The Annual Report
On the Latvian Fishing Fleet 2017

1. Summary of report

This report is elaborated according to *Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy.*
Since 2004 Latvia has fulfilled the existing rules and requirements of vessel entry/exit regime without any deviations.
The fishing vessel decommissioning process affects positively the balance between the fishing fleet's capacity and the fish resources allocated to Latvia.
The Technical indicators shows by how much fleet capacity could be reduced without reducing overall fleet output (landings). The Technical indicators can therefore be considered the **baseline indicator** for each fleet segment *(COM (2014)545 final).*
The first of Technical indicators - **Inactive Fleet Indicator (IFI)** showed that for Latvian offshore fleet segments the proportion of inactive vessels does not exceed allowable level for the period of last 4 years. Values of the second Technical indicator - **The Vessel Utilization Indicator (VUI)** for segment VL1218 demonstrated significant increase compare with previously year and reached 0.95 in 2017. Average value **VUI** for 2014-2017 is 0.77 and therefore this segment can be considered as "in balance". **VUI** for segment VL2440 slightly increased compare with previously year and it could be stated that capacity of this segment is "in balance" with the fishing opportunity. Value **VUI** for segment VL0010 remained at the same level as in the previous four years, i.e. not "in balance".

Following the recommendations and applying the interpretation proposed in the Guidelines (*COM (2014)545 final)* about the first of Biological Indicator - **Sustainable Harvest Indicator (SHI)** it can be concluded:
- for two segments (trawlers 12-18 m and trawlers 24-40 m) that rely on herring and sprat stocks in the Gulf of Riga SHI values are above "1", i.e. exceed level of Sustainable Harvest Yield. However, that relatively high value of SHI cannot be considered as the indication of "force-major" situation because the current fishing mortality for these stocks fluctuated quite widely around Fmsy during the period of 2008-2016. Segments are "in balance".
- for segment of trawlers 24-40 m which mainly exploits the sprat stock in the Baltic proper (Sd 25-32) SHI average value (0.86) is very close to the level of Maximum Sustainable Harvest Yield. It can be stated that segment is "in balance".
The second of Biological indicators **- Stocks-at-risk indicator (SARI)** was not calculated because it was considered that none of the stocks corresponds to the features of a stock at risk.

For the evaluation of the achievement balance between fleet capacity and fishing opportunities in Latvian fishery from 2012 to 2016 three Baltic Sea fleet segments were selected and included in the analysis. Two economic indicators were calculated for each fleet segment to evaluate whether fleet segments are economically sustainable in the long - term and short - term.

The indicator Return on Investment (ROI) shows investment profitability. ROI positive and greater than the low risk long - term interest rate shows positive return generated by the investment and suggests that extraordinary profits are being generated a sign of economic under-capitalization. During the analysed period from 2012 to 2016 the ROI indicator has positive values for the segment trawlers VL2440 as well as for the coastal vessels attributed to the segment VL0010. The ROI ratio greater than 1 indicates that the economic activity of the segments VL2440 and VL0010 is cost-effective. Despite that the ROI indicator for the trawlers in segment VL1218 operating in the Gulf of Riga was positive in 2015, during the analysed period from 2012 to 2014 and in 2016 the ROI shows negative values.

The second economic indicator Ratio of Current revenue to Break-even revenue (CR/BER) reflects the financial capability of businesses with vessel in a given fleet segment to continue operating on a day-by-day basis. The CR/BER ratio in 2016 shows high values for the coastal boats segment VL0010. The vessels included in the segments VL1218 and VL2440 operating in the Gulf of Riga and in the Baltic Sea have positive but close to zero ratio CR/BER in 2016. The CR/BER results indicate that the insufficient income is generated to cover fixed and capital costs signify the potential over-capitalization in 2016. However, the results for 2015 indicate a ratio greater than 1 for the all fleet segments analysed.

2. Statement of MS opinion on balance of fleet capacity and fishing opportunity

Latvia continues to apply strictly and fully complies with the existing rules for the Community Fishing Fleet entry/exit scheme. The Fisheries Department (FD) of the Ministry of Agriculture requires withdrawal of the fishing vessel or vessels with equivalent or bigger capacity from the fishing fleet without public support before the entry of the new fishing vessel or vessels into register. After 1 May 2004 there were 337 fishing vessels decommissioned and withdrawn from the Baltic Sea fleet in total. This process positively affects the balance between the fishing fleet's capacity and the fish resources allocated to Latvia. The Latvian Action Plan for years 2015-2017 to reach the balance in the fleet segment (Netters VL 24-40m) was elaborated taking into account the scientific prognosis of the fish stocks (cod) development as well as the expected economic performance of the fishing fleet in the future.

3. Section A

i) Description of fleets

General Description of the Latvian Fishing Fleet

The Latvian fishing fleet is historically divided into three major groups: High Sea vessels, Baltic Sea (including the Gulf of Riga) offshore vessels and coastal fishing vessels. All fishing vessels flying Latvian flag are registered in ten Latvian ports.

Table 1. The Latvian Fleet Segmentation for the 2017

Fleet segment	% from total No of vessels	% from total GT	% from total kW
High Seas	1.6	74.6	54.8
Baltic Sea offshore	8.2	22.7	35.8
Coastal	90.2	2.7	9.4

On 31st of December, 2016 the Latvian fishing fleet contained 679 vessels with total fleet engine power 47142 kW and overall gross tonnage 28518 GT, but on the 31st of December 2017 the Latvian fishing fleet contained 675 vessels with total fleet engine power 47642 kW and overall gross tonnage 27392 (Table 3).

ii) Link with fisheries

High Sea Fleet:

- Represented by 11 big vessels. These vessels contribute only 1.6% to the total vessel number but cover 74.6% of the total GT and 54.8% of the total KW respectively;

In 2017 vessels of this segment performed their fishing activities in the waters governed by the North East Atlantic Fisheries Commission (NEAFC) and the Fishery Committee for the Eastern Central Atlantic **(**CECAF). Main fishing gears for these vessels were midwater otter trawls and bottom otter trawls.

- Target species in the NEAFC area were redfish and cod and in the CECAF area - mackerel, horse, mackerel, sardinella, sardine. This fleet segment constitutes about 42.8% of the total Latvian catch.

