

The Annual Report on the Latvian Fishing Fleet 2020

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*).

Inactive Fleet Indicator (IFI) showed that for Latvian offshore fleet segment VL1218 the proportion of inactive vessels does not exceed allowable level for the period of last 10 years. However, for segment VL2440 in the last three years increasing in number of inactive vessels is observed. It is especially relevant to cod fishing vessels which temporary ceased their activities as from spring 2019 and followed with total stop in 2020. In 2021 the EMFF support measure for the permanent cessation of fishing activities were started in Latvia under the conditions stated in the Regulation (EU) No 2020/1781 amending Regulation (EU) 2016/1139 as regards fishing capacity reduction in the Baltic Sea, and Regulation (EU) 508/2014 (EMFF regulation) as regards permanent cessation of fishing activities for fleets fishing for Eastern Baltic cod, Western Baltic cod and Western Baltic herring. This fleet reduction will be carried out in accordance with the Action plan which is a part of the Latvian Annual Fleet report, 2019.

Vessel Utilization Indicator (VUI) for segment VL0010 shows slight decreasing in comparison to the previous years and reached 0.22 in 2020, i.e., not "in balance". It could be explained by low activity level in the segment of small boats and seasonality. In recent years, low activity has also been linked to the interaction and damage caused by seals to coastal fishing gears and catches. During the period when seals are observed in a larger amount, fishermen do not deploy their fishing gears to avoid the destructions and damages to their property. VUI for segment VL1218 increased in comparison to the previous year and reached 0.99 in 2020 and therefore this segment can be considered as "in balance". VUI for segment VL2440 slightly increased in comparison to the previous year and reached 0.67 in 2020 just below the threshold 0.7. It could be stated that capacity of this segment is not "in balance" with the fishing opportunities. This imbalance could be further evaluated in the next years, when the permanent cessation measure and reduction of segment VL2440 will be finished and new data will be available.

Following the recommendations and applying the interpretation proposed in the Guidelines (*COM 2014, 545*) about the Biological Indicator - Sustainable Harvest Indicator (SHI) it can be concluded:

- for cluster of two segments (trawlers VL1218 and trawlers VL2440) that rely on generally Gulf of Riga herring with small bycatch of sprat, average SHI value is equal to reference value of “1”. Despite the relatively high SHI separate value for sprat, it could be stated that the cluster as a whole “is in balance between fleet capacity and the possibility of fish resources”;
- for segment of trawlers VL2440 which mainly exploits the sprat stock and herring stock as a bycatch in the Baltic proper (SD 25-32) SHI values for both species are higher the critical value of “1”, i.e., the segment “is not in balance”. This imbalance could be further evaluated in the next years, when the permanent cessation measure and reduction of segment VL2440 will be finished and new data will be available.

According to methodology proposed in guidelines (*COM 2014, 545*) biological indicator SHI for segment VL0010 was not calculated due to unavailability of quantified parameters and scientific advices for the stocks included in catch composition in coastal fishery with passive gears.

For the evaluation of the achievement of balance between fleet capacity and fishing opportunities in Latvian fishery from 2015 to 2019 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 analyzed period 2015-2019 the ROI ratio greater than 1 for the fleet segment LV2440 indicates that the economic activity of the segment is cost-effective in the long-term. The negative ROI was shown for the coastal vessels attributed to the segment VL0010 and segment VL1218 in 2019. The changes were occurred due to the sharp increase in total operating costs for the segment VL1218 and decrease in the volume and value of landing for the segment VL0010 what was caused by a decline of average fish price in 2019. However, if the negative impact from the changes in fish price and too high average expenditures per vessel persist, it could directly be influential to the fishing fleet future profitability. The detailed ROI calculations for each fleet segment and conclusions are presented in the section 7.3.1 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 trawlers segment VL2440 operating in the Baltic Sea offshore zone show CR/BER ratio positive and greater than 1 in 2019, characterizing the segment profitability in the short-term. The CR/BER ratio results for 2019 for the coastal zone segment VL0010 and segment VL1218 trawlers operating in the Gulf of Riga show CR/BER ratio close to zero in 2017-2019. The CR/BER results for the segment VL0010 in 2019 indicate that the insufficient income is generated to cover variable, fixed and capital costs signify the potential over-capitalization. The CR/BER indicator for segments trawlers VL1218 show the result – 0.04 in 2019 which characterizes the payback of the fishery but not generation of the profit. The CR/BER indicator fluctuates from year to year for all three segments and characterizes the stable profitable fishery only for the segment VL2440. The detailed calculations and conclusions are presented in the section 7.3.2 and Annex V.

