

The Annual Report on the Latvian Fishing Fleet 2024

Summary of the report

This report is elaborated according to *Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Article 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy (COM (2014) 545)* (further – Guidelines).

Since 2004, Latvia has complied with the existing rules and requirements of the vessel entry/exit regime without any deviations.

The decommissioning of fishing vessels has a positive impact on the balance between the capacity of the fishing fleet and the fish resources allocated to Latvia.

The technical indicators show how much fleet capacity could be reduced without reducing total fleet output (landings). They can therefore be considered as the baseline indicator for each fleet segment according to the Guidelines.

The Inactive Fleet Indicator (IFI) for the Latvian fleet segment VL1218 which is very low in number in 2024 has exceeded the allowable level due to the inactivity of one vessel. For segment VL2440, the value of the indicator has increased while the number of inactive vessels has remained the same. This can be explained by the reduction of the segment due to the decommissioning of vessels in recent years. The measures to balance the fleet segment VL2440, included in Annex VII of the Annual Report on the Latvian Fishing Fleet 2022, in 2024 were in the implementation phase, and the effect of the segment reduction should be evaluated in the following years.

The Vessel Utilisation Indicator (VUI) for the VL0008 segment has increased slightly over the last three years, reaching 0.30 in 2024, the segment is still not "in balance". For the VL0812 segment, the indicator showed a stable result over the last two years, at 0.93, after almost doubling in 2023, the segment is "in balance". However, the level of activity for the small coastal boat segments must be treated with caution due to the seasonal nature of fishing activities. In addition, the activity of seals in the coastal area and the potential damage to fishing gear and catches means that fishermen in several periods fish less to avoid interaction with seal damages. During the period when seals are observed in a large number, fishermen do not use their fishing gear to avoid the destruction and damage to their property. The VUI for the segment VL1218 for the last eight years is relatively close to 1, so this segment is "in balance". The VUI for the segment VL2440 decreased in 2024 and is below the reference value, indicating that this segment is not "in balance" with the fishing opportunities.

Following the recommendations and applying the interpretation proposed in the Guidelines for the biological indicator - Sustainable Harvest Indicator (SHI) - it can be concluded that:

- for the VL2440 trawler segment in the Baltic Sea (SD 25-32), which mainly exploits the sprat stock with by-catches of herring, the weighted average SHI value in 2023 is 1.03, which means that the segment is "in imbalance between fleet capacity and fish resource potential".

- for two segments (trawlers VL1218 and VL2440) in the Gulf of Riga targeting herring with by-catches of sprat, the weighted average value of the SHI is 1.02 and it should be concluded that these trawler segments are in a state of "imbalance between fleet capacity and fishing opportunities".

In accordance with the methodology proposed in the Guidelines, the SHI biological indicator has not been calculated for segments VL0008 and VL0812 due to the lack of quantified parameters and scientific advice for the stocks included in the mixed catch composition of coastal passive gear fisheries.

The SAR indicator has not been calculated because the Latvian fleet mainly exploits three stocks, which are already included in the calculation of the SHI indicator for the fleet segments.

Four Baltic Sea fleet segments were selected and included in the analysis to assess the achievement of balance between fleet capacity and fishing opportunities in Latvian fisheries from 2019 to 2023. For each fleet segment, two economic indicators were calculated to assess whether the fleet segment is economically sustainable in the long and short term.

The Return on Investment (ROI) indicator shows the profitability of investment. A positive ROI and higher than the low-risk long-term interest rate indicates a positive return from investment and suggests that extraordinary profits are being made, thus showing a sign of economic undercapitalisation. In 2023, compared to 2022, the VL2440 segment shows an increase in the value of the ROI indicator - reaching 70%, which characterizes a cost-effective activity of this segment. Due to the almost two and a half times increase in crew wages in 2023, the ROI of the VL1218 segment decreases and becomes negative. The two coastal segments (VL0008, VL0812) show a positive ROI in 2023 with a slight increase, indicating a profitable fishery in the long term. The detailed ROI calculations for each fleet segment and the conclusions are presented in the section 7.3.1 and Annex IV.