Baltic Sea (including the Gulf of Riga) offshore Fleet:

- This fleet group consisted of 55 fishing vessels (on the 31st of December 2017) with overall length from 12 to 40 m LOA (Length overall). Number of vessels in this segment was 8.2% of the total Latvian fishing fleet and it contributed 22.7 % to total GT and 35.8% to total kW;

- Vessels of this group operate only in the Baltic Sea (including the Gulf of Riga) offshore waters in ICES SD (subdivisions) 22 – 32;
- The main fishing gears for these vessels are midwater and bottom otter trawls targeting for sprat, herring and cod. This fleet segment constitutes about 54.2% of the total Latvian catch.

Table 2. Description and segmentation of the Baltic Sea (including the Gulf of Riga) offshore fleet in 2017

Length	Type of gear	Number of vessels			% of total fleet catch in 2017		
		31.12.2016	**Active in 2017**	**31.12.2017**	**Cod**	**Sprat**	**Herring**
VL 12-18 m	Trawler	10	11	11	0	3	31
	Netter	1	0	0	0	0	0
VL 18-24m	Trawler	2	0	0	0	0	0
	Netter	1	0	0	0	0	0
VL 24-40m	Trawler	43	44	44	100	97	69
	Netter	0	0	0	0	0	0

Coastal Fishing Fleet:

- Represented by 609 fishing boats with overall length equal to or less than 12 m which constitute the majority of vessel number or 90.2 % from the total, but contribute only 9.4% to total kW and 2.7% to total GT.
- In 2017, the coastal fishers used actively 196 boats for the commercial fishing and 82 boats - for self-consumption fishing. Some boats (17) have been used in both fisheries. Other fishing boats fished episodically or were used as accessory boats.
- Coastal fleet segment is very important for Latvian coastal regions along the Gulf of Riga and sea coastline for socio – economic reasons. Small-scale fishery is the main source of subsistence and employment for residents of remote coastal communities.
- However, the catches of coastal fishing fleet are relatively small (about 5.2% of the total Baltic Sea catches) and these include Baltic herring, round goby, flounder, smelt, as well as garfish, perch, vimba bream, cod and other non-TAC and non-quota species mainly obtained by fixed passive fishing gears. This fleet segment contributed about 3% to the total Latvian catch (including High Sea fishery).
- In 2017 coastal fishing fleet also includes 82 boats (from 609) used for self-consumption fishing within one gear rule (maximum 1 net, 1 herring net, 1 fyke net or 100 hooks could be used simultaneously by one person) and it is prohibited the marketing of these catches.
  However, in the coastal fishing fleet the scrapping plan was fulfilled in relation to GT and kW but was not fully achieved in relation to the number of vessels. Since in the coastal fishery only passive gears are deployed, the balancing of the number of the vessels is more important than GT and kW.

iii) Development in fleets

Table 3. Evolution of Latvian fishing fleet from (1st of May, 2004 to 31st of December, 2017)

Date	Number of vessels	GT	kW
Census: 1st of May, 2004	898	44449	74320
31st December, 2016	679	28518	47142
31st December, 2017	675	27392	47642
Difference between CEN date and 31st of December, 2017	223	17057	26678

4. Section B

i) statement of effort reduction schemes

The Annual report on the Latvian Fishing Fleet 2013 contained an Action Plan for 2015-2017 designed to reach a balance between capacity and the fish resources available for the fleet's segment (netters VL24-40 m) targeting Eastern Baltic Cod. The recommended tool to be applied for reaching this goal was scrapping. It was proposed to scrap 5 netters with total GT of 457 and total kW of 970. In this regard the European Maritime and Fisheries Fund support measure "Permanent cessation of fishing activities" was implemented in 2015 and 2016. The results achieved by the end of 2016 represent the withdrawal of all 5 netters as it was recommended and permanent withdrawal of the total amount of 457 GT and 970 kW from the Union fishing fleet register.

ii) impact on fishing capacity of effort reduction schemes

The main reason why owners of the fishing vessels actively applied for assistance from the European Fisheries Fund and the European Maritime and Fisheries Fund for decommissioning scheme is a good economic advantage and possibility for further investments in economic activities within the fisheries sector (except vessel purchase) or in other fields. Since 1st of May, 2004 according to fishing capacity reduction schemes, 253 vessels have been scrapped from the Baltic Sea fishing fleet with national and EU financial support and 101 vessels went out from the fleet without such support. The latter were sold to other countries, scrapped or sunken. Scraping of the vessels has radically increased the catches per vessel, hence, increasing the profitability.

5. Section C

Statement of compliance with entry / exit scheme and with level of reference

In 2017 Latvia fully respected capacity limitations in terms of GT and kW according to the Commission Regulations 1438/2003 and 916/2004. National legislation prescribes that all new intensions for entries – purchase or construction of any fishing vessel shall be agreed before with the relevant authorities (the Fisheries Department (FD) of the Ministry of Agriculture).

Table 4. Management of entry/exit regime on 31.12.2017

		GT		kW	
1	Capacity of fleet on 1st May 2004	**GT_{FR}**	44449	**kW_{FR}**	74320
2	Capacity level for the application of entry/exit regime	**GT_{04}**	56555	**kW_{04}**	83930
3	Entries of vessels of more than 100 GT financed with public aid	**GT_{100}**	0	**kW_{100}**	0
4	Other entries or capacity increases (not included in 3 & 5)		50692		64802
5	Increases in tonnage GT for reasons of safety	**GT_S**	0	-	-
6	**Total entries (3+ 4 + 5)**		**50692**		**64802**
7	Exits before 1/1/2007 financed with public aid	**GT_{a1}**	3134	**kW_{a1}**	7441
8	Exits after 1/1/2007 financed with public aid	**GT_{a2}**	8105	**kW_{a2}**	19826
9	Other exits (not included in 7 & 8)		56510		64213
10	**Total exits (7 + 8 +9)**		**67749**		**91480**
11	Power of engines replaced with public aid conditional to power reduction	-	-	**kW_r**	0
12	Capacity of the fleet on 31.12.2017 (1 + 6 - 10)	**GT_t**	27392	**kW_t**	47642
13	Fleet ceiling on 31.12.2017		45687		56663

Line 4 is calculated as: 4 = (12 - 1) + 10 - (3 + 5)

Line 13: Ceiling GT = 2 - 35% 3 - 98,5% 7 - 96% 8 and kW = 2 -35% 3 - 7 - 8 - 20%11

6. Section D

i) Information on general level of compliance with fleet policy instruments

The main organizations responsible for the national fleet management as from 1st of January, 2017 were:

• the Fisheries Department (FD) of the Ministry of Agriculture with responsibilities:

