

The Annual report On the Latvian Fishing Fleet 2014

1. Summary of report

Since the accession to the EU, Latvia has fulfilled the existing rules and requirements of vessel entry/exit regime without any deviations. As a result from 2004 to 2014 all the parameters of the fishing fleet have been decreased including reduction of the total number of fishing vessels by 22%, total GT by 56% and total kW by 50%.

The fishing vessel decommissioning process affects positively the balance between the fishing fleet's capacity and the fish resources allocated to Latvia. However, in the coastal fishing fleet the scrapping plan was fulfilled in relation to GT and kW but was not fulfilled 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.

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. (*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*).

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. Value of the second Technical indicator - **The Vessel Utilization Indicator (VUI)** - for all Latvian fishing fleet segments did not show any considerable changes in 2014 compared to the previous year. Average activity level remained on the same level or slightly increased and there were no significant changes in active fleet capacity in terms of vessel number, their kW and GT.

Thus, similarly the last year's report vessel utilization indicator shows existence of potential imbalance for the two Latvian fishing fleet segments - trawlers 24-40 m and small boats less than 10 m.

Following the recommendations and applying the interpretation proposed in new Guidelines about the first of Biological indicators - **Sustainable Harvest Indicator (SHI)** it can be concluded:

- Two segments (trawlers 12-18 m and trawlers 24-40 m) of Latvian fishing fleet that rely on sprat and herring stocks (in the Gulf of Riga and Baltic proper) are at the level of Sustainable Harvest Yield as the current fishing mortality for these stocks is fluctuated around F_{msy} during previous four years.

- For one segment (netters 24-40 m) which exploits the Eastern Baltic cod stock SHI values are well above 1 in relation to target fishing mortality of the long-term management plan. Besides in 2014 the assessment of Eastern Baltic cod was rejected due to strong retrospective pattern of fishing mortality underestimation and this could lead to the next actions to reach balance between Latvian fishing fleet capacity and fish resources.

The second of Biological indicators - **Biological indicator Stocks-at-risk indicator (SARI)** was not calculated because it was considered that none of the stocks correspond to the features of a stock at risk.

Two economical indicators are used to evaluate whether fleet segments are economically sustainable in the long term and short term.

Generally the ROI indicators - **Return on Investment (ROI)** - in 2013 for three fleet segments (coastal boats VL0010, trawlers VL2440, netters VL2440) are positive and shows improvement compared to previous years whereas in some cases the ROI indicator are negative, in particular for vessels segment trawlers VL1224 operating in the Gulf of Riga.

The situation is globally characterised by the sustained increase of **CR/BER ratio** - Ratio of current Revenue to Break-even revenue - values for the three fleet segments (trawlers VL2440, netters VL2440, coastal boats VL0010) in 2013, together with a decrease in CR/BER ratio for Riga Gulf trawlers VL1218. That may facilitate further VL1218 segment weakening. Several factors affected the low CR/BER ratio for the segment VL1218, such as the increase in crew costs and in other variable costs. However, the situation for the next years may improve, mainly driven by an increase in total landings or price for herring and sprat which are the main commercial species for that segment.

According to the new Guidelines, the social indicators have not been evaluated.

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 before the entry of the new fishing vessel or vessels into register without public support. After 1 May, 2004 there were 303 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 fishing fleet's capacity adjustment plan was elaborated taking into account the scientific prognosis of the fish stocks development as well as the expected economic performance of the fishing fleet in the future.

Further more taking into account the information already provided in the Annual report on the Latvian fishing fleet 2013 and the action plan attached to the report 2013 as well to this Annual report (Annex VII), Latvia is planning to scrap the whole VL 24-40m Netters segment targeting only Eastern Baltic cod and these vessels are not able to switch the gears for fishing for other species. (see page 9 of the report)

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.

On 31st of December, 2013 the Latvian fishing fleet contained 703 vessels with total fleet engine power 49948 kW and overall gross tonnage 29945 GT, but on the 31st of December 2014 the Latvian fishing fleet contained 700 vessels with total fleet engine power 37412 kW and overall gross tonnage 19535 (Table 3).

Table 1. The Latvian Fleet Segmentation for the 2014

Fleet segment	% from total No of vessels	% from total GT	% from total kW
High Seas	1,3	59,3	38,0
Baltic Sea offshore	9,1	36,7	49,5
Coastal	89,6	4,0	12,5

ii) Link with fisheries

High Sea Fleet:

- Represented by 9 big trawlers with overall length more than 40 m. These vessels contribute only 1.3% of the total vessel number but cover 59.3 % of the total GT and 38.0 % of the total KW respectively;

In 2014 vessels of this segment performed their fishing activities in the waters governed by the NEAFC Conventions and in the CECAF area.

Main fishing gears for these vessels were midwater and bottom otter trawls;

- Target species in the NEAFC area were redfish and crab opilio and in the CECAF area - horse mackerel, chub mackerel, sardinella, sardine, and anchovy. This fleet segment contributed about 49.8% of the total Latvian catch.

In the last years the fishing opportunities for the segment were sufficient to guaranty full time operations for all fishing vessels involved in the High Sea fishery, with the exception for vessel specialized in shrimp fishery.

There were 2 Latvian vessels involved in the crab fishery and one vessel fished redfish in the NEAFC area in 2014. There were 4 Latvian vessels fishing in the Mauritanian EEZ in 2014. There were 2 Latvian vessels fishing in the Moroccan EEZ in 2014. In the same time 2 big trawler were inactive.

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

- This fleet group consisted of 64 fishing vessels with overall length from 12 to 40 m LOA (Length overall). Number of vessels in this segment was 9.1 % of the total Latvian fishing fleet and it contributed 36.7 % to total GT and 49.5 % 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, cod and set gillnets targeting for cod. This fleet segment contributed about 46.4% of the total Latvian catch.
- However, in the Baltic Sea offshore fleet, to reach balance between the Latvian fishing fleet's capacity and the fish resources Latvia is planning to scrap the whole VL 24-40m Netters segment targeting only Eastern Baltic cod.