In this report the following categories of fishing vessels were excluded from the analysis of respective indicators:

- vessels over 40 meters operating in the Atlantic (area 27 and 34) due to the limited number of vessels and respective data confidentiality;
- part of coastal vessels listed in the fishing fleet register not engaged in commercial fishing and involved only in fishing for self-consumption.

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

Latvia continues to apply strictly and fully complies with the existing rules of Common Fisheries Policy 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 1st of May, 2004 there were 371 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. In the next period all indicators which show the signs of imbalance will be thoroughly evaluated and appropriate recommendations will be provided.

Section A

3.1. 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 2020

Fleet segment	% from total No of vessels	% from total GT	% from total kW
High Seas	1.2	72.6	52.0
Baltic Sea offshore	7.4	24.3	37.4
Coastal	91.4	3.1	10.6

On 31st of December, 2019 the Latvian fishing fleet contained 661 vessels with total fleet engine power 32927 kW and overall gross tonnage 16061 GT, but on the 31st of December, 2020 the Latvian fishing fleet contained 660 vessels with total fleet engine power 41410 kW and overall gross tonnage 23545 GT (Table 3).

3.2. Link with fisheries

High Sea Fleet

The segment is represented by 8 big vessels. These vessels contribute only 1.2% to the total vessel number but cover 72.6% of the total GT and 52.0% of the total KW respectively.

In 2020 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 and bottom otter trawls and shrimp trawls.

Target species in the NEAFC area was northern shrimp and Atlantic cod and in the CECAF area - horse mackerel, mackerel, sardine, Atlantic pomfret, sardinella. This fleet segment constitutes about 41.2% of the total Latvian catch in 2020.

Baltic Sea (including the Gulf of Riga) Offshore Fleet

This fleet group consisted of 49 fishing vessels (on the 31st of December, 2020) with overall length from 12 to 40 m LOA (Length overall). Number of vessels in this segment was 7.4% of the total Latvian fishing fleet and it contributed 24.3 % to total GT and 37.4% 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 55.8% of the total Latvian catch in 2020.

Table 2. Description and segmentation of the Baltic Sea (including the Gulf of Riga) offshore fleet in 2020

Length	Type of gear	Number of vessels			Total fleet catch in 2020 (%) of catch quota		
		31.12.2019	Active in 2020	31.12.2020	Cod	Sprat	Herring
VL1218	Trawler	9	9	9	0	2.5	29.1
VL2440	Trawler	42	32	40	100	97.5	70.9

Coastal Fishing Fleet

Represented by 603 fishing boats with overall length equal to or less than 12 m which constitute most of the vessel number or 91.4% from the total but contribute only 3.1% to total GT and 10.6% to total kW.

In 2020, the coastal fishers used actively 190 boats for the commercial fishing and 49 boats - for self-consumption fishing. Some boats (18) 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 5.1% of the total Baltic Sea catches) and these include Baltic herring, cod, round goby, flounder, smelt, as well as garfish, perch, vimba, bream and other non-TAC and non-quota species mainly obtained by fixed passive fishing gears. This fleet segment contributed about 3.0% to the total Latvian catch (including High Sea fishery) in 2020.

In 2020 coastal fishing fleet also includes 49 boats (from 603) used for self-consumption fishing within one gear rule (maximum 1 net or 1 herring net or 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.

3.3. Development in fleets

In 2020 in comparison to 2019 some increase in GT and kW of Latvian fishing fleet were observed for restored capacity levels previously withdrawn from the fishing fleet register without public support, within the limits of the fleet capacity ceilings permitted for Latvia (Table 3).

Table 3. Evolution of Latvian fishing fleet (from 1st of May, 2004 to 31st of December, 2020)

Date	Number of vessels	GT	kW
Census: 1 st of May, 2004	898	44449	74320
31 st December, 2019	661	16061	32927
31 st December, 2020	660	23545	41410
Difference between CEN date and 31 st of December, 2020	238	20904	32910

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

In 2020 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 31.12.2020

		GT		kW	
1	Capacity of fleet on 1st May 2004	GTFR	44449	kWFR	74320
2	Capacity level for the application of entry/exit regime	GT04	56555	kW04	83930
3	Entries of vessels of more than 100 GT financed with public aid	GT100	0	kW100	0
4	Other entries or capacity increases (not included in 3 & 5)		60731		77551
5	Increases in tonnage GT for reasons of safety	GTS	0	-	-
6	Total entries (3+ 4 + 5)		60731		77551
7	Exits before 1/1/2007 financed with public aid	GTa1	3134	kWa1	7441
8	Exits after 1/1/2007 financed with public aid	GTa2	8105	kWa2	19826
9	Other exits (not included in 7 & 8)		70396		83194
10	Total exits (7 + 8 +9)		81635		110461
11	Power of engines replaced with public aid conditional to power reduction	-	-	kWr	0
12	Capacity of the fleet on 31.12.2020 (1 + 6 – 10)	GTt	23545	kWt	41410
13	Fleet ceiling on 31.12.2020		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 % 11

Section C

5.1. Information on general level of compliance with fleet policy

In 2020, as before, the main organizations responsible for the management of the national fleet were:

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

- Elaboration of the national Fisheries Policy and functioning of the Latvian Fisheries Integrated Control and Information System (LFICIS);
- 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.);
- General management of fishing licenses and fishing authorization for offshore fishing vessels.
- The State Environmental Service of the Ministry of Environment and Regional Development is responsible for 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.