- elaboration of the national Fisheries Policy and functioning of the Integrated Control and Information System (ICIS);

- supervision of implementation of the national fisheries management measures, including national fishing fleet ceiling levels and the fishing fleet capacity adjustment plans;
- implementation of the fisheries policy in Latvia (issuing special fishing permits for fishing vessels according to the EU requirements, authorization for entry/exit of the fishing vessels into the Fishing Fleet Register etc.);
• the State Environmental Service of the Ministry of Environment and Regional Development is responsible for general management of fishing licenses, control and enforcement of the fishing activities and VMS reporting;
• the Latvian Ship Register (LSR) of the Maritime Administration of the Ministry of Transport is responsible for registration of the vessels (also the fishing vessels) into the common ship register;
• the Rural Support Service (RSS) under the supervision of the Ministry of Agriculture is responsible for management of projects implementation with respective national and EU public support from the European Maritime and Fisheries Fund related to Vessels exploitation permanent cessation Action Plan for period 2015-2017.

ii) summary of strengths and weaknesses of the fleet management system

Strengths of the fleet management system:
• Development of the ICIS provided close collaboration between above mentioned Latvian fishing fleet management institutions;
• The Institute of Food Safety, Animal Health and Environment "BIOR" has to provide and obtain precise information about stock conditions and fleet fishing effort in the Baltic Sea and the Gulf of Riga;
• Functioning of the fishing fleet register is supervised by FD that provides complete and precise data on all concerned vessels;
• Good and practically functioning vessel entry/exit management scheme is established in Latvia.

Weaknesses of the fleet management system:
• Information entered in ICIS was accessible for changes to correct the previously entered data; however on the other hand for justified reasons the data normally could be slightly changed within the time to adjust with real status.

iii) plan for improvements in fleet management system

• In 2017 the new ICIS system to improve the ICIS in order to comply with all the requirements set by the EC Fisheries control regulation was completed. This ensured not only improvement of the fisheries data quality by the crosschecks and data validation but also facilitates the work of the personnel working with ICIS.
• In order to improve the fleet management system through the ICIS was developed automatic vessel data input in the ICIS from the Latvian Ship Register (LSR).

7. Section E

Information on changes of the administrative procedures relevant to fleet management

There were no significant changes in 2017 in the administrative procedures. However it should be mentioned that the work with ICIS improvement and development is still continuing. For the years 2012-2017 the Fisheries Department (FD) invested quite a lot in development of ICIS to improve reliability of the data, to make easier the processing of the data and routine work, to improve the modeling of the required reports.

8. Section F

Estimation and discussion of balance indicators

i) Technical indicators - Vessel Use Indicators

Technical indicators for Latvian fishing fleet were calculated according to the 2014 Balance Indicator Guidelines (COM 2014, 545 final). These indicators show- how much fleet capacity could be reduced without reducing overall fleet output (landings). The technical indicators can be considered as the **baseline indicator** for each fleet segment. The maximum day at sea was calculated as follows: the average number of days at sea of the top 10 most active vessels in a fleet segment in a given year.

i-1) The Inactive Fleet Indicator - IFI

The proportion of inactive vessels of the total fleet was calculated with respect to number of vessels, GT and kW. The total number of vessels registered in the fleet register on 31 december and all active vessels of the corresponding year were taken to determine the number of inactive vessels by different length classes. The values of Inactive Fleet Indicator for period 2009-2017 are presented in Annex I.
The IFI indicator shows low values for both vessel length-classes VL2440 and VL1218. Less than 10% of the vessels were inactive during the last 4 years for the vessels 24-40 m and there was only 1 inactive vessel for the vessels 12-18 m length. The proportion of inactive vessels does not exceed threshold value (20%) and according to the 2014 Balance Indicator Guidelines these segments are in balance with respect to IFI.

i-2) The Vessel Utilization Indicator VUI

Vessel Utilisation Indicator characterizes the ratio between efforts actually deployed to the maximum effort that could be extended by the fleet. All active Baltic Sea vessels which had license and fish at least one day a year have been taken for the calculation. Data on Vessel Utilization Indicator also known as Vessel Utilisation Ratio (VUR) for the segments of netters 24-40 m, trawlers 12-18 m, trawlers 24-40 m and small boats less than 10 m are presented in Annex II.

The segment of trawlers 12-18 m operates mainly in the Gulf of Riga with target species Baltic herring. Number of active vessels in 2017 was reduced by 69% compared to 2005. According to the guidelines *COM (2014) 545 final* to consider whether the segment is in balance or not *"it is appropriate to consider several years rather than a single year".* Thus, taking into account average VUI value of last four years (0.77) it could be stated that capacity of this segment was approximately *in balance* with the fishing opportunity and corresponds to "yellow light" in terms of "traffic light system".

The segment of trawlers and netters 18-24 m does not exist in this year. The remaining vessels from this segment are transferred to the segment 24-40.

The segment of netters 24-40 m historically targeted Baltic cod does not exist. However, data on vessel utilization ratio for the period of 2005-2015 are presented in Annex II.

The segment of trawlers 24-40 m operates mainly in areas 25-32 with target species Baltic sprat and Baltic cod as well. Number of active vessels in 2017 was diminished by 43% compared to 2005.Vessel utilization indicator in terms of days and kW*days for this segment remain on the quite low level and do not exceed threshold value of 0.7. The average VUI in terms of kW*days for the 2017 was 0.65. Thus, capacity of this segment was somewhat in excess of opportunity as regards of Vessel utilization indicator and corresponds to "red light" in terms of "traffic light system".

Vessel utilization indicator for small-scale coastal Fishery was calculated for only commercial fishery. The coastal fishery uses different static gears such as nets, traps, lines and seines. Average activity level for this segment was less than 25% of the potential during the period of 2009-2017. In general, it indicates that for significant part of coastal fishers the fishery constitutes only a part of their activities. This could be also connected with the availability of fish resources and its' seasonality in the coastal area. Although the utilisation ratio of small boats less than 10 m is consistently at a very low level, this segment is very important in socio-cultural aspect as traditional activities for population of coastal settlements.