Table 2. Description and segmentation of the Baltic Sea (including the Gulf of Riga) offshore fleet in 2014

Length	Type of gear	Number of vessels			% of total fleet catch in 2014		
		31.12.2013	Active in 2014	31.12.2014	Cod	Sprat	Herring
VL 12-18 m	Trawler	10	10	10	0	1.8	33.0
	Netter	1		1	0	0	0
VL 18-24m	Trawler	2	2	2	3.5	2.9	3.1
	Netter	1	1	1	5.5	0	0
VL 24-40m	Trawler	47	44	44	65.6	95.3	63.9
	Netter	7	5	6	25.4	0	0

Coastal Fishing Fleet:

- Represented by 627 fishing boats with overall length equal to or less than 12 m which constitute the majority of vessel number or 89.6 % from the total, but contribute only 12.5% to total kW and 4% to total GT;
- In 2014 the coastal fishermen used actively 223 boats for the commercial fishing and 118 boats - for self consumption fishing. Some boats have been used in both fisheries. Other fishing boats fished episodically or were used as accessory boats.
- Coastal fleet segment is very important for coastal regions of Latvia along the Gulf of Riga and the Baltic 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 7.6% of the total Baltic Sea catches) and these include Baltic herring, cod, salmon, as well as flounder, European smelt, eelpout, perch and other non-TAC and non-quota species mainly obtained by fixed passive fishing gears.

However, in the coastal fishing fleet the scrapping plan was fulfilled in relation to GT and kW but was not fulfilled 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, 2014)

Date	Number of vessels	GT	kW
Census: 1 st of May, 2004	898	44449	74320
31 st December, 2013	703	29945	49948
31 st December, 2014	700	19535	37412
Difference between CEN date and 31 st of December, 2014	198	24914	36908

4. Section B

i) statement of effort reduction schemes

Fishing capacity reduction scheme, which applies to the Latvian fishing fleet, is represented by fishing vessels decommissioning (scrapping) programme financed by national and EU public support provided through respective support measures of the European Fisheries Fund for years 2007-2013. In accordance with the Council Regulation (EC) No 2371/2002 of 20 December 2002 *on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy* and the Council Regulation (EC) No 1198/2006 of 27 July 2006 *on the European Fisheries Fund* in the beginning of 2008 the *Latvian fishing fleet capacity adjustment plan for years 2008-2013* was approved to balance the capacity of the national fishing fleet with available fishing opportunities.

Table 4. Number of vessels scrapped

No.	Fishing fleet's segment	Number of vessels planned to be scrapped within fleet capacity adjustment plan for years 2008-2013	Number of vessels scrapped within capacity adjustment plan for years 2008-2013**	Number of vessels scrapped within Financial Instrument of Fisheries Guidance for years 2004-2006***
1.	Baltic Sea offshore fishing fleet*	71	71	57
1.1.	VL1224 Trawler	19	19	18
1.2.	VL2440 Trawler	30	30	18
1.3.	VL2440 Netter	22	22	21
2.	VL0012 Coastal fishing fleet	104	87	22

*except vessels fishing also in the coastal area (engine power less than 75 kW)

**including year 2014 within n+2 period

***part of the vessels scrapped in 2008 within n+2 period covered also start of scrapping for implementation of the fleet capacity adjustment plan for years 2008-2013

ii) impact on fishing capacity of effort reduction schemes

The main reason why owners of the fishing vessels actively apply for assistance from the European 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 scheme, 237 vessels have been scrapped from the Baltic Sea fishing fleet with national and EU financial support and 82 vessels went out from the fleet without such support. Scrapping of the vessels has radically increased the catches per vessel figures increasing the profitability, however this cannot be addressed to the cod fishing fleet segment netters VL24-40 (See page 9. of the Report).

5. Section C

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

In 2014 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 5. Management of entry/exit regime on 31.12.2014

		GT		kW	
		GT _{FR}		kW _{FR}	
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)		39078		48785

5	Increases in tonnage GT for reasons of safety	GT _s	0	-	-
6	Total entries (3+ 4 + 5)		39078		48785
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}	7604	kW _{a2}	18543
9	Other exits (not included in 7 & 8)		53254		59709
10	Total exits (7 + 8 +9)		63992		85693
11	Power of engines replaced with public aid conditional to power reduction	-	-	kW _r	0
12	Capacity of the fleet on 31.12.2014 (1 + 6 - 10)	GT _t	19535	kW _t	37412
13	Fleet ceiling on 31.12.2014		46168		57946

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, 2014 were:

- the Fisheries Department (FD) of the Ministry of Agriculture with responsibilities:
 - for the elaboration of the national Fisheries Policy and functioning of the Integrated Control and Information System (ICIS);
 - for the supervision of implementation of the national fisheries management measures, including national fishing fleet ceiling levels and the fishing fleet capacity adjustment plan;
 - for the 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 Fisheries Fund related to Vessels exploitation permanent cessation scheme for period 2008-2013.

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 2014 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 2014 in the administrative procedures.

However it should be mentioned that the work with ICIS improvement and development is still continuing. For the years 2012-2014 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 were calculated according to the “*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*”. These 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. The maximum day at sea was equal to the highest observed number of days at sea within each 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 and was done by different length classes. The values of Inactive Fleet Indicator for period of 2011-2014 are presented in Annex I.

The indicator shows low values for vessel length-classes 12-18 m as well as for 24-40 m, less than 20% of the both fleet segments were inactive during **the observed period**. There were no inactive vessels of 12-18 meters in 2014. The proportions of inactive vessels in terms of number, Gt and kW exceed threshold value (20%) only for vessels 24-40m in 2011. In general, it can be stated, that for Latvian offshore fleet segments the proportion of inactive vessels does not exceed allowable level for the period of last 4 years. The IFI indicator cannot be calculated for the coastal fleet segment VL below 10 meters.

i-2) The Vessel Utilization Indicator - VUI

Data on Vessel Utilization Indicator 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 netters 24-40 m operates mainly in SD 25-32 with target species Baltic cod. In 2014 the number of active vessels and their total GT were lower by 83% and 81% respectively compared to 2005. Quite high ratio between the average Gt*days and maximum Gt*days, in the traffic light system refers to “yellow light”. Average activity level in terms of Gt*days was equal and more than 70% of the potential during 2011-2014. According to this indicator it can be assumed that capacity of this segment was approximately *in balance* with the fishing opportunity. However, the segment of netters 24-40 m showed low or negative Return on investment values, which are more detailed described in next section.