5.2. Summary of strengths and weaknesses of the fleet management system

Strengths of the fleet management system:

- Development of the LFICIS 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 LFICIS was accessible for changes to correct the previously entered data; however, on the other hand for justified reasons under proper management by competent authorities the data normally could be slightly changed within the time to adjust with real status.

5.3. Plan for improvements in fleet management system

In 2020 still some improvements were done in the LFICIS in order to comply with all the requirements set by the EU Fisheries control regulation. 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 LFICIS.

At this stage massive work is done in order to develop and put in place the new UN/FLUX standard for the snapshot reporting in Latvia. It is main priority to deliver UN/FLUX standard reporting as soon as possible in order to comply with the EU requirements.

Section D

Information on changes of the administrative procedures relevant to fleet management

There were no significant changes in 2020 in the administrative procedures. However, it should be mentioned that the work with LFICIS improvements and development is continuing. For the years 2012-2020, the Fisheries Department (FD) invested quite a lot in development of LFICIS to improve reliability of the data, to make easier its processing and routine work, to improve the forming of the required reports.

Section E

Estimation and discussion of balance indicators

7.1. Technical indicators – Vessel Use Indicators

Technical indicators for Latvian fishing fleet were calculated according to the 2014 Balance Indicator Guidelines (*COM 2014, 545*). 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.

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 limited number of vessels and respective data confidentiality;
- part of coastal vessels listed in the fishing fleet register not engaged in commercial fishing and involved only in fishing for self-consumption.

7.1.1. 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 31st of 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 2009-2020 are presented in Annex I.

The IFI indicator for the segment VL1218 shows zeros in last four years, as there were no inactive vessels in this segment. For the segment VL2440 the IFI indicator is increased in last two years by 4.8% and 6.1% respectively. This increasing could be explained by negative effect of the reduction of sprat and herring quota in last few years and by implementation of complete cod targeted fishery ban in eastern part of the Baltic Sea. The proportion of inactive vessels in the segment VL2440 exceed threshold value (10%) and according to the 2014 Balance Indicator Guidelines these segments is not in balance with respect to IFI. Especially it is relevant to the part of this segment targeting only or mainly cod where all vessels temporary case their activities started from spring 2019 following the national and European Commission emergency measures to protect the eastern Baltic cod stock and further stay inactive in 2020 in accordance to Council Regulation setting the ban for targeted fishery from this stock. The measures to balance the fleet segment VL2440 with this emerging situation were included into Annex VII of The Annual Report on the Latvian Fishing Fleet 2019.

7.1.2. The Vessel Utilisation 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 fished at least one day a year have been taken for the calculation. The values of Vessel Utilisation Indicator also known as Vessel Utilisation Ratio (VUR) are presented in Annex II.

The segment of trawlers VL1218 operates mainly in the Gulf of Riga with target species Baltic herring. Number of vessels in 2020 is reduced by 72% in comparison to 2006. Taking into account that VUI value of last three years is greater than 0.9, it could be stated that capacity of this segment is in balance with the fishing opportunities.

The segment of trawlers and netters VL1824 does not exist since 2017. According to the rules of clustering (*Regulation (EU) 2016/679*) the remaining vessel was included to the segment of trawlers VL1218.

The segment of trawlers VL2440 operates mainly in ICES areas 25-32 with target species Baltic sprat with bycatch of Baltic herring and targeting Baltic cod as well. The quotas for these stocks were reduced for several years with recent total closure of eastern Baltic cod targeted fishery in its' main distribution areas in the second half of 2019 following with decision on full stop in 2020. Number of vessels in 2020 is reduced by 57% in comparison to 2006. VUI for this segment slightly increased in comparison to the previous year and reached 0.67 just below the threshold 0.7. It could be stated that capacity of this segment is not “in balance” with the fishing opportunity. This imbalance could be further evaluated in the next years, when the permanent cessation measure and reduction of segment VL2440 will be finished and new data will be available.