Summary:

- In the segments where the number of vessels is around 10 or less, any changes in fishing strategy by one vessels or one company could noticeably vary the technical indicator values. For Latvian fishing fleet the segment of trawlers 12-18 m can be considered as small in number of vessels and any conclusion of it balance should be treated with caution and verified over the time.
- Value of the Vessel Utilisation Ratio for all Latvian fishing fleet segments remain on the same level as in previous year.

ii) Biological indicators

ii-1) Biological indicator Sustainable Harvest Indicator - SHI

The *Sustainable Harvest Indicator* (SHI) was defined for three Latvian fishing fleet segments which contribute around 95% to the total Latvian catch in the Baltic Sea. The values of SHI for period of 2008-2016 and two fishing regions (Baltic proper and Gulf of Riga) were calculated for the following fleet segments. combined by vessel length and gears:

- trawlers 24-40 m in Sd 25-32 with target species of sprat (78-94% in 2008-2016);
- trawlers 12-18 m in the Gulf of Riga (28.1) with target species of herring (76-90% in 2008-2016);
- trawlers 20-40 m in the Gulf of Riga (28.1) with target species of herring (86-94% in 2008-2016).

The values of current fishing mortality Fc for different years and reference points F msy for stocks exploited by Latvian fishing fleet were obtained from ICES Baltic Fisheries Assessment Working Group Report (WGBFAS Report 2017. ICES CM 2017/ACOM:11):

- Sprat in Subdivisions 22-32;
- Cod in Subdivisions 25-32;
- Herring in Subdivisions 25-29 and 32 (excluding Gulf of Riga herring. Subdivision 28.1);
- Herring in Subdivision 28.1(Gulf of Riga).

Fishing mortality values for level of *maximum sustainable yield* F msy for considered stocks are:

- for Sprat in Sd 22-32 Fmsy=0.26;
- for Herring in Sd 25-29 and 32 (excluding Gulf of Riga herring. Subdivision 28.1). Fmsy=0.22;
- for Herring in Subdivision 28.1(Gulf of Riga) Fmsy = 0.32

The calculated SHI indicators for all species and fleet segments are shown in the Annex III and Fig. 1. 2.

For segment trawlers 24-40 m in SD 25-32 average value of SHI was calculated for herring and sprat as cod stock parameters were not defined by WGBFAS and cod catch contributed around 7 % to total catch by this fleet segment (Annex III). The SHI values are fluctuating around 1 and mainly depend from the variation of fishing mortality values for the sprat. which is the largest part of the total catches in this segment.

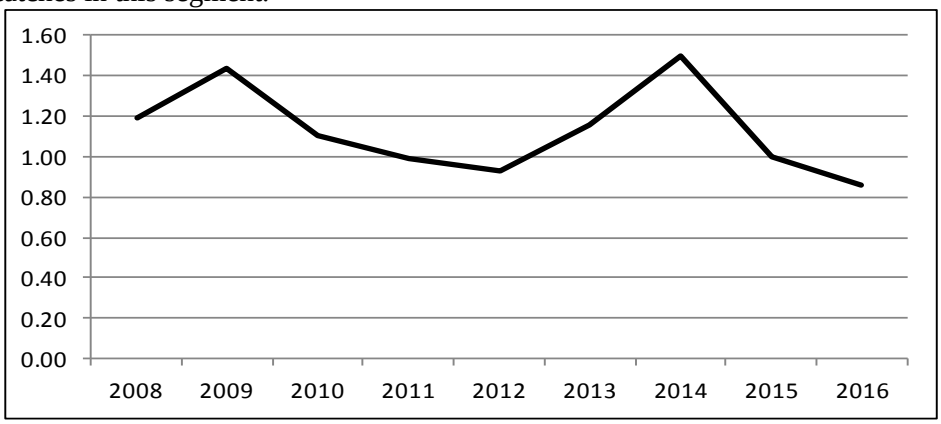

Fig 1. The changes of biological indicator SHI during the period of 2008-2016 for the segment of VL2440 trawlers in the Baltic Sea.

In the Gulf of Riga for trawlers 24-40 m and trawlers 12-18 m which are mostly fishing herring the small by-catch of sprat was also taken into account. (Fig.2)

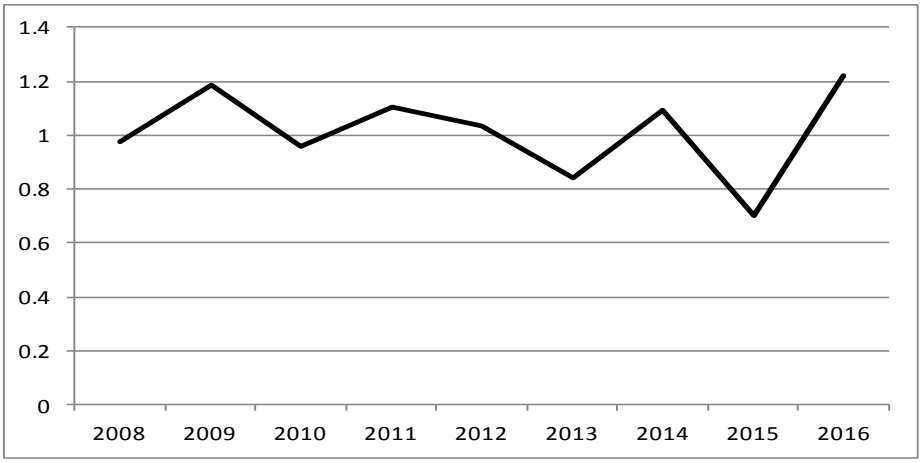

Fig.2 The changes of biological indicator SHI during the period of 2008-2016 for the segments of VL1218 and VL2440 trawlers in the Gulf of Riga.

Following the recommendations and applying the interpretation proposed in the Guidelines it can be concluded:
- for two segments (trawlers 12-18 m and trawlers 24-40 m) that rely on herring and sprat stocks in the Gulf of Riga SHI values are above "1". i.e. exceed level of Sustainable Harvest Yield. However, that relatively high value of SHI cannot be considered as the indication of force-major situation. Because the current fishing mortality for these stocks fluctuated quite widely around Fmsy during the period of 2008-2016. Segments are "in balance".
- for segment of trawlers 24-40 m which mainly exploits the sprat stock in the Baltic proper (Sd 25-32) SHI average value (0.86) is very close to the level of Maximum Sustainable Harvest Yield. (Fig. 1) It can be stated that segment is "in balance".

iii) Economic Indicators

For the evaluation of the achievement balance between fleet capacity and fishing opportunities in Latvian fishery from 2012 to 2016 three Baltic Sea fleet segments were selected and included in the analysis. Two economic indicators were calculated for each fleet segment to evaluate whether fleet segments are economically sustainable in the long - term and short - term.