The segment of trawlers 12-18 m operates mainly in the Gulf of Riga with target species Baltic herring. Number of active vessels in 2014 was reduced by 69% and total kW by 62% compared to 2005. Average activity level in terms of kW*Days was more than 70% of the potential in recent years (2010-2014), corresponding to “yellow light” in terms of “traffic light system”. Capacity of this segment was approximately *in balance* with the fishing opportunity.

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 this fishery diminished by 40% and total kW by 24% compared to 2005. Vessel utilization indicator in terms of days and kW*days for this segment increased slightly in 2014. However, values of this indicator remain on the quite low level and do not exceed threshold value of 0.7. The VUI shows values less than 0.7 during the period 2005-2014 indicating the existence of unused capacity. Thus, capacity of this segment was somewhat in excess of opportunity as regards of Vessel utilization indicator.

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. This segment is very important in socio-cultural aspect as traditional activities for population of coastal settlements. The segment of small boats less than 10 m is characterized by extremely low value of the technical indicators over the observed period. Average activity level in this segment was less than 27% of the potential during 2009-2014. In general it indicates that for significant part of coastal fishermen the fishery constitutes only a part of their activities. This could be also connected with the availability of fish resources in the coastal area and could be an indication of unbalance in this fleet segment.

Value of the Technical indicator for all Latvian fishing fleet segments did not show any considerable changes in 2014 compared to the previous year. Average activity level remained on the same level or slightly increased and there were no significant changes in active fleet capacity in terms of vessel number, their kW and GT.

However, technical indicators showed slight tendency to grow simultaneously with the decrease of vessels number for the segment of trawlers 12-18 m and for the segment of netters 24-40 m, confirming positive results of the implementation of the vessel scrapping scheme.

Nevertheless, technical indicators for all Latvian fishing fleet segments demonstrate some overcapacity. Taking into account the changes in fish resources level and market conditions some unused capacity has practical importance in order to use fluctuating resources more efficiently over the time.

Thus, similarly the last year's report vessel utilization indicator shows existence of potential imbalance for the two Latvian fishing fleet segments - trawlers 24-40 m and small boats less than 10 m.

ii) Biological indicators

ii-1) Biological indicator Sustainable Harvest Indicator - SHI

According to the "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" the Sustainable Harvest Indicator (SHI) was defined for major Latvian fishing fleet segments which contribute more than 93 % to the total Latvian catch in the Baltic Sea. The values of SHI for period of 2006-2012 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 (85-91% in 2006-2013), besides this fleet segment is targeting also cod and herring;
- netters 24-40 m in Sd 25-32 with target species of cod (98-100% in 2006-2013);
- trawlers 12-18 m in the Gulf of Riga (28.1) with target species of herring (76-85% in 2006-2013);
- trawlers 20-40 m in the Gulf of Riga (28.1) with target species of herring (86-94% in 2006-2013).

Current fishing mortality F_c for different years and reference points F_{msy} for three stocks exploited by Latvian fishing fleet were obtained from ICES Baltic Fisheries Assessment Working Group Report (WGBFAS 2014, ICES CM 2014/ACOM:10):

- Sprat in Subdivisions 22-32;
- Cod in Subdivisions 25-32;
- Herring in Subdivisions 25-29 and 32 (excluding Gulf of Riga herring);
- 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 $F_{msy}=0.29$;
- for Herring in Sd 25-29 and 32 (excluding Gulf of Riga herring), $F_{msy}=0.26$;
- for Herring in Subdivision 28.1(Gulf of Riga) $F_{msy}=0.35$.

- for Cod in Sd 25-32 $F_{msy}=0.46$ and $F_{target}=0.30$.

The calculated SHI indicators for all species and fleet segments are shown in the Annex III and Fig. 1-3.

Despite that all the fleet segments can be considered as “single species” (catch of target species more than 80% in general) for trawlers 24-40 m in Sd 25-32 the average SHI was calculated taking into account the fishing mortalities of three species (sprat, herring and cod) the segment is targeting and weighed by respective species catches.

Clear tendency of decreasing of SHI indicator values was observed for all segments during the period of 2006-2013. In the Gulf of Riga for trawlers 24-40 m and trawlers 12-18 m which are fishing herring SHI indicator decreased to value “0.84” as the current fishing mortality is less than F_{msy} .

SHI values for netters 24-40 m (target species – cod) demonstrated decrease since 2006. In relation to two reference points ($F_{target}=0.30$ of long-term management plan and $F_{msy}=0.46$) the values of SHI comes to “1” demonstrating quite strong decline. In spite of the analytic estimation of the eastern Baltic cod stock was not accepted by the WG of ICES and advice in 2014 has not provided actual stock assessment, the set of SHI indicators calculated on the base of F currently (2006-2013) nevertheless clearly reflects multiannual tendency to decreasing of SHI. However these SHI indicator values should be interpreted with great caution and in conjunction with other available characteristic of cod fishery.

For trawlers 24-40 m in the Baltic Sea the SHI values are fluctuating around 1 in the recent years and evidently mainly depend from the current fishing mortality in sprat fishery where the biggest part of the catches come from.

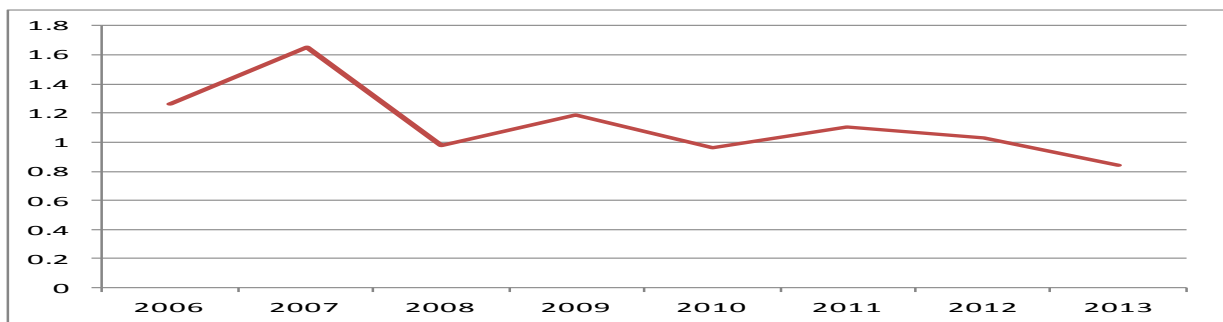


Fig.1 The changes of biological indicator SHI during the period of 2006-2013 for the segments of VL1218 and VL2440 trawlers in the Gulf of Riga.

