91	21521.02	51.7	0	33490.54
Total	**23130.06**	**28498.26**	**165.07**	**5.22**	**54767.31**

Concerning species targeted by coastal fleet, which are not regulated at the EU-level, according to the 2014 report from the University of Tartu Estonian Marine Institute, there haven't been considerable changes in the state of fish stocks compared to previous years and a general recommendation is not to increase fishing effort. Therefore, the number and type of fishing gear allowed to use in coastal fishery in the year 2014 was the same as in year 2013. Catches of main non-regulated (at EU-level) species compared to catches of HER and total

catches by coastal fleet (VL0010 and VL1012) together with HER quota allocated for coastal fleet in years 2010 - 2014 are shown in chart 2 below. As can be seen, total catches are substantially impacted by the quota of Baltic herring and also the proportion of European perch in total catches has increased in last years.

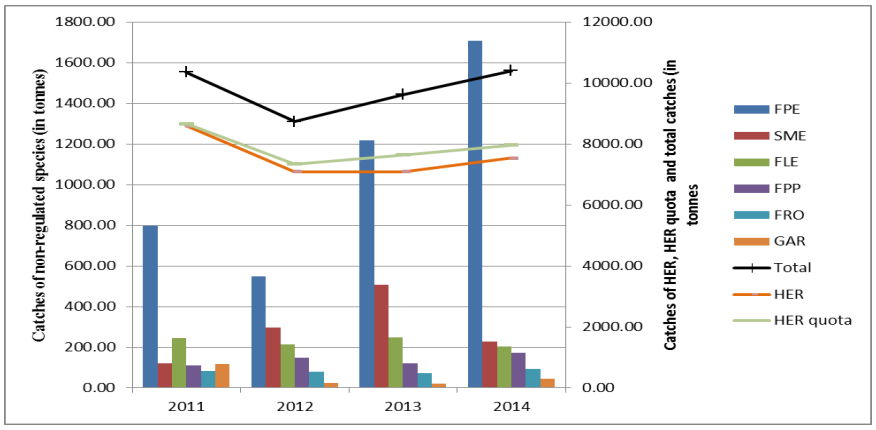

Chart 2. Catches of main non-regulated (at EU-level) species, HER and total catches by coastal fleet (VL0010 and VL1012) together with HER quota allocated for coastal fleet in years 2010 – 2014.

In 2014 NAFO 3L Northern prawn quota continued to decrease and the moratorium on 3M Northern prawn stayed in force. Thus, fishing for non-regulated species (Northern prawn in the Barents Sea) and cooperation for quota swaps and charter agreements are important for Estonia's distant water fishing fleet. The proportion between Estonia's own fishing opportunities and total landings in 2014 is shown in the table 4 below.

Table 4. The proportion of other fishing possibilities besides Estonia's own fishing opportunities in distant water fleet segment in year 2014.

Area	Estonia's fishing opportunities (t)	Total landings (t)
NAFO	2 847	3 387
NEAFC	465	6 652
East-Greenland	0	811

Developments in fleet

By the end of 2014, there were 1 515 vessels in the Estonian marine fishing fleet. The total number of vessels has increased because of entries of new vessels into length class VL0010 in years 2012 – 2014. In all other length classes the number of vessels remained the same or declined slightly besides VL0010 and VL1824, where the number of vessels increased in 2014 compared to 2013. The development of the fleet in last 10 years since the joining with the EU in May 1, 2004, is given in table 5. Although the number of vessels has increased over the period of 2004-2014, the total gross tonnage and engine power have decreased considerably due to the exit of larger trawling vessels from the fleet and entry of coastal fishing vessels with length under 12 m and using passive gears.

Table 5. Developments in Estonian marine fishing fleet in the period of 2004-2014.