The indicator Return on Investment (ROI) shows investment profitability. ROI positive and greater than the low risk long - term interest rate shows positive return generated by the investment and suggests that extraordinary profits are being generated a sign of economic under-capitalization. During the analysed period from 2012 to 2016 the ROI indicator has positive values for the segment trawlers VL2440 as well as for the coastal vessels attributed to the segment VL0010. The ROI ratio greater than 1 indicates that the economic activity of the segments VL2440 and VL0010 is cost-effective. Despite that the ROI indicator for the trawlers in segment VL1218 operating in the Gulf of Riga was positive in 2015, during the analysed period from 2012 to 2014 and in 2016 the ROI shows negative values. The detailed ROI calculations for each fleet segment and conclusions are presented in the section iii-1 and Annex IV.

The second economic indicator Ratio of Current revenue to Break-even revenue (CR/BER) reflects the financial capability of businesses with vessel in a given fleet segment to continue operating on a day-by-day basis. The CR/BER ratio in 2016 shows high values for the coastal boats segment VL0010. The vessels included in the segments VL1218 and VL2440 operating in the Gulf of Riga and in the Baltic Sea have positive but close to zero ratio CR/BER in 2016. The CR/BER results indicate that the insufficient income is generated to cover fixed and capital costs signify the potential over-capitalization in 2016. However, the results for 2015 indicate a ratio greater than 1 for the all fleet segments analysed. The detailed calculations and conclusions are presented in the section iii-2 and Annex V.

The methodology used for economic analysis have been proposed by *COMMUNICATION FROM THE COMMISION TO THE EUROPEAN PARLAMENT AND THE COUNCIL Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy (Brussels, 2.9.2014. COM (2014) 545 final).* There are two economic indicators proposed by the guidelines. The economic indicators show the extent of economic over or under capitalization in a fleet, both in the short and in the long term. In order to assess the profitability of the fleet in the long-term the indicator return on investment (ROI) was calculated. The second indicator applied is ratio between current revenue and break-even revenue (CR/BER) reflects the financial capability of businesses with vessels in a given fleet segment to continue operating on a day-by-day basis. The indicator characterize economic situation in the short-term.
The following categories of fishing vessels were excluded from the analysis:

- vessels over 40 meters operating in the Atlantic (area 27 and 34) due to the data confidentiality;
- inactive vessels due to the small number and low capacity;

- coastal fishing vessels not engaged in commercial fishing and involved only in recreational fishing.

For the calculations and analysis the data collected in the frame of Data Collection (implemented under Reg. No 199/2008; Commission Implementing Decision (EU) 2016/1251 Table 5A Economic variables for the fleet and table 4 Fishing activity variables) have been used.

The economic indicators have been calculated for the active Baltic Sea fishing fleet by economic segments provided in Table 5B III Reg.199/2008; Commission Implementing Decision (EU) 2016/1251. All commercial vessels operated in the coastal zone were included in the segment VL0010.

Long-term interest rates for indicators calculation have been taken from the European Central Bank as Latvian average interest rate for the last five years, available at https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/long_term_interest_rates/html/index.en.html

iii-1) Return on Investment (ROI)

Return on investment (ROI) shows investment profitability and is defined as Net profit after capital stock depreciation and then divided by capital asset value of the fleet. The direct income subsidies are excluded from the calculation.

According to the guidelines the ROI positive and greater than the low risk long- term interest rate shows positive return generated by the investment and suggesting that extraordinary profits are being generated, a sign of economic under-capitalization. Values of ROI positive but smaller than the low risk interest rate would yield negative values for the indicator indicating that in the long - term it would more beneficial to invest elsewhere which is a sign that probably the fleet is overcapitalised and therefore economically inefficient. Negative ROIs can by themselves indicate economic over-capitalisation. ROI results and calculations for each fleet segment are presented in Table 5 and Annex V.

Table 5. **Return on Investment (**ROI – risk free long term interest rate %)

Fleet Segments	**2012**	**2013**	**2014**	**2015**	**2016**
VL0010 PG	755	2683	2315	1486	857
VL1218 TM	- 72	- 135	- 149	50	-0.76
VL2440 TM	45	29	26	41	25

iii-1a) Application and interpretation

The ROI for the trawlers in the segment VL2440 shows positive and high values from 2012 to 2016. The positive ROI values indicate that extraordinary profit is being generated and positive return of investments ensures the segment profitability. The main factor is that the segment target species are herring and sprat which provide the necessary turnover for the segment. The herring and sprat catches contributed in average 50% and 22% respectively to total Latvian volume of landing as well as 47% and 18% to total value of landing from 2012 to 2016.

The ROI values for the coastal fleet vessels in the segment VL0010 were too high during the period from 2012 to 2016. The high values of ROI in the segment can be explained with a low fleet capital asset value due to low residual values of capital and a long service life of vessels and vessel equipment. The average vessel age for the segment VL0010 was around 30 years and the share of the capital asset value in the total fleet capital assets was 0.8% in 2016. The positive ROI values indicate that the segment is profitable in the long - term and normal investments returns are being generated. Nevertheless, too high ROI results caused by the low capital asset value also can indicate the modernization of the vessels and equipment is necessary.

The segment trawlers VL1218 operating in the Gulf of Riga shows negative values of ROI from 2012 to 2014. The ROI values below zero indicate economic over-capitalization and suggest negative

returns. The segment VL1218 had losses annually around €1.6 million from 2012 to 2014. A negative ROI values means for the companies that it would be more profitable to invest the money in something other than fishery. However, negative ROI for the segment VL1218 also could be explained with redistribution of costs and revenue between the segments VL1218 and VL2440 from 2012 to 2014 in cases when one company owns vessels included in the different segments but attribute the revenue to the largest one. Nevertheless, the ROI indicator was positive in 2015 and the segment VL1218 operated with profit in 2015 and 2016. Despite the lowest catch in the last 5 years (by 17% less in 2016 than between 2012 and 2015) the ratio Net profit and capital asset value in 2016 has positive value 1.62%. After a deduction of Low risk long-term interest rate the ROI result become negative -0.76%. Moreover, it should be noted that potential capacity for some vessels in the segment VL1218 could be exploited by 10-20% more. If intensity of fishing for some vessels in the segment VL1218 will increase, the segment could obtain greater amount of catch and higher revenue from sales which in turn can facilitate a profit growth. Thereby, the negative ROI values for the segment VL1218 cannot be regarded as characterizing the low profitability of the segment in the long-term.