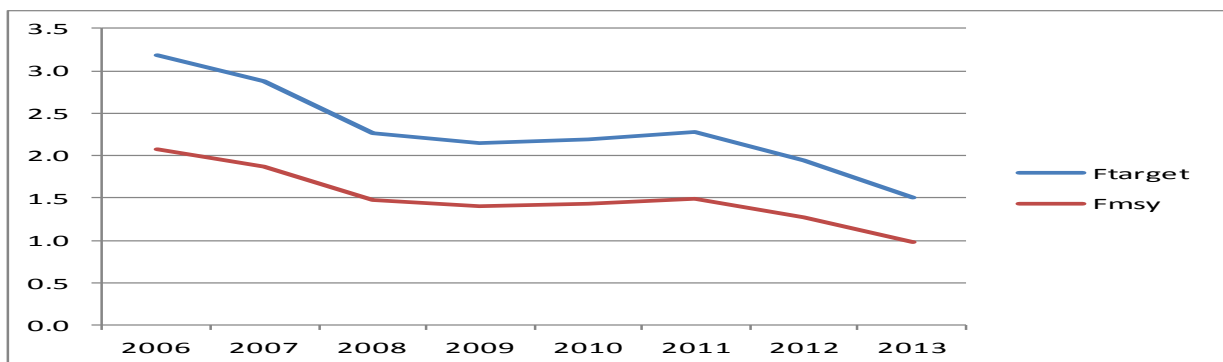


Fig 2. The changes of biological indicator SHI during the period of 2006-2013 for the segment of VL2440 netters in the Baltic Sea in relation to $F_{msy}=0.46$ and $F_{target}=0.3$

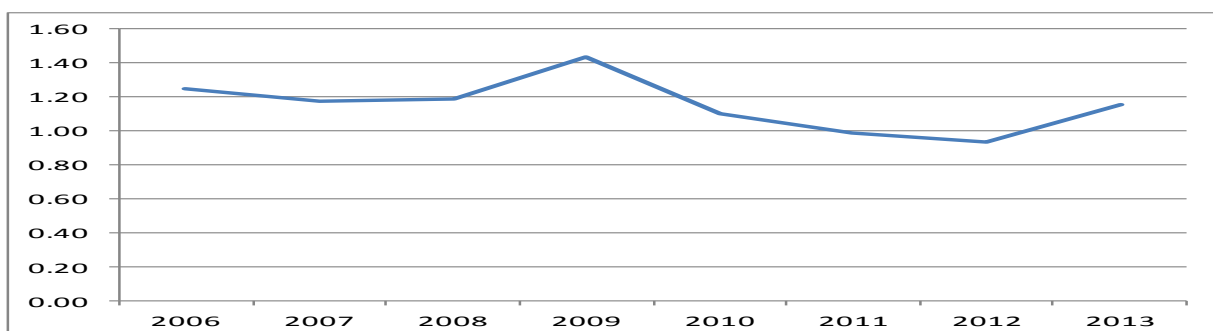


Fig 3. The changes of biological indicator SHI during the period of 2006-2013 for the segment of VL2440 trawlers in the Baltic Sea

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

- Two segments (trawlers 12-18 m and trawlers 24-40 m) of Latvian fishing fleet that rely on sprat and herring stocks (in the Gulf of Riga and Baltic proper) are at the level of Sustainable Harvest Yield as the current fishing mortality for these stocks is fluctuated around Fmsy during previous four years.
- For one segment (netters 24-40 m) which exploits the Eastern Baltic cod stock SHI values are well above 1 in relation to target fishing mortality of the long-term management plan. Besides in 2014 the assessment of Eastern Baltic cod was rejected due to strong retrospective pattern of fishing mortality underestimation and this could lead to the next actions to reach balance between Latvian fishing fleet capacity and fish resources.

ii-2) Biological indicator Stocks-at-risk indicator - SARI

According to the “*Guidelines for analysis of the balance between fishing capacity and fishing opportunities*” Stocks-at-risk indicator refers to:

- a) assessed as being below the Blim biological level; or, b) subject to an advice to close the fishery, to prohibit directed fisheries, to reduce the fishery to the lowest possible level, or similar advice from an international advisory body, even where such advice is given on a data-limited basis; or; c) subject to a fishing opportunities regulation which stipulates that the fish should be returned to the sea unharmed or that landings are prohibited; or d) a stock which is on the IUCN "red list" or is listed by CITES.

It is considered that none of the fish stocks which are exploited by the Latvian fishing fleet in the Baltic Sea corresponds to the above indicated features. According to WGBFAS 2014 Report all sprat, herring and cod stocks are in safe biological limits. Although the assessment of the Eastern Baltic cod stock was not accepted in 2014 this did not create conclusions that the stock is in a state that would require closure of fishery or reduction of the fishery to the lowest possible level. Therefore SARI indicators were not calculated.

iii) Economic Indicators

The methods 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)* where two economic indicators are recommended. The economic indicators show the extent of economic over or under capitalization in a fleet, both in the short and in the long term. For the evaluation of economic situation in the long-term was calculated return on investment compared to the long-term profitability of the fishing fleet segment to other available investment. The second indicator, ratio between current revenue and break even revenue reflects the financial capability of businesses with vessels in a given fleet segment to continue operating on a day-by-day basis and was calculated to analyze economic situation in the short-term.

The following categories of fishing vessels were excluded from the analysis:

- distant - sea vessels due to the data confidentiality, because only 7 trawlers was active during the analyzed period;
- inactive vessels due to the small number and low capacity;

- coastal fishing boats which were not involved in commercial fishery and its owners fished only for self-consumption.

The indicators were calculated for the active fishing fleet by segments. All commercial vessels which operated in the coastal zone were included in the segment VL0010.

Long-term interest rates for indicators calculation were taken as Latvian average interest rate for the last five years from the European Central Bank, available at

<http://www.ecb.europa.eu/stats/money/long/html/index.en.html>

iii-1) Return on Investment (ROI)

Return on investment (ROI) shows investment profitability and was defined as net profit after capital stock depreciation and then divided by capital asset value of the fleet. The direct income subsidies were excluded from the calculation and shown in the table 6.