Year		01/05/2004			2009			2014		
Length class (m)	National segment	No of vessels	kW	GT	No of vessels	kW	GT	No of vessels	kW	GT
VL0010	4S2	793	9 975	1 148	791	9 949	1 138	1 392	17 534	1 621
VL1012		93	5 129	646	91	4 958	628	82	4 459	564
VL1218	4S1	68	4 952	988	22	2 054	342	11	1 307	172
VL1824		3	754	203	3	1 106	399	6	1 855	754
VL2440		83	21 029	9 022	33	10 712	4 305	19	6 160	2 530

VL40XX	4S3	12	23 098	14 615	5	11 766	7 726	5	13 174	7 697
Total		**1 052**	**64 937**	**26 622**	**945**	**40 545**	**14 538**	**1 515**	**44 489**	**13 338**

During 2014, 10 vessels (763 kW, 365 GT) were deleted from the fleet, 4 from segment 4S1 and 6 from segment 4S2. Vessels deleted from segment 4S1 were removed from the fleet with public aid. Total of 80 vessels (1 897 kW, 554 GT) entered the fleet in 2014, most of them (76 vessels) into segment 4S2.

Section B

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

Estonia adheres to numerous different effort control and reduction schemes established by legal acts of national, EU or RFMO level, for example different seasonal/regional temporary fishing restrictions, reduction of the number of fishing gear used for catching eel, establishing yearly list of vessels allowed to fish for cod in the Baltic Sea and vessels allowed to fish in the Gulf of Riga.

For reducing fishing capacity and consequently fishing effort, Estonian National Fishing Effort Adjustment Plans for the period 2007-2013 foresaw fishing capacity reductions in fleet segments 4S1 and 4S3. These plans were compiled in accordance with Article 22 of the Council Regulation (EC) No 1198/2006 and Article 11.1 of the Council Regulation (EC) No 2371/2002 for adjustment of the Estonia's fleet capacity with the fishing opportunities. The decommissioning of last 4 vessels (717 kW and 363 GT) with public aid under the National Plan were finalised in 2014. Taking into account the long-term dynamics of the relevant fish stocks, no further decommissioning schemes are foreseen as fishing capacity of segment 4S1 has 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

In 2014, Estonia followed the entry-exit scheme defined in Article 23 of the European Parliament and the Council Regulation (EU) No 1380/2013. Every entry into the fleet register or increase in tonnage and/or engine power is covered by the removal of at least the same quantity of capacity from the fleet. The fishing capacity of a vessel deleted from the register with public aid cannot be replaced. All entries of a new vessel into the fleet and all capacity increases have been compensated by the removal of an equivalent or larger capacity from the fleet. Estonia is in compliance with reference levels.

Table 6. Compliance with entry/exit scheme and with level of reference in year 2014.

	Management of the entry/exit scheme in 2014	**GT**	**kW**
1	**Capacity ceiling of the fleet 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 01/01/2014	13 388	43 994
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)	316	1 258
5	Increases in tonnage GT for reasons of safety	0	
6	**Total entries (3 + 4 + 5)**	316	1 258
7	Exits financed with public aid	362.67	716.5
8	Other exits (not included in 6 and 7)	2.45	46.76
9	**Total exits (7 + 8)**	365.12	763.26

10	Power of engines replaced with public aid conditional to power reduction		0
11	**Capacity of the fleet on 31/12/2014 (2+6 - 9)**	13 339	44 489
12	**Fleet ceiling on 31/12/2014**	**21 328.24**	**51 849.5**

***Note:**
Estonia's fishing capacity ceiling on January 1, 2014 was 48 655 kW and 19 906 GT (Our 30th May 2014 letter No 10.4-2/1109). Estonia's fishing capacity ceiling on January 1, 2014 as stated in the Annex II of the Regulation (EU) No 1380/2013, on the Common Fisheries Policy, is 52 566 kW and 21 677 GT.

Based on the capacity ceiling given in Annex II of the Regulation (EU) No 1380/2013, we are planning to use the difference of the fishing capacity (3 911 kW and 1 771 GT) in coastal fleet segment 4S2 (VL0010 and VL1012). As we have stressed earlier, in the case of passive fishing gear and rights-based management (ITE) in use in Estonia's coastal fishery (segment 4S2), the evaluation of fishing capacity of the fleet in kW and GT carries little relevance and would not affect the balance between fishing capacity and fishing opportunities.

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; the 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. Some technical and administrational issues that complicate data checks between different national registers can be seen as weakness of the fleet management system and different solutions for this are being analysed.

General level of compliance with fleet policy instruments
Entry/exit scheme is fully applied and reference levels have not been exceeded.