The segment of small-scale coastal fishery VL0010 was calculated only for 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 2009-2020. In general, it indicates that for significant part of coastal fishers the fishery constitutes only a part job in their activities. This could be also connected with the availability of fish resources and its' seasonality in the coastal area. Although the utilization ratio of small boats VL0010 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 vessel or one company could noticeably vary the technical indicator values. For Latvian fishing fleet the segment of trawlers VL1218 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.

In 2020 the value of the vessel utilization rate for the segment VL1218 is greater than 0.9 and it could be stated that capacity of this segment is in balance with the fishing opportunity. VUI value for segment VL2440 is just below the threshold 0.7 and it could be stated that capacity of this segment is not “in balance” with the fishing opportunity. The imbalance of fleet segment VL2440 could be evaluated in next years, when reduction of this segment will be finished, and new data will be available.

VUI value for segment VL0010 is on the low level as in previous years and it could be explained by low activity level and seasonality. Further closer look on this segment development in relation to available fish resources should be done in the following years.

7.2. Biological indicators

7.2.1. Biological indicator Sustainable Harvest Indicator – SHI

The Sustainable Harvest Indicator (SHI) was defined for three Latvian fishing fleet segments, which contribute around 94% to the total Latvian catch in the Baltic Sea. The values of SHI for period of 2008-2019 and two fishing regions (Baltic proper and Gulf of Riga) were calculated for the following fleet segments:

- trawlers VL2440 in SD 25-32 (excl. 28.1) with target species of sprat (82% of the mixed catches);
- trawlers VL1218 in the Gulf of Riga (28.1) with target species of herring (86% of the mixed catches);
- trawlers VL2440 in the Gulf of Riga (28.1) with target species of herring (77% of the mixed catches).

According to methodology proposed in guidelines (*COM 2014, 545*) biological indicator SHI for segment VL0010 was not calculated due to unavailability of quantified parameters and scientific advices for the stocks included in catch composition in coastal fishery with passive gears.

The values of Current fishing mortality (F_c) and fishing mortality of Maximum Sustainable Yield (F_{msy}) for stocks exploited by Latvian fishing fleet were obtained from the Report of Baltic Fisheries Assessment Working Group (*WGBFAS ICES. 2020, Volume 2, Issue 45*):

- Sprat in Subdivisions 22-32 – $F_c=0.38$, $F_{msy}=0.26$;
- Herring in Subdivisions 25-29 and 32 (excl. 28.1, Gulf of Riga herring) – $F_c=0.45$, $F_{msy}=0.28$;
- Herring in Subdivision 28.1(Gulf of Riga herring) – $F_c=0.28$, $F_{msy}=0.32$.

The value of both fishing mortality parameters for Cod in SD 24-32 were not defined.

The calculated SHI indicator values for all species and fleet segments are presented in the Annex III.

For segment trawlers VL2440 in SD 25-32 (excl. 28.1) SHI values for both herring and sprat stocks were calculated separately and average value of SHI for the segment was determined (Annex III). The average SHI values for this segment are quite widely fluctuating around “1” in 2008-2019, and mainly depend on the variation of fishing mortality values for the sprat, which is the largest part of the total catches (around 81%). However, the SHI for both herring and sprat showed a rather noticeable increase in 2019 compared with 2018 (Annex III). There is a clear trend to increase of average value of SHI parameter in the last three years (Fig. 1, Annex III). The average value of $SHI=1.49$ (2019) means that the fleet segment is relying on a stock (in this case two stocks) of which fishing opportunity is set above the level of MSY and, consequently, this segment is “not in a balance”. The imbalance of the fleet segment VL2440 could be further evaluated in the next years, when the permanent cessation measure and reduction of this segment will be finished and new data will be available.

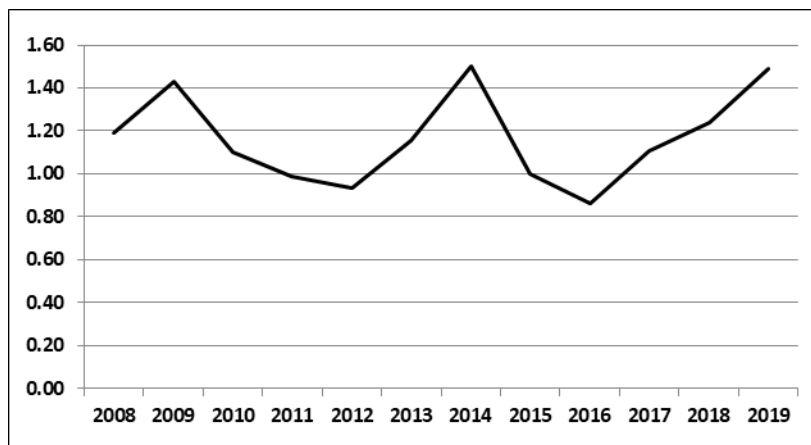


Fig. 1. The changes of biological indicator SHI during the period of 2008-2019 for the segment of trawlers VL2440 in the Baltic Sea.