Table 6. Subsidies (EUR)

Year	VL0010	VL1218 TM	VL2440 TM	VL2440 DFN
2009	163,215	1,367,635	1,594,724	301,510
2010	0	1,282	31,639	1,282
2011	104,629	308,730	860,384	328,456
2012	31,512	0	847,637	0
2013	0	0	0	347,332

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 for each fleet segment and calculations are shown in the Table 7 and in Annex VI

Table 7. Return on Investment (ROI – risk free long term interest rate %)

Year	VL0010 PG	VL1218 TM	VL2440 TM	VL2440 DFN
2009	-5.85	-15.90	12.98	-2.83
2010	1.05	-12.41	10.45	12.10
2011	823.61	36.38	42.75	105.01
2012	755.22	-71.56	44.51	-40.66
2013	3597.97	-92.85	58.43	71.38

iii-1a) Application and interpretation

The ROI for the trawlers in the segment VL2440 shows positive and high values from 2009 to 2013. The positive ROI values indicate that extraordinary profits are being generated, a sign of economic under-capitalization. Also the ROI values for the coastal fleet vessels in the segment VL0010 are high during the period from 2011 to 2013. The high values of ROI in that 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 about 30 years and the share of the capital asset value in the total fleet was 0.5% in 2013. The positive ROI values indicate that the segment is profitable in the long term and normal investments returns are being generated. Nevertheless the result (too high ROI values and the low capital asset values) also can indicate that fleet modernization will be necessary in the near future.

The small trawlers segment VL1218 fishing in the Gulf of Riga shows negative values of ROI in 2009-2010 and in 2012-2013. The ROI values below zero indicate economic over-capitalization and suggest negative returns. For the same period fleet segment VL1218 had losses due to negative impact on fishery sector of global economic crisis in the end of 2008 and 2009 which led to significant increase of total costs especially in costs of fuel. A negative value means that it would be more profitable to invest the money in something other than fisheries. However, it should be noted that in

2011 segment was profitable and it's also reflected on positive value of ROI, meaning that situation may depend on decrease of the total costs and increase in the fish price on the market.

The netters in the segment VL2440 also have a negative ROI value in 2009 and 2012. This segment has a positive ROI in 2010, 2011 and 2013. The major factor causing changes in the ROI value was that segment operated with losses in 2012. The main reason for economic situation deterioration in 2012 was very low concentrations and poor catches for cod which is the target species for the segment. It should be pointed out that in 2013 the economic situation improved and the segment trawlers VL2440 generated profit about 11% from the total Latvian profit in 2013. The main reason for better economic situation and positive net profit in 2013 was increase by 34% and 8% respectively in average landed volume and value for cod between 2012 and 2013. During the same period other income per vessel increases by 14%.

Generally the ROI indicators in 2013 for three fleet segments (coastal boats VL0010, trawlers VL2440, netters VL2440) are positive and shows improvement compared to previous years whereas in some cases the ROI indicator are negative, in particular for vessels segment trawlers VL1224 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.

According to the definition in the guidelines the ratio between a fleet's 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 period (Table 8 and Annex V). Green cells show the percentage of fleet segments with a CR/BR ratio >1; yellow cells show the percentage of fleet segments with a CR/BR ratio ≥0.9 but ≤ 1; red cells show the percentage of fleet segments with a CR/BR ratio <0.9.

Table 8. Ratio of Current revenue to Break-even revenue CR/BER)

Values for a calendar year (€'000) Use Segment total figures	Year	VL0010 PG	VL1218 TM	VL2440 TM	VL2440 DFN
CR / BER = 1 / 3	2009	2.40	0.36	3.25	1.51
	2010	54.24	0.78	2.20	3.36
	2011	22.35	2.28	1.71	3.85
	2012	10.77	0.22	1.66	0.53
	2013	73.30	-0.58	1.73	2.98

iii-2a) Application and interpretation

For the three fleet segments: trawlers VL2440, netters VL2440 and coastal boats VL0010, CR/BER ratio was greater than '1' for each year included in the analysis excluded only netters in 2012 where CR/BER ratio was under '1'. If CR/BER ratio is less than one, this is an indication of short term financial difficulty. The negative CR/BER ratio for netters VL2440 in 2012 could be explained with dispersal cod stock in the Baltic Sea and low price per kilo for cod, which is the main commercial species for the segment. For the other years the CR/BER ratio higher than '1' indicates the current cash flow covered fixed costs for these three segments in the short – time period. It shows that

enough revenue is generated to cover fixed and variable costs, indicating that the segments are economically profitable, with potential under-capitalization. The segment of small boats less than 10 metres with polyvalent passive gears had the highest CR/BER ratio. That segment contributed only 7% to total Latvian value of landing in 2013 and did not practically affect to the economic situation in the Latvian fleet.

The segment trawlers VL1218 operated in the Gulf of Riga has CR/BER ratio below zero (-0.58) in 2013. This means that current revenue does not cover costs and that fishing is not economically sustainable. However CR/BER ratio still has values above zero but less than one: 0.36, 0.78 and 0.22 respectively in 2009, 2010 and 2012. Furthermore segment has a CR/BER ratio greater than 1 in 2011. This means that enough revenue is generated to cover fixed and capital costs, indicating that the segments are economically viable.

The situation is globally characterised by the sustained increase of CR/BER ratio values for the three fleet segments (trawlers VL2440, netters VL2440, coastal boats VL0010) in 2013, together with a decrease in CR/BER ratio for Riga Gulf trawlers VL1218. That may facilitate further VL1218 segment weakening. Several factors affected the low CR/BER ratio for the segment VL1218, such as the increase in crew costs and in other variable costs. However, the situation for the next years may improve, mainly driven by an increase in total landings or price for herring and sprat which are the main commercial species for that segment.