Section E

Changes of the administrative procedures relevant to fleet management
There were no major changes in administrative procedures concerning Estonia's fleet management in year 2014.

Section F

Application of the balance indicators
For the calculation of the balance indicators the Guidelines presented with 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 consolidate the segment with other fleet segments. Vessels of the length class VL1824 are added under the length class

VL2440 under the DCF due to the small number of active vessels, which is possible as vessels in both segments fish in same area, for same species and they use the same gear. One vessel in length class VL1218 is excluded from the calculations as this vessel is harvesting only agar-agar (*Furcellaria lumbricalis*). A time period of 5 years is used for calculating 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 length classes) might distort the results.

Biological sustainability indicators

The calculation of biological sustainability indicators is based on the data available on STECF JRC web-page (http://stecf.jrc.ec.europa.eu/reports/balance), therefore, the calculations cover only years up to 2013 and only length classes VL0010 – VL2440. For SAR, the data is only for years 2011-2013 available.

Sustainable Harvest Indicator, SHI

Sustainable Harvest Indicator is given for each length class and also for the whole Baltic Sea fleet as the main target species are the same (Baltic herring and also sprat for length classes VL1218-VL2440). 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. As can be seen from table 7, none of the fleet segments depended on fishing opportunities which were set above levels corresponding to MSY in last three years under observation (2011-2013). Only in segment VL2440DTS the indicator was above 1 for three consecutive years from 2010-2012, but the indicator is slightly below 1 in 2013.

Table 7. Sustainable Harvest Indicator for each DCF fleet segment and for the fleet segments combined in period of 2009-2013.

SHI landed value	**2009**	**2010**	**2011**	**2012**	**2013**
VL0010PG	0.93	0.89	0.86	0.73	0.65
VL1012PG	0.92	0.88	0.84	0.72	0.64
VL1218TM	1.02	1.03	0.9	0.85	1.09
VL1218DTS	-	0.83	0.66	0.52	0.6
VL1824TM	1.26	1.05	0.91	0.87	1.06
VL2440DFN	2.28	-	-	-	-
VL2440TM	1.35	1.07	0.97	0.88	1.07
VL2440DTS	-	1.43	1.48	1.28	0.98
Fleet combined (VL0010-VL2440)	**1.27**	**1.03**	**0.96**	**0.84**	**0.91**

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. As can be seen from the table 8 below, throughout the observed three years (2011-2013) the only stock at risk is Baltic herring in the Gulf of Riga. Since Estonian Baltic Sea fleet segments largely target the same stocks, it would not be correct to sum SAR values of a given year. If the same stock contributes to the SAR in several segments, it should be counted only once when calculating the fleet's total SAR.

Table 8. Fleet segments with SAR indicator valued at 1 in years 2011-2013.

DCF segment	stock	2011	2012	2013
VL0010PG	her-riga	1	1	0
VL1012PG	her-riga	1	1	1
VL1824TM	her-riga	1	1	1
VL2440DTS	her-riga	1	0	0
VL2440TM	her-riga	1	1	1

Economic indicators

Economic indicators are calculated for the period of 2009-2013 as the DCF data for 2014 is available from the second half of 2015. Two indicators are calculated: return on investment (ROI) showing long-term viability of the fleet and ratio between current revenue and break-even revenue 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 arithmetic average of 5 years of 17 Member State's low risk long term investment interest rates according to the European Central Bank as no harmonised long-term interest rate is given for Estonia.

Return on investment, ROI

Based on the Guidelines, the following formula was used for calculating ROI:
(((totLandgInc + totOtherInc) – (totCrewWage + totUnpaidLab + totEnerCost + totRepCost + totVarCost)) / (totDepRep[i] + totRights)) x 100

Table 9 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, the length class VL0010 has shown the most stable and profitable economic results. Also the length class VL1012 has shown positive values over the 5 year period and in 2012-2013 has surpassed the value of an interest rate of a low risk long term investment. While the length class VL1218 has shown positive results in 2010-2012, then in 2013 the indicator was below interest rate, but still positive. The most negative results are received for the length class VL2440 (includes also vessels from VL1824), but 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 catches to processing to exports, therefore their profits are generated at the export stage and not at the moment of landing.