For segments of trawlers VL2440 and trawlers VL1218 in the Gulf of Riga, which are mostly fishing herring, the bycatch of sprat was also taken into account (Fig. 2, Annex III). The share of herring in mixed catches is approximately the same for both considered segments (about 87% in 2019).

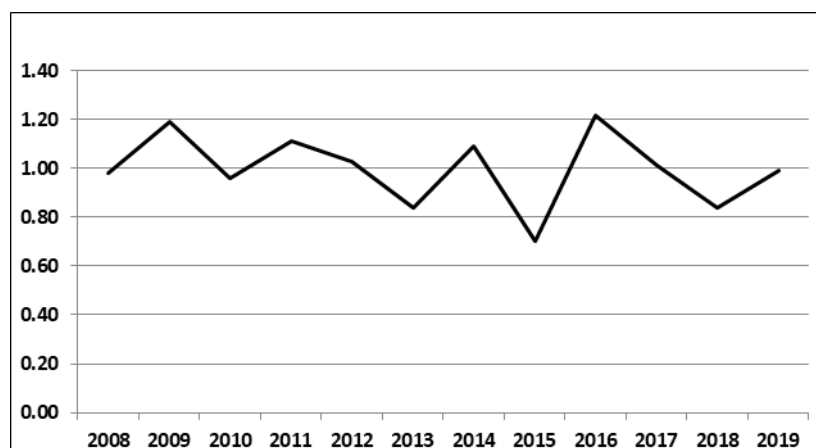


Fig. 2. The changes of biological indicator SHI during the period of 2008-2019 for the segments of trawlers VL1218 and VL2440 in the Gulf of Riga.

Long-term dynamics of the SHI parameter demonstrates quite widely fluctuation around reference point of “1” for period of 2008-2019 (Fig. 2). In 2019 average value of SHI parameter for both trawler segments in the Gulf of Riga was determined as 0.99 (1.01 for VL2440 and 0.95 for VL1218), i.e., corresponding to the level of reference point “1”. It means that cluster of the segments (VL2440 and VL1218) in the Gulf of Riga is in a state of "balance between fleet capacity and the possibility of fish resources".

Following the recommendations and applying the interpretation proposed in the guidelines it can be concluded:

- for the segment of trawlers VL2440 which mainly exploits the sprat stock (81%) with bycatch of herring in the Baltic proper (SD 25-32) SHI average value (1.49) indicates excess of “balance” level for Maximum Sustainable Harvest Yield. Taking into account that this is the third time for the last three years, it can be stated that the segment “is not in a balance”. The imbalance of the fleet segment VL2440 could be further evaluated in the next years, when the permanent cessation measure and reduction of this segment will be finished, and new data will be available.;
- for two segments (trawlers VL1218 and VL2440) in the Gulf of Riga that rely on stocks of herring and sprat (bycatch) average value of SHI is 0.99, i.e., on the level of Sustainable Harvest Yield. It can be concluded that the cluster of the trawler segments in the Gulf of Riga is “in balance”.

7.3. Economic Indicators

The methodology used for economic analysis have been proposed by *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT 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)*. For the evaluation of the achievement of balance between fleet capacity and fishing opportunities in Latvian fishery from 2015 to 2019 three Baltic Sea fleet segments (VL0010; VL1218; VL2440) were selected and included in the analysis. Two indicators proposed by the guidelines were calculated for each fleet segment to evaluate whether fleet segments are economically sustainable in the long-term and short-term.

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 characterizes 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 limited number of vessels and respective data confidentiality;
- inactive vessels due to the small number and low capacity;
- part of the coastal vessels listed in the fishing fleet register not engaged in commercial fishing and involved only in fishing for self-consumption.

For the calculations and analysis, the data collected in the frame of Data Collection (implemented under *Reg. (EU) 2017/1004; Commission Delegated Decision (EU) 2019/910* 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 *COM (EU) 2019/910*. All commercial vessels operated in the coastal zone were included in the segment VL0010.

According to the recommendations provided by the Workshop on Capital value estimations (Salerno, 7-10 October 2019) the Net profit from 2018 was calculated based on capital costs and capital value delivered from perpetual inventory method (PIM) which provides more precise economic assessment in macro perspective. 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

7.3.1. 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 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 overcapitalized and therefore economically inefficient. Negative ROIs can by themselves indicate economic over-capitalization. ROI results and calculations for each fleet segment are presented in Table 5 and Annex IV.