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	5	602	139.7	19.2	15.1	19.4
2010	1	110	29	5.6	3.7	5.6
2011	2	220	51	11.1	7.4	9.9
2012	1	110	29	7.1	4.5	7.0
2013	1	147	29	8.3	6.8	8.1
2014	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	18	3531	1641	18.4	14.8	14.5
2010	12	3702	1943	15.4	17.3	19.2
2011	18	4357	2360	24.3	21.4	24.4
2012	5	1272	580	8.3	7.3	7.6
2013	7	1712	803	11.7	9.6	10.4
2014	5	1360	603	8.8	7.9	8.2

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 in observed max.)		Technical indicator	
			Gt	days	Gt*days	days	Gt*days	days ¹⁾
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

Values for trawlers 12-18 m

Year	Number of vessels	Capacity (average)	Effort (average)		Maximum effort (based in observed max.)		Technical indicator	
			kW	days	kW*days	days	kW*days	days ¹⁾
2005	35	156	152	24845	229	35748	0.67	0.69
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

Values for trawlers 24-40 m

Year	Number of vessels	Capacity (average)	Effort (average)		Maximum effort (based in observed max.)		Technical indicator	
			kW	days	kW*days	days	kW*days	days ¹⁾
2005	77	257	124	31668	215	55309	0.58	0.57
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	109	34236	180	57620	0.61	0.59
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Values for boats less 10 m using polyvalent passive gears

Year	Number of vessels	Capacity (average)	Effort (average)		Maximum effort (based in observed max.)		Technical indicator	
			Gt	days	Gt*days	days	Gt*days	Days ¹⁾
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	2.0	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

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 2011-2013

		2011				2012				2013				
Fleet segment	Parameters	COD 25-32	HER 25-29, 32 (excl.2 8.1)	SPR 22-32	HER GOR (28.1)	COD 25-32	HER 25-29, 32 (excl.2 8.1)	SPR 22-32	HER GOR (28.1)	COD 25-32	HER 25-29, 32 (excl.2 8.1)	SPR 22-32	HER GOR (28.1)	
SD 25-32	VL2440 trawlers	Catch,t	3164	2491	33285		2961	2082	30860		1707	2211	33085	
		F c	0.39	0.175	0.26		0.37	0.13	0.29		0.453	0.12	0.35	
		Fmsy	0.46	0.26	0.29		0.46	0.26	0.29		0.46	0.26	0.29	
		F/Fmsy	0.85	0.67	0.90		0.80	0.50	1.00		0.98	0.46	1.21	
		F/Fmsy for segment	0.88				0.95				1.15			
	VL2440 netters	Catch,t	1674				1196				609			
		F c	0.392				0.373				0.453			
		Fmsy	0.46				0.46				0.46			
		Ftarget	0.3				0.3				0.3			
		F/Fmsy	0.85				0.81				0.98			
F/Ftarget	1.31				1.24				1.51					
28.1 Gulf of Riga (GOR)	VL1218 trawlers	Catch,t				9314				8169			7054	
		F c				0.396				0.369			0.295	
		Fmsy				0.35				0.35			0.35	
		F/Fmsy				1.13				1.05			0.84	
	VL2440 trawlers	Catch,t				8672				8426				16211
		F c				0.396				0.369				0.295
		Fmsy				0.35				0.35				0.35
		F/Fmsy				1.13				1.05				0.84

Annex IV. ROI calculation

Year	Values for calendar year (€000)	VL0010 PG	VL1218 TM	VL2440 TM	VL2440 DFN
2009	Income from landings + other income	809479	2244140	14369982	2734050
	Low risk long term interest rate %	6.42	6.42	6.42	6.42
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	714365	2109254	7963387	2157019
	Capital costs (depreciation + interest payments)	23774	479249	546083	272725
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	71,340	- 344,363	5,860,512	304,306
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	12482979	3632354	30203199	8471578
	ROI = Net profit / capital asset value %	0.57	-9.48	19.40	3.59
	ROI – risk free long term interest rate %	-5.85	-15.90	12.98	-2.83

2010	Income from landings + other income	1265319	2847332	14502599	3256889
	Low risk long term interest rate %	7.71	7.71	7.71	7.71
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	267311	2481680	9367334	1681856
	Capital costs (depreciation + interest payments)	11175	490582	632523	214228
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	986,834	-124,931	4,502,743	1,360,804
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	11261013	2656933	24795430	6869655
	ROI = Net profit / capital asset value %	8.76	-4.70	18.16	19.81
	ROI – risk free long term interest rate %	1.05	- 12.41	10.45	12.10
2011	Income from landings + other income	1265892	3488407	15218067	2647298
	Low risk long term interest rate %	8.06	8.06	8.06	8.06
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	192663	2664554	10937445	1434951
	Capital costs (depreciation + interest payments)	39224	172691	675016	102592
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	1,034,005	651,162	3,605,606	1,109,756
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	124328	1465070	7095604	981446
	ROI = Net profit / capital asset value %	831.68	44.45	50.81	113.07
	ROI – risk free long term interest rate %	823.61	36.38	42.75	105.01
2012	Income from landings + other income	1447523	4270377	17486569	1539817
	Low risk long term interest rate %	7.92	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	1676632
	Capital costs (depreciation + interest payments)	34529	526031	647791	166368
	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	- 303,183
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	152178	1860687	6777524	926143
	ROI = Net profit / capital asset value %	763.14	-63.64	52.43	- 32.74
	ROI – risk free long term interest rate %	755.22	- 71.56	44.51	- 40.66
2013	Income from landings + other income	1734285	3945324	19271771	2286117
	Low risk long term interest rate %	7.30	7.30	7.30	7.30
	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	111116	4896305	13670847	1153373
	Capital costs (depreciation + interest payments)	18965	542441	926881	323339
	Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)	1,604,203	- 1,493,423	4,674,042	809,405
	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	44496	1745767	7110643	1028748
	ROI = Net profit / capital asset value %	3605	-85.55	65.73	78.68
	ROI – risk free long term interest rate %	3598	-92.85	58.43	71.38

Annex V. Ratio of Current revenue to Break-even revenue (CR/BER)