Table 9. Values of ROI and indicator in length classes VL0010, VL1012, VL1218 and VL2440 in years 2009-2013. 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.

Segment	Year	2009	2010	2011	2012	2013
VL0010	**ROI**	11.45	9.44	13.86	18.19	11.15
VL0010	**Indicator**	7.28	5.19	9.42	13.42	6.19
VL1012	**ROI**	5.48	5.25	8.43	14.18	23.07
VL1012	**Indicator**	1.31	1	3.99	9.41	18.11
VL1218	**ROI**	-12.79	9.19	22.47	25.6	7.77
VL1218	**Indicator**	-16.96	4.94	18.03	20.83	2.81
VL2440	**ROI**	12.12	3.47	6.31	0.25	5.12
VL2440	**Indicator**	7.95	-0.78	1.87	-4.52	0.16
Interest rate		**4.17**	**4.25**	**4.44**	**4.77**	**4.96**

Ratio between current revenue and break-even revenue

Based on the Guidelines, the following formula was used for calculating the indicator:
(totLandgInc + totOtherInc) / (((totNoVarCost + totDepCost) / (1-((totCrewWage + totUnpaidLab + totEnerCost + totRepCost + totVarCost) / (totLandgInc + totOtherInc))))

For the calculation of BER, opportunity cost of capital was excluded from the calculation, therefore, the indicator shows only the short-term viability of the Baltic Sea fishing fleets. According to the Guidelines, ratio grater 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. As can be seen from the chart 3 below, during the period of 2009-2013, only once has the ratio been under 1 – in length class VL1218 in 2009. When comparing ratios of ROI and BER, then some general similarities can be seen in the developments in different length classes. For example in 2013, both in short-term (BER) and in long-term (ROI), the indicators suggest that the length class VL1012 is most profitable.

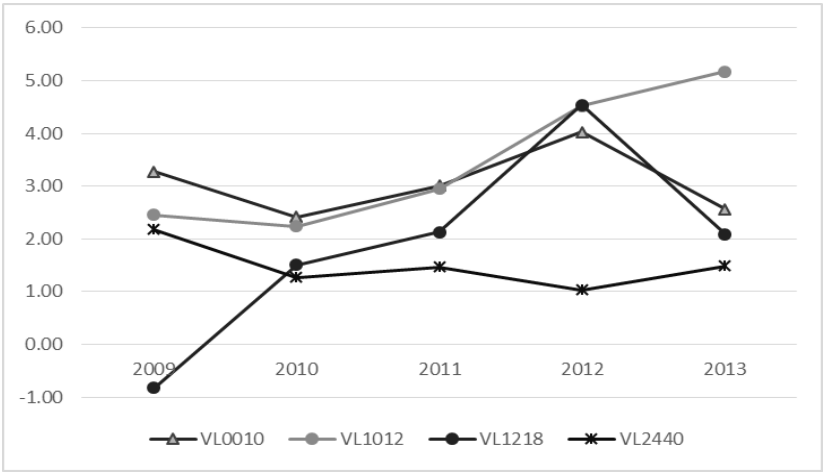

Chart 3. Ratio between current revenue and break-even revenue for years 2010-2014.

Vessel use indicators

Inactive Fleet Indicator

The proportion of inactive vessels has been calculated for length classes VL1218-VL40XX only as fishing in coastal fisheries (vessels with length under 12 m) is under fisherman's fishing permit, which is not issued for a specific vessel. The number of active fishing vessels in segment 4S1 (VL1218-VL2440) has decreased from 48 in 2010 to 38 in 2014, the number of active vessels in segment 4S3 has decreased from 6 vessels in 2012 and 2013 to 4 in 2014. There were only 2 inactive vessels in the whole fleet (segments 4S1 and 4S3) in 2014, one of which was in length class VL1218 and the other in VL40XX. As some vessels were deleted from the fleet during 2014, the number of vessels at the end of 2014 is smaller than the number of active vessels in 2014. Compared to 2013 the number of inactive vessels has decreased. In 2013 there were total of 6 inactive vessels, all in length class VL1218.

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. For calculating the indicator, 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 found.