In general, for the three main fleet segments (coastal boats VL0010, trawlers VL1218, trawlers VL2440) it could be conclude that fleet modernization should be necessary and also fishing effort increase for the vessels in the segment trawlers VL1218 operating in the Gulf of Riga.

iii-2) Ratio of Current revenue to Break-even revenue (CR/BER)

The break-even revenue (BER) is the revenue required to cover both fixed and variable costs, that no losses are incurred and no profits are generated. The current revenue (CR) is the total operating income of the fleet segment, which consists of income from landings and non-fishing income. Data on direct income subsidies were excluded from the calculation. In addition, income and expenditures from the fishing rights has '0' values due to the absence of fishing rights market in Latvia. The opportunity costs are included in the calculation.

According to the definition in the guidelines the ratio between fleet current revenue and break-even revenue shows how close the current revenue of a fleet is to the revenue required for the fleet to break even in the short - term. If the ratio is greater than 1, then enough income is generated to cover variable, fixed and capital costs, indicating that the segment is profitable, with potential under-capitalisation. Conversely, if the ratio is less than 1, insufficient income is generated to cover variable, fixed and capital costs, indicating that the segment is unprofitable, with potential over-capitalisation. If the CR/BER result is negative, this means that variable costs alone exceed current revenue, indicating that the more revenue is generated, the greater the losses will be. Ratio between current revenue and break-even revenue (CR/BER) indicates a profitable fishery in the short - term. The CR/BER results and calculations for each fleet segment are presented in Table 6 and Annex 5.

Table 6. Ratio of Current revenue to Break-even revenue CR/BER)

Fleet Segments	**2012**	**2013**	**2014**	**2015**	**2016**
VL0010 PG	9.78	47.94	51.29	10.53	3.24
VL1218 TM	0.20	-1.20	-1.14	3.60	0.16
VL2440 TM	1.51	1.30	1.31	1.88	0.30

iii- Application and interpretation

The segment of small boats less than 10 meters with polyvalent passive gears annually has the highest CR/BER ratio. The segment contributed only 7% to total Latvian value of landing in 2016 and does not practically affect to the economic situation in the Latvian fishery.

The negative CR/BER ratio -1.20 in 2013 and -1.14 in 2014 indicate short - term financial difficulty for the segment trawlers VL1218 operated in the Gulf of Riga. The situation had improvements in 2015 when the segment operated with the profit €1.4 million and CR/BER ratio of 3.60 indicated the profitable economic activity in the short - term. However, the decrease of average price for the target

species herring and sprat by 20% and 8% respectively in 2016 deteriorate the segment VL1218 profitability and decline the CR/BER indicator to 0.16. Similar situation raised by the negative influence from the fish price reduction is observed also for the segment trawlers VL2440 where CR/BER ratio is 0.30 in 2016. Nevertheless, is necessary to take into account that CR/BER ratio for the fleet segment trawlers VL2440 is above '1' from 2012 to 2015 indicating the segment is profitable in the short - term.

In general it could be conclude that all three segments (coastal boats VL0010, trawlers VL1218, trawlers VL2440) have CR/BER ratio above '0' indicating the current revenue exceed the variable costs in 2016. However, it is necessary to increase profitability for the segments trawlers VL1218 and VL2440 in the nearest future in order to provide coverage of fixed and capital costs.

Annex I.
Technical indicators - The Inactive Fleet Indicator
Number and proportion of inactive vessels

Values for vessels 12-18 m

Year	Inactive vessels			% of total		
	No of Vessels	kW	GT	No of Vessels	kW	GT
2009	1	110	29	5.6	3.7	5.6
2010	1	110	29	5.0	3.0	3.4
2011	1	110	29	7.1	4.5	7.0
2012	1	110	29	8.3	5.2	8.1
2013	1	147	29	8.3	6.6	8.1
2014	0	0	0	0	0	0
2015	1	147	29	8.3	6.6	8.1
2016	1	147	29	8.3	6.6	8.1
2017	0	0	0	0	0	0

Values for vessels 24-40 m

Year	Inactive vessels			% of total		
	No of Vessels	kW	GT	No of Vessels	kW	GT
2009	9	1857	831	11.7	8.8	8.3
2010	8	1790	788	11.4	9.7	9.4
2011	7	2392	1002	11.7	13.6	13.1
2012	7	1712	805	11.7	9.6	10.5
2013	5	1102	579	8.9	6.5	7.9
2014	2	699	214	3.8	4.3	3.1
2015	2	698	222	3.9	4.3	3.3
2016	2	607	230	4.4	4.1	3.7
2017	2	606	221	4.3	3.9	3.6

Annex II. Technical indicators - The Vessel utilisation Indicator

Values for netters 24-40 m

Year	Number of vessels	Capacity (average)	Effort (average)		Maximum effort (based on observed max.)		Technical indicator	
		GT	days	GT*days	days	GT*days	days[1)]	GT*days[2)]
2005	41	80	138	11286	221	17707	0.63	0.64

2006	38	81	126	10581	207	16699	0.61	0.63
2007	29	86	128	11044	199	17032	0.64	0.65
2008	26	86	122	10510	186	15932	0.66	0.66
2009	23	88	94	8359	173	15171	0.55	0.55
2010	18	90	109	10270	182	16451	0.60	0.62
2011	10	101	143	14089	199	20159	0.72	0.70
2012	9	94	158	15230	196	18424	0.81	0.83
2013	8	96	145	14092	212	20273	0.68	0.70
2014	7	87	134	12984	181	15721	0.74	0.83
2015	5	99	136	13836	158	15610	0.86	0.89
2016	Number of vessels less than 5							
2017	Not exist							

Values for trawlers 12-18 m

Year	Number of vessels	Capacity (average)	Effort (average)		Maximum effort (based on observed max.)		Technical indicator	
		kW	days	kW*days	days	kW*days	days[1)]	kW*days[3)]
2006	33	153	133	21987	236	36180	0.56	0.61
2007	31	153	144	24156	290	44239	0.50	0.55
2008	28	156	139	23495	231	36110	0.60	0.65
2009	23	160	142	24797	258	41269	0.55	0.60
2010	17	168	156	27244	207	34752	0.75	0.78
2011	16	172	172	31023	260	44590	0.66	0.70
2012	13	180	160	29651	232	41760	0.69	0.71
2013	11	183	176	32837	217	39770	0.81	0.83
2014	11	190	159	30281	197	37430	0.81	0.81
2015	11	188	161	30382	251	47256	0.64	0.64
2016	11	188	147	27997	221	41608	0.67	0.67
2017	11	190	178	34015	188	35737	0.94	0.95