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

Fleet Segments	2015	2016	2017	2018	2019
VL0010 PGP	1486	857	-17	31	-34
VL1218 TM	50	-0.76	49	110	-409
VL2440 TM	41	25	26	171	178

Application and interpretation

During the analyzed period from 2015 to 2019 the ROI indicator has stable positive values for the segment trawlers VL2440 that characterizes a cost-effective segment activity. 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 37% and 56% respectively to total Latvian volume of landing as well as 37% and 53% respectively to total Baltic Sea value of landing in 2019.

In turn, the ROI indicator for the segment VL1218 trawlers operating in the Gulf of Riga was positive in 2015 and 2017-2018. The negative ROI was shown for the coastal vessels attributed to the segment VL0010 and segment VL1218 in 2019. The changes were occurred due to the sharp increase in total operating costs for the segment VL1218 and decrease in the volume and value of landing for the segment VL0010 what was caused by a decline of average fish price in 2019.

The ROI values for the coastal fleet vessels in the segment VL0010 were too high during the period from 2015 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 only 0.8% in 2016. The positive ROI values in 2015 -2016 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.

In general, during the analyzed period 2015-2019 the ROI ratio greater than 1 indicates that the economic activity of the segments VL2440, VL1218 and VL0010 are cost-effective in the long- term. However, if the negative impact from the changes in fish price and too high average expenditures per vessel persist, it could directly be influential to the fishing fleet future profitability.

It should also be noted that the potential capacity can be exploited by 20-30% more for some vessels in segments VL1218 and VL2440. If intensity of fishing for some vessels in the segments VL1218 and 2440 will increase, the segments could obtain greater amount of catch and higher revenue from sales, which in turn could facilitate a profit growth.

The detailed ROI calculations for each fleet segment are presented in the section 7.3.1 and Annex IV.

7.3.2. 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 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-capitalization. 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-capitalization. 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 V.

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

Fleet Segments	2015	2016	2017	2018	2019
VL0010 PGP	10.53	3.24	0.16	0.49	-0.24
VL1218 TM	3.60	0.16	0.42	1.05	-0.04
VL2440 TM	1.88	0.30	0.44	1.46	1.56

Application and interpretation

The trawlers segment VL2440 operating in the Baltic Sea offshore zone show CR/BER ratio positive and greater than 1 in 2019, characterizing the segment profitability in the short-term.

The segment of small boats less than 10 meters with polyvalent passive gears attributed to the segment VL0010 has the highest CR/BER ratio in 2015 and 2016. However, the results for 2019 for the coastal zone segment VL0010 and segment VL1218 trawlers operating in the Gulf of Riga show CR/BER ratio close to zero in 2017-2019. The CR/BER results for the segment VL0010 in 2019 indicate that the insufficient income is generated to cover variable, fixed and capital costs signify the potential over-capitalization. The changes were caused by the decline of average fish price for the coastal fish species and in the result decrease in total volume and value of landing by 25% and 50% respectively in 2019. The segment VL0010 contributed only 7% to total Latvian value of landing during analyzed period and does not have significant impact to the economic situation in the Latvian fishery.

The CR/BER indicator for segments trawlers VL1218 show the result – 0.04 in 2019 which characterizes the payback of the fishery but not generation of the profit. The CR/BER indicator fluctuates from year to year for all three segments and characterizes the stable profitable fishery only for the segment VL2440 where CR/BER indicator was 1.56 in 2019.

The detailed calculations and conclusions are presented in the section 7.3.2 and Annex V.

Annex I

Technical indicators - The Inactive Fleet Indicator (number and proportion of inactive vessels)

Values for trawlers VL1218

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	3	3.4
2011	1	110	29	7.1	4.5	7
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
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0

Values for trawlers VL2440

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
2018	4	1047	441	9.1	6.9	7.5
2019	6	1838	675	13.9	12.6	11.7
2020	8	2109	811	20	15.4	14.9

Annex II

Technical indicators - The Vessel Utilisation Indicator

Values for boats VL0010 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
2010	260	2.2	42	101	175	382	0.24	0.26
2011	252	2	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	50	90	188	368	0.26	0.25
2017	196	1.89	52	98	193	365	0.27	0.27
2018	194	2	49	103	173	350	0.28	0.28
2019	196	2	47	94	171	342	0.27	0.27
2020	190	2.1	51	99	227	474	0.22	0.22

Values for trawlers VL1218

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	0.5	0.55
2008	28	156	139	23495	231	36110	0.6	0.65
2009	23	160	142	24797	258	41269	0.55	0.6
2010	17	168	156	27244	207	34752	0.75	0.78
2011	16	172	172	31023	260	44590	0.66	0.7
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
2018	11	190	178	34225	189	35927	0.94	0.94
2019	11	194	145	28130	157	30458	0.92	0.92
2020	9	193	189	36604	189	36981	0.99	0.99

Values for trawlers VL2440

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	0.6	0.63
2011	48	308	102	30791	197	60606	0.52	0.51
2012	48	320	111	34344	214	68578	0.52	0.5
2013	46	321	115	37437	217	69549	0.53	0.54
2014	45	320	107	33801	180	57620	0.6	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
2018	40	342	127	43414	173	60243	0.73	0.73
2019	37	357	105	37539	158	56459	0.66	0.66
2020	32	336	143	37388	155	56270	0.67	0.67

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.