As can be seen from table 10, over the five-year period (2010-2014), the number of average fishing days has fluctuated considerably, while maximum fishing days has remained generally the same, except a rise in 2012. Minimum fishing days has decreased substantially. This is because of few underused vessels, which have not been used much because of economic reasons or because of major repairs. According to Section 7.3 of the Guidelines, it is considered normal that 10 % or less of the vessels in a fleet segment are inactive. In 2014, 1

vessel was inactive and three vessels had only 1 or 2 fishing days a year in segment VL1218 out of 12 vessels, which makes 36 %. Average fishing days in segment VL1218 are 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). Taking into consideration that the whole Baltic Sea trawling fleet 4S1 (VL1218, VL1824 and VL2440) is homogenous, i.e. using the same gear, targeting the same species and fishing in the same areas, then the percentage of inactive or underused vessels was 9.75 % in 2014. Compared to previous years 2010-2013, the situation has stabilised and become more homogenous concerning active vessels in length class VL40XX.

Table 10. Minimum, maximum and average fishing days (FD) in length classes VL1218, VL1824, VL2440 and VL40XX in years 2010-2014.

	VL1218			VL1824			VL2440			4S1 combined			VL40XX (4S3)		
Year	Min FD	Max FD	Av FD	Min FD	Max FD	Av FD	Min FD	Max FD	Av FD	Min FD	Max FD	Av FD	Min FD	Max FD	Av FD
2010	40	98	72	30	142	111	60	151	123	**30**	**151**	**101**	173	284	235
2011	8	90	50	68	156	128	16	166	111	**8**	**166**	**98**	175	322	266
2012	9	80	56	103	199	141	7	187	129	**7**	**199**	**116**	4	284	204
2013	42	87	60	70	140	105	8	151	80	**8**	**151**	**80**	162	265	230
2014	1	56	28	83	149	119	15	147	108	**1**	**149**	**89**	283	326	306

The calculation of ratio between the average effort and the observed maximum effort in kWdays for different fleet segments in 2010-2014 is shown in chart 4 below. The Guidelines suggest that ratio below 0.7 should be considered as showing structural overcapacity. As can be seen from the chart below (Chart 2), the ratios of two length classes – VL40XX and VL1824 have been over 0.7 the whole period of 2010-2014. Ratios of length classes VL1218 and VL2440 have fluctuated more over the period. The ratio of VL1218 in 2014 is highly affected by three vessels with anecdotal number of fishing days.

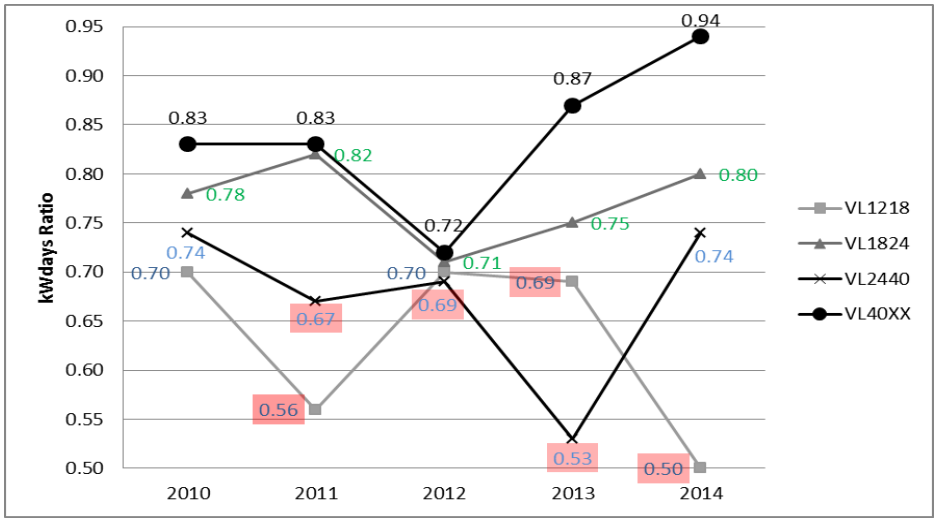

Chart 4. Vessel Utilisation Indicator (ratio in kWdays) for years 2010-2014. Red box around the number indicates that technical overcapacity may exist.

[i] Inactive vessels are excluded from totDepRep.