Year	Nr.	Values for a calendar year (€'000) Use Segment total figures	VL0010 PG	VL1218 TM	VL2440 TM	VL2440 DFN
2009	1	Current revenue (CR) = Income from landings + other income	809479	2244140	14369982	2734050
	2	Fixed costs = Non variable costs + depreciation	50890	535405	2603282	594803
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	687248	2053098	5906188	1834940
	4	BER = $2 / (1 - [3 / 1])$	337025	6289317	4419899	1808703
	5	CR / BER = 1 / 4	2.40	0.36	3.25	1.51
2010	1	Current revenue (CR) = Income from landings + other income	1265319	2847332	14502599	3256889
	2	Fixed costs = Non variable costs + depreciation	18535	557733	3763519	576872
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	259951	2414530	6236338	1319212
	4	BER = $2 / (1 - [3 / 1])$	23327	3669231	6602840	969620
	5	CR / BER = 1 / 4	54.24	0.78	2.20	3.36
2011	1	Current revenue (CR) = Income from landings + other income	1265892	3488407	15218067	2647298
	2	Fixed costs = Non variable costs + depreciation	48423	508071	4255690	389700
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	183464	2329174	7930978	1147842
	4	BER = $2 / (1 - [3 / 1])$	56631	1528905	8887414	688018
	5	CR / BER = 1 / 4	22.35	2.28	1.71	3.85
2012	1	Current revenue (CR) = Income from landings + other income	1447523	4270377	17486569	1539817
	2	Fixed costs = Non variable costs + depreciation	118814	1509243	5403886	642348
	3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	167388	3945238	8528907	1200652
	4	BER = $2 / (1 - [3 / 1])$	134350	19822420	10549118	2916275
	5	CR / BER = 1 / 4	10.77	0.22	1.66	0.53

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

VL1218TM								
Indicator	Definition	Area	2011	2012	2013	2014	Average (2011-2014)	
ECONOMIC1*	ROI	Gulf of Riga	positive ROI under -capitalization	negative ROI over-capitalization	negative ROI over-capitalization	NA	NA	
ECONOMIC2*	CR/BER	Gulf of Riga	1<2.28 economically profitable with potential under -capitalization	0<0.22 <1 economically unprofitable with potential over-capitalization	-0.58<0 economically unprofitable with potential over-capitalization	NA	NA	
TECHNICAL1	IFI - Proportion of inactive vessels**	Gulf of Riga	11.1 (<20%)	7.1 (<20%)	8.3 (<20%)	0	6.6 (<20%) In balance	
TECHNICAL2	VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days)	Gulf of Riga	0.7 (0.7 - 0.9)	0.71 (0.7-0.9)	0.83 (0.7-0.9)	0.81 (0.7-0.9)	0.76 (0.7-0.9) Approximately in balance	
BIOLOGICAL1*	SHI - Ratio between F estimated and F target (MSY)	Gulf of Riga	1.13	1.05	0.84		1.0 In balance	
BIOLOGICAL2	SARI - Stock-at-risk	Gulf of Riga	Not calculated					

VL2440TM								
Indicator	Definition	Area	2011	2012	2013	2014	Average (2011-2014)	
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<1.71 economically profitable with potential under -capitalization	1<1.66 economically profitable with potential under -capitalization	1<1.63 economically profitable with potential under -capitalization	NA	NA	
TECHNICAL1	IFI - Proportion of inactive vessels**	Sd 22-29, 32	24.3 (>20%)	8.3 (<20%)	11.7 (<20%)	8.8 (<20%)	13.3 (<20%) In balance	
TECHNICAL2	VUI - Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days)	Sd 22-29, 32	0.51 (<0.7)	0.50 (<0.7)	0.54 (<0.7)	0.59 (<0.7)	0.54 (<0.7) Imbalance	
BIOLOGICAL1*	SHI - Ratio between F estimated and F target (MSY)	Sd 22-29, 32 excl. Gulf of Riga	0.88	0.95	1.15		0.99 In balance	
		Gulf of Riga	1.13	1.05	0.84		1.0 In balance	
BIOLOGICAL2	SARI - Stock-at-risk	Sd 25-32	Not calculated					

VL2440 DFN							
Indicator	Definition	Area	2011	2012	2013	2014	Average (2011-2013,2014)
ECONOMIC1*	ROI	Sd 22-29, 32	positive ROI under-capitalization	negative ROI over-capitalization	positive ROI under-capitalization	NA	NA
ECONOMIC2*	CR/BER	Sd 22-29, 32	1<3.85 economically profitable with potential under -capitalization	0<0.53<1 economically unprofitable with potential over-capitalization	1<2.98 economically profitable with potential under -capitalization	NA	NA

TECHNICAL1	IFI - Proportion of inactive vessels**	Sd 22-29, 32	24.3 (>20%)	8.3 (<20%)	11.7 (<20%)	8.8 (<20%)	13.3 (<20%) In balance
TECHNICAL2	VUI - Vessel utilisation (Ratio between average and maximum effort per vessel, Gt*Days)	Sd 22-29, 32	0.70 (0.7 - 0.9)	0.83 (0.7 - 0.9)	0.70 (0.7-0.9)	0.83 (0.7-0.9)	0.77 (0.7-0.9) Approximately in balance
BIOLOGICAL1*	SHI - Ratio between F estimated and F target	Sd 22-29, 32 excl. Gulf of Riga	1.31	1.24	1.51		1.35 Imbalance
BIOLOGICAL2	SARI - Stock-at-risk	Sd 25-32	Not calculated				

VL0010 PGP

Indicator	Definition	Area	2011	2012	2013	2014	Average (2011-2014)
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<22.35 economically profitable with potential under - capitalization	1<10.77 economically profitable with potential under - capitalization	1<73.30 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	0.26 (< 0.7)	0.21 (< 0.7)	0.24 (<0.7)	0.27 (<0.70)	0.25 (<0.7) Imbalance
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				

*- Average 2011-2013

**The proportion of inactive vessels was calculated on the basis of vessel length-classes only.

Annex VII. Action plan for 2015-2017

To reach balance between the Latvian fishing fleet's capacity and the fish resources for fleet segment VL24-40 m Netters targeting Eastern Baltic Cod.