Annex III

Biological indicators SHI for Latvian Fleet segments in 2017-2019

			2017				2018				2019			
Area	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	2384	6819	33017		1210	9837	35042		210	7506	34821	
		Fc	n/d	0.28	0.28			0.28	0.32		n/d	0.45	0.38	
		Fmsy	n/d	0.22	0.26			0.22	0.26		n/d	0.28	0.26	
		F/Fmsy	n/d	1.27	1.08			1.27	1.23		n/d	1.61	1.46	
		F/Fmsy for segment		1.11				1.24				1.49		
28.1 Gulf of Riga (GOR)	VL1218 trawlers	Catch,t			1000	7219			937	6540			996	6426
		Fc			0.28	0.32			0.32	0.25			0.38	0.28
		Fmsy			0.26	0.32			0.26	0.32			0.26	0.32
		F/Fmsy			1.08	1			1.23	0.78			1.46	0.88
		F/Fmsy for segment			1.01				0.84				0.95	
	VL2440 trawlers	Catch,t			1724	8896			1120	7985			2893	9526
		Fc			0.28	0.32			0.32	0.25			0.38	0.28
		Fmsy			0.26	0.32			0.26	0.32			0.26	0.32
		F/Fmsy			1.08	1			1.23	0.78			1.46	0.88
		F/Fmsy for segment			1.01				0.84				1.01	

Annex IV

ROI calculation

Year	Values for calendar year (€000)	VL0010PGP	VL1218TM	VL2440TM
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
2017	Income from landings + other income	1 223 394	2 871 084	17 618 796
	Low risk long term interest rate %	1,61	1,61	1,61
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	1 097 354	2 186 827	13 148 491
	Capital costs (depreciation + interest payments)	303 966	121 156	2 048 458
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	-177 926	563 101	2 421 846
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	1 150 165	1 119 599	8 630 287
	ROI = Net profit / capital asset value %	-15,47	50,29	28,06
	ROI – risk-free long-term interest rate %	-17,08	48,68	26,45

2018	Income from landings + other income	2 653 268	2 999 991	17 436 858
	Low risk long term interest rate %	0,90	0,90	0,90
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	2 027 530	2 619 276	12 373 113
	Capital costs (depreciation + interest payments) *	171 043	38 166	344 964
	Net profit (economic) = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	454 696	342 549	4 718 780
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	1 417 407	308 637	2 750 183
	ROI = Net profit / capital asset value %	32,08	110,99	171,58
	ROI – risk-free long-term interest rate %	31,18	110,09	170,68
2019	Income from landings + other income	1 173 466	3 809 379	14 546 283
	Low risk long term interest rate %	0,72	0,72	0,72
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	1 449 279	5 031 552	9 588 297
	Capital costs (depreciation + interest payments)*	160 922	38 166	325 640
	Net profit (economic) = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	-436 736	-1 260 339	4 632 345
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	1 313 633	308 639	2 598 540
	ROI = Net profit / capital asset value %	-33,25	-408,35	178,27
	ROI – risk-free long-term interest rate %	-33,97	-409,07	177,55

* Net profit (economic) from 2018, calculated by PIM; Net profit (financial) for 2015-2017 (based on data collected by Latvian Central Statistical Bureau).

Annex V

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

Year	Nr.	Values for a calendar year (€'000) Use Segment total figures	VL0010 PGP	VL1218 TM	VL2440 TM
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
2017	1	Current revenue (CR) = Income from landings + other income	1223394	2871084	17618796
	2	Fixed costs = Non variable costs + depreciation +opportunity of capital	2420402	2141086	20625599
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	832684	1969451	8466112
	4	BER = $2 / (1 - [3 / 1])$	7578781	6817895	39704008
	5	CR / BER = 1 / 4	0,16	0,42	0,44
2018	1	Current revenue (CR) = Income from landings + other income	2653268	2999991	17436858
	2	Fixed costs = Non variable costs + depreciation +opportunity of capital	1623268	1296746	4871004
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	1850971	1638470	10322238
	4	BER = $2 / (1 - [3 / 1])$	5368291	2857263	11938095
	5	CR / BER = 1 / 4	0,49	1,05	1,46