Values for trawlers 24-40 m

Year	Number of vessels	Capacity (average)	Effort (average)		Maximum effort (based on observed max.)		Technical indicator	
		kW	days	kW*days	days	kW*days	days[1)]	kW*days[3)]
2006	75	265	110	28526	199	52758	0.55	0.54
2007	70	270	118	32706	205	55431	0.58	0.59
2008	69	266	106	28741	184	48929	0.58	0.59
2009	60	308	91	25569	191	58780	0.48	0.44
2010	49	301	105	33199	176	52911	0.60	0.63
2011	48	308	102	30791	197	60606	0.52	0.51
2012	48	320	111	34344	214	68578	0.52	0.50
2013	46	321	115	37437	217	69549	0.53	0.54
2014	45	320	107	33801	180	57620	0.60	0.59
2015	44	326	113	36169	193	62870	0.59	0.58
2016	44	333	105	34050	184	61243	0.57	0.56
2017	44	336	118	39672	180	60590	0.66	0.65

Values for boats less 10 m using polyvalent passive gears

Year	Number of vessels	Capacity (average)	Effort (average)		Maximum effort (based on observed max.)		Technical indicator	
		GT	days	GT*days	days	GT*days	days[1)]	GT*days[2)]

2009	259	2.3	37	88	206	477	0.18	0.19						

			2014				2015				2016			
	Fleet segment	Parameters	COD 25-32	HER 25-29. 32 (excl.28.1)	SPR 22-32	HER GOR (28.1)	COD 25-32	HER 25-29. 32 (excl.28.1)	SPR 22-32	HER GOR (28.1)	COD 25-32	HER 25-29. 32 (excl.28.1)	SPR 22-32	HER GOR (28.1)
SD 25-32	VL2440 trawlers	Catch.t	1295	3224	31192		2406	4298	30196		2404	6989	26503	
		F c	N/d	0.16	0.41		N/d	0.18	0.27		N/d	0.2	0.22	
		Fmsy	N/d	0.22	0.26		N/d	0.22	0.26		N/d	0.22	0.26	
		F/Fmsy	N/d	**0.73**	**1.58**		N/d	**0.83**	**1.03**		N/d	**0.91**	**0.85**	

2010	260	2.2	42	101	175	382	0.24	0.26
2011	252	2.0	38	84	157	321	0.24	0.26
2012	210	1.7	41	78	215	363	0.19	0.21
2013	200	1.7	44	84	205	347	0.21	0.24
2014	223	1.9	51	104	203	383	0.25	0.27
2015	204	1.9	53	102	223	420	0.24	0.24
2016	200	2.0	50	90	188	368	0.26	0.25
2017	196	1.99	48	95	159	317	0.30	0.30

[1)] ratio between average days at sea and maximum days at sea; [2)] ratio between average GT*days at sea and maximum GT*days at sea; [3)] ratio between average kW*days at sea and maximum kW*days at sea

		F/Fmsy for segment	**1.50**					**1.00**				**0.86**		
SD 28.1 Gulf of Riga (GOR)	VL1218 trawlers	Catch.t				7344			781	7977			706	6413
		F c				0.34			0.27	0.42			0.22	0.4
		Fmsy				0.32			0.26	0.63			0.26	0.32
		F/Fmsy				**1.06**			**1.03**	**0.67**			**0.85**	**1.25**
		F/Fmsy for segment							0.70				**1.21**	
	VL2440 trawlers	Catch.t				9651			535	11757			892	9901
		F c				0.34			0.27	0.42			0.22	0.4
		Fmsy				0.32			0.26	0.63			0.26	0.32
		F/Fmsy				**1.06**			**1.03**	**0.67**			**0.85**	**1.25**
		F/Fmsy for segment				**1.06**			**0.69**				**1.22**	

Annex III. Biological indicators SHI for Latvian Fleet segments in 2014-2016

Annex IV.

Table 1. **ROI calculation**

Year	Values for calendar year	LV0010	VL1218	VL2440
2012	Income from landings + other income	1447523	4270377	17486569
	Low risk long term interest rate %	7.92	7.92	7.92
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	251674	4928449	13285003
	Capital costs (depreciation + interest payments	34529	526031	647791

	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	1,161,321	- 1,184,104	3,553,775
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	152178	1860687	6777524
	ROI = Net profit / capital asset value %	**763.14**	**-63.64**	**52.43**
	ROI – risk free long term interest rate %	**755.22**	**- 71.56**	**44.51**
2013	Income from landings + other income	1,327,239	3,212,550	17,183,804
	Low risk long term interest rate %	7.30	7.30	7.30
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	111,116	4,896,305	13,670,847
	Capital costs (depreciation + interest payments	18,965	542,441	926,881
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	1,197,158	- 2,226,197	2,586,076
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	44,496	1,745,767	7,110,643
	ROI = Net profit / capital asset value %	**2,690.48**	**-127.52**	**36.37**
	ROI – risk free long term interest rate %	**2,683.18**	**-134.82**	**29.07**
2014	Income from landings + other income	1,735,010	2,406,672	16,106,155
	Low risk long term interest rate %	5.33	5.33	5.33
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	174,763	3,558,292	12,428,376
	Capital costs (depreciation + interest payments	18,925	316,277	1,228,724
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	1,541,322	-1,467,897	2,449,055
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	66,432	1,024,936	7,842,539
	ROI = Net profit / capital asset value %	**2320.15**	**-143.22**	**31.23**
	ROI – risk free long term interest rate %	**2314.82**	**-148.55**	**25.90**
Year	**Values for calendar year**	**LV0010**	**VL1218**	**VL2440**
2015	Income from landings + other income	1,514,647	2,670,386	16,502,938
	Low risk long term interest rate %	3.46	3.46	3.46
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	522,681	1,808,191	10,817,657
	Capital costs (depreciation + interest payments	24,822	90,131	1,514,114
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	967,144	772,064	4,171,167

	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	64,915	1,450,109	9,340,218
	ROI = Net profit / capital asset value %	**1489.86**	**53.24**	**44.66**
	ROI – risk free long term interest rate %	**1486.40**	**49.78**	**41.20**
2016	Income from landings + other income	1,072,810	2,429,772	14,082,390
	Low risk long term interest rate %	2.38	2.38	2.38
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	314,188	1,909,862	11,171,380
	Capital costs (depreciation + interest payments	26,955	479,572	555,351
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	731,667	40,339	2,355,659
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	85,093	2,490,057	8,456,737
	ROI = Net profit / capital asset value %	**859.84**	**1.62**	**27.86**
	ROI – risk free long term interest rate %	**857.46**	**-0.76**	**25.47**

Annex V.