Taking into account the information mentioned in the Annual report on the Latvian fishing fleet 2013 and 2014 as well as the latest ICES assessment of the Eastern Baltic Cod which showed steady retrospective pattern of underestimation of fishing mortality, as well as the possible impact on the cod fishing netters fleet, Latvia has developed following action plan:

1. The unbalance between the fishing fleet's capacity and the fish resources allocated to Latvia had been revealed for the fleet segment VL 24-40 m Netters. The biological indicator for this fleet segment which was calculated in relation to target fishing mortality for Eastern Baltic Cod ($F_{\text{target}}=0.30$) of the long-term management plan shows that it is still above 1 (Annex Figure 1). The estimated actual fishing mortalities were taken from the assessment in WGBFAS2013 report. Besides it should be pointed out that the assessment of the Eastern Baltic Cod had steady retrospective pattern of underestimation of fishing mortality. This is illustrated by using for the calculation the actual fishing mortalities from the assessment of the previous year (WGBFAS2012) which gives much lower estimates of biological indicator than one year later. In 2014 due to this strong retrospective pattern the assessment of the Eastern Baltic Cod was rejected and new estimates of fishing mortality are not available.
2. Return on Investment (ROI) of VL 24-40m Netters in 2010 and 2011 had low positive values but had a negative ROI value equal -0.1 in 2012. The major factors causing changes in the ROI value was a negative profit for this segment in 2012. The fishing conditions worsened in 2012 when the fishing quota was utilised only by 65%. Evidently the economic indicators have worsened further in 2013 when the utilisation of the fishing quota dropped to 43%. The same or even worsen situation occurs also in 2014 fishing season.
3. The fleet segment VL 24-40m Netters perform very selective cod fishery targeting the biggest individuals from the stock. In the conditions when the growth of the cod and the number of bigger fishes has significantly decreased it would be important for biological reasons to save the bigger fish which is the most significant part of the spawning stock.
4. For time being is impossible to predict any development of the indicators for the remaining fleet segment (VL 24-40m Trawlers) that is also targeting cod because the biological reference points of fishing mortality and spawning stock biomass are unavailable for Eastern Baltic cod. However, since this fleet segment in most cases has fishing quotas also for sprat and herring which constitute the major part of the landings the influence of cod on total biological indicator is of minor importance (Annex Figure 2, Table 2).
5. To reach the necessary balance between fleets capacity and the fish resources the exit (scrapping) of vessels from fishery or fleet segment VL 24-40m Netters therefore is recommended.
6. It is recommended to eliminate the whole VL 24-40m Netters totally as this segment as it is targeting only cod and is unable to switch to other fish stocks in conditions when cod stock is in a bad state. The total number of vessels, their GT and kW for scrapping recommended is shown in Annex Table 1.
7. The exit (scrapping) of VL 24-40 m Netters is planned to be accomplished till 31st December 2017.

Annex

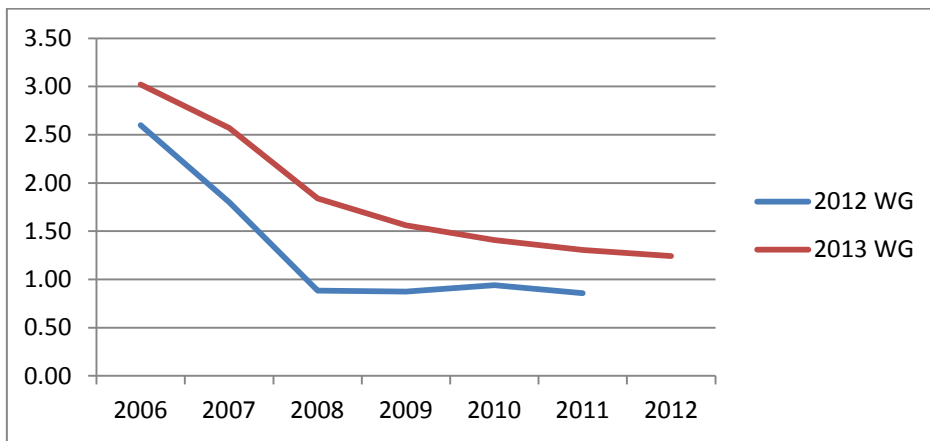


Figure 1. Biological indicator of VL 24-40 m Netters calculated as relation F/F_{target} ($F_{target}=0.30$). VL 24-40 m Netters perform only cod targeted fishery.

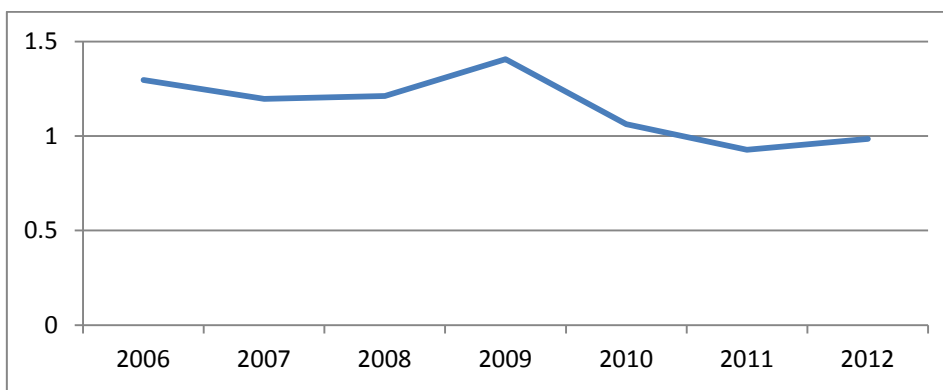


Figure 2. Biological indicator of VL 24-40 m Trawlers calculated as relation F/F_{msy} (for sprat $F_{msy}=0.29$, for herring $F_{msy}=0.26$, for cod $F_{target}=0.30$) and weighted by the landings for each species.

Table 1. Recommended number of VL 24-40 m Netters for exit (scrapping) from the fishery).

Number of vessels	GT	kW
5	457	970

Table 2. Data used and calculations of the biological indicator for VL 24-40 m Trawlers

Year	Fishing mortality			Biological indicator			Landings			Final biological indicator
	sprat	herring	cod	sprat	herring	cod	sprat	herring	cod	
2006	0.36	0.18	0.91	1.24	0.69	3.02	51943	2597	2670	1.30
2007	0.34	0.19	0.77	1.17	0.72	2.57	57941	2987	2109	1.20
2008	0.35	0.20	0.55	1.21	0.76	1.84	55143	3237	2300	1.21
2009	0.42	0.18	0.47	1.44	0.70	1.56	47655	3252	2745	1.41
2010	0.31	0.22	0.42	1.06	0.84	1.41	44019	3606	2595	1.06
2011	0.26	0.17	0.39	0.91	0.67	1.31	32143	2473	3154	0.93
2012	0.29	0.13	0.37	0.99	0.51	1.24	29600	2136	2961	0.98