2019	1	Current revenue (CR) = Income from landings + other income	1173466	3809379	14546283
	2	Fixed costs = Non variable costs + depreciation + opportunity of capital	1119196	1424715	4934508
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	1436822	3867224	6850378
	4	$BER = 2 / (1 - [3 / 1])$	-4986926	-93825359	9326875
	5	CR / BER = 1 / 4	-0,24	-0,04	1,56

Annex VI

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

VL1218TM								
Indicator	Definition	Area	2015	2016	2017	2018	2019	2020
ECONOMIC1	ROI	Area 27 SD 28.1	positive ROI under-capitalization	negative ROI over-capitalization	positive ROI under-capitalization	positive ROI under-capitalization	negative ROI over-capitalization	NA*
ECONOMIC2	CR/BER	Area 27 SD 28.1	1 < 3.60 economically profitable with potential under capitalization	0 < 0.16 < 1 current revenue covers the current costs	0 < 0.42 < 1 current revenue covers the current costs	1 < 1.05 economically profitable with potential under capitalization	-0.04 < 0 < 1 economically unprofitable with potential over - capitalization	NA*
TECHNICAL1	IFI - Proportion of inactive vessels	Area 27 SD 28.1	8.3 (<10%)	8.3 (<10%)	0	0	0	0
TECHNICAL2	VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days)	Area 27 SD 28.1	0.64 (<0.7)	0.67 (<0.7)	0.95	0.94	0.92	0.99
BIOLOGICAL1	SHI - Ratio between F estimated and F target (MSY)	Area 27 SD 28.1	0.71	1.21	1.01	0.84	0.95	
BIOLOGICAL2	SARI - Stock-at-risk	Area 27 SD 28.1	Not calculated					

*NA – not applicable. The economic data for 2020 will be available in November of 2021.

VL2440TM								
Indicator	Definition	Area	2015	2016	2017	2018	2019	2020
ECONOMIC1	ROI	Area 27 SD 28.1	positive ROI under-capitalization	positive ROI under-capitalization	positive ROI under-capitalization	positive ROI under-capitalization	positive ROI under-capitalization	NA*
ECONOMIC2	CR/BER	Area 27 SD 28.1	1<1.88 economically profitable with potential under capitalization	0<0.30<1 current revenue covers the current costs	0<0.44<1 current revenue covers the current costs	1<1.46 economically profitable with potential under capitalization	1<1.56 economically profitable with potential under capitalization	NA*
TECHNICAL1	IFI - Proportion of inactive vessels	Area 27 SD 28.1	3.9 (<10%)	4.4 (<10%)	4.3 (<10%)	9.1 (<10%)	13.9	20
TECHNICAL2	VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days)	Area 27 SD 28.1	0.59 (<0.7)	0.56 (<0.7)	0.65 (<0.7)	0.73	0.66 (<0.7)	0.67 (<0.7)
BIOLOGICAL1	SHI - Ratio between F estimated and F target (MSY)	Area 27 SD 28.1	1	0.86	1.11	1.24	1.49	
		Gulf of Riga	0.69	1.22	1.01	0.86	1.01	
BIOLOGICAL2	SARI - Stock-at-risk	Area 27 SD 28.1	Not calculated					

*NA – not applicable. The economic data for 2020 will be available in November of 2021.

VL0010PGP								
Indicator	Definition	Area	2015	2016	2017	2018	2019	2020
ECONOMIC1	ROI	Area 27 SD 28.1	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	negative ROI over-capitalization	positive ROI under-capitalization	negative ROI over-capitalization	NA*
ECONOMIC2	CR/BER	Area 27 SD 28.1	1<10.53 economically profitable with potential under capitalization	1<3.24 economically profitable with potential under capitalization	0<0.16<1 current revenue covers the current costs	0<0.49<1 current revenue covers the current costs	-0.24<0<1 economically unprofitable with potential over - capitalization	NA*
TECHNICAL1	IFI - Proportion of inactive vessels	Area 27 SD 28.1	Not calculated					
TECHNICAL2	VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days)	Area 27 SD 28.1	0.24 (<0.7)	0.25 (<0.7)	0.27 (<0.7)	0.28 (<0.7)	0.27 (<0.7)	0.22 (<0.7)
BIOLOGICAL1	SHI - Ratio between F estimated and F target (MSY)	Area 27 SD 28.1	Not calculated					
BIOLOGICAL2	SARI - Stock-at-risk	Area 27 SD 28.1	Not calculated					

*NA – not applicable. The economic data for 2020 will be available in November of 2021.