Table 1. **Ratio of Current revenue to Break-even revenue (CR/BER)**

Year	N	Values for calendar year	LV0010	VL1218	VL2440
2012	1	Current revenue (CR) = Income from landings + other income	1447523	4270377	17486569
	2	Fixed costs = Non variable costs + depreciation +opportunity of capital	130866	1656606	5940655
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	167388	3945238	8528907
	4	BER = 2 / (1 - [3 / 1])	147978	21757891	11596963
	5	**CR / BER = 1 / 4**	**9.78**	**0.20**	**1.51**
2013	1	Current revenue (CR) = Income from landings + other income	1,327,239	3,212,550	17,183,804
	2	Fixed costs = Non variable costs + depreciation +opportunity of capital	25437	1071561	6899383
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	107893	4494653	8217529
	4	BER = 2 / (1 - [3 / 1])	27688	-2684997	13222620
	5	**CR / BER = 1 / 4**	**47.94**	**-1.20**	**1.30**
2014	1	Current revenue (CR) = Income from landings + other income	1735010	2406672	16106155
	2	Fixed costs = Non variable costs + depreciation +opportunity of capital	30577	711514	6514800
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	166653	3217701	7560438
	4	BER = 2 / (1 - [3 / 1])	33826	-2111369	12278476
	5	**CR / BER = 1 / 4**	**51.29**	**-1.14**	**1.31**

2015	1	Current revenue (CR) = Income from landings + other income	1514647	2670386	16502938
	2	Fixed costs = Non variable costs + depreciation +opportunity of capital	101246	277432	4380236
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	448503	1671064	8274707
	4	BER = 2 / (1 - [3 / 1])	143838	741353	8785213
	5	**CR / BER = 1 / 4**	**10.53**	**3.60**	**1.88**
2016	1	Current revenue (CR) = Income from landings + other income	1072810	2429772	14082390
	2	Fixed costs = Non variable costs + depreciation +opportunity of capital	236275	6977332	25407456
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	307574	1343832	6464632
	4	BER = 2 / (1 - [3 / 1])	331241	15611667	46968901
	5	**CR / BER = 1 / 4**	**3.24**	**0.16**	**0.30**

Annex VI. The statement of balance between fleet capacity and fishing opportunities for Latvia

VL1218TM

Indicator	Definition	Area	**2014**	**2015**	**2016**	**2017**	**Average (2014-2016,2017)**
ECONOMIC1	**ROI**	Gulf of Riga	negative ROI over-capitalization	positive ROI under-capitalization	negative ROI over-capitalization	NA	NA
ECONOMIC2	**CR/BER**	Gulf of Riga	-1.14<1 economically unprofitable with potential over - capitalization	-1 <3.60 economically profitable with potential under - capitalization	0<0.16<1 current revenue cover the current costs	NA	NA
TECHNICAL1	**IFI - Proportion of inactive vessels****	Gulf of Riga	0	8.3 (<20%)	8.3 (<20%)	0	4.15 (<20%) In balance
TECHNICAL2	**VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days)**	Gulf of Riga	0.81 (0.7-0.9)	0.64 (<0.7)	0.67 (<0.7)	0.95	0.77 (0.7-0.9) In balance
BIOLOGICAL1	**SHI - Ratio between F estimated and F target (MSY)**	Gulf of Riga	1.1	0.71	1.21		Approximately in balance
BIOLOGICAL2	**SARI - Stock-at-risk**	Gulf of Riga	Not calculated				

VL2440TM

Indicator	Definition	Area	**2014**	**2015**	**2016**	**2017**	**Average (2014-2016,2017)**
ECONOMIC1	**ROI**	Sd 22-29, 32	positive ROI under-capitalization	positive ROI under-capitalization	positive ROI under-capitalization	NA	NA
ECONOMIC2	**CR/BER**	Sd 22-29, 32	1<1.31 economically profitable with potential under - capitalization	1<1.88 economically profitable with potential under - capitalization	0<0.30<1 current revenue cover the current costs	NA	NA

TECHNICAL1	**IFI - Proportion of inactive vessels****	Sd 22-29, 32	3.8 (<20%)	3.9 (<20%)	4.4 (<20%)	4.3 (<20%)	4.1(<20%) In balance
TECHNICAL2	**VUI - Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days)**	Sd 22-29, 32	0.59 (<0.7)	0.58 (<0.7)	0.56 (<0.7)	0.65	0.6 (<0.7)
BIOLOGICAL1	**SHI - Ratio between F estimated and F target (MSY)**	Sd 22-29, 32 excl. Gulf of Riga	1.5	1.0	0.86		In balance
		Gulf of Riga	1.08	0.69	1.22		In balance
BIOLOGICAL2	**SARI - Stock-at-risk**	Sd 25-32	Not calculated				

VL0010 PGP

Indicator	Definition	Area	**2014**	**2015**	**2016**	**2017**	**Average (2014-2016,2017)**
ECONOMIC1	**ROI**	Sd 26,28 incl Gulf of Riga	positive and high ROI, under-capitalization, fleet modernization will be necessary in the future	positive and high ROI, under-capitalization, fleet modernization will be necessary in the future	positive and high ROI, under-capitalization, fleet modernization will be necessary in the future	NA	NA
ECONOMIC2	**CR/BER**	Sd 26,28 incl Gulf of Riga	1<51.29 economically profitable with potential under - capitalization	1<10.53 economically profitable with potential under - capitalization	1<1.34 economically profitable with potential under - capitalization	NA	NA
TECHNICAL1	**IFI - Proportion of inactive vessels****	Sd 26,28, incl Gulf of Riga	Not calculated				
TECHNICAL2	**VUI - Vessel utilisation (Ratio between average and maximum effort per vessel, GT*Days)**	Sd 26,28 incl Gulf of Riga	0.27	0.24	0.25	0.3	0.27 (<0.7)
BIOLOGICAL1	**SHI - Ratio between F estimated and F target**	Sd 26,28 incl Gulf of Riga	Not calculated				
BIOLOGICAL2	**SARI - Stock-at-risk**	Sd 26,28 incl Gulf of Riga	Not calculated				