The second economic indicator, the Ratio of Current revenue to Break-even revenue (CR/BER), reflects the financial ability of companies in each fleet segment to continue operating vessels on a day-to-day basis. The Baltic Sea offshore trawler segment VL2440 and the inshore segment VL0812 show a positive CR/BER ratio of more than 1 in 2023, which characterises the profitability of the segments in the short term. The CR/BER ratio for the VL1218 and VL0008 segments is less than 1, indicating that revenues are insufficient to cover variable, fixed and capital costs, indicating that the segment is unprofitable and may be overcapitalised. The detailed calculations and conclusions are presented in section 7.3.2 and Annex V.

In this report, the following categories of vessels have been excluded from the analysis of the corresponding indicators:

- Vessels over 40 meters operating in the Atlantic (areas 27 and 34) due to the limited number of vessels involved in the fishery and the confidentiality of the information.
- Part of the coastal vessels listed in the Fishing Fleet Register, which are not involved in commercial fishing and obtained fish only used for own consumption.

Opinion of MS on balance of fleet capacity with fishing opportunities

Latvia continues strictly and fully apply the existing rules of the Common Fisheries Policy for the entry/exit regime of the Community fishing fleet. The Fisheries Department (FD) of the Ministry of Agriculture requires that the vessel or vessels of equal or higher capacity be withdrawn from the fishing fleet without public support before the new vessel or vessels are registered. Since 1 May 2004, a total of 411 fishing vessels have been decommissioned and withdrawn from the Baltic Sea fleet. This process has positively affected the balance between the capacity of the fishing fleet and the fish resources allocated to Latvia.

Section A

3.1. Description of the 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 the Latvian flag are registered in ten Latvian ports.

Table 1. The Latvian Fleet Segmentation for the 2024

| Fleet segment | % from total No of vessels | % from total GT | % from total kW |
|---------------------|----------------------------|-----------------|-----------------|
| High Seas | 1.0 | 75.3 | 53.3 |
| Baltic Sea offshore | 5.6 | 21.1 | 32.1 |
| Baltic Sea coastal | 93.4 | 3.6 | 14.6 |

On 31 December 2023 the Latvian fishing fleet consisted of 662 vessels with a total engine power of 39327 kW and a total gross tonnage of 22058 GT, while on 31 December 2024 the Latvian fishing fleet consisted of 663 vessels with a total engine power of 38750 kW and a total gross tonnage of 21701 GT (Table 4).

3.2. Link with fisheries

High Sea Fleet

The segment is represented by 7 big vessels over 40 meters. These vessels contribute only 1.0% to the total vessel number but cover 75.3% of the total GT and 53.3% of the total KW, respectively.

In 2024, one vessel in this segment operated in the waters managed by the North East Atlantic Fisheries Commission (NEAFC) and two vessels operated in the waters managed by the Fishery Committee for the Eastern Central Atlantic (CECAF).

The main fishing gears for these vessels were midwater and bottom otter trawls and shrimp trawls.

The target species in the NEAFC area were northern shrimp and Atlantic cod, and in the CECAF area - Atlantic horse mackerel and mackerel. This fleet segment constituted about 50.0% of the total Latvian catch in 2024.

Baltic Sea (including the Gulf of Riga) Offshore Fleet

This fleet group consisted of 37 fishing vessels (on 31 December 2024) with an overall length between 12 and 40 m LOA. The number of vessels in this segment represented 5.6% of the total Latvian fishing fleet number, and it contributed 21.1% to the total GT and 32.1% to the total kW.

Vessels in this group operated only in the Baltic Sea (including the Gulf of Riga) in the offshore waters of the International Council for the Exploration of the Sea (ICES) Subdivisions (SD) 22-32.

The main fishing gear used by these vessels was the midwater otter trawl, targeting sprat and herring. This fleet segment accounts for about 47.0% of the total Latvian catch in 2024.

Table 2. Description and segmentation of the Baltic Sea (including the Gulf of Riga) offshore fleet in 2024

| Length | Type of gear | Number of vessels | | | Total fleet catch in 2024 (%) of catch quota | | |
|--------|--------------|-------------------|----------------|------------|--|-------|---------|
| | | 31.12.2023 | Active in 2024 | 31.12.2024 | Cod | Sprat | Herring |
| VL1218 | Trawler | 9 | 9 | 9 | 0 | 3 | 27 |
| VL2440 | Trawler | 33 | 27 | 28 | 0 | 97 | 73 |

Coastal Fishing Fleet

The sector is represented by 619 fishing boats with an overall length equal to or less than 12 m, which represent the majority of the number of vessels or 93.4% of the total, but only 3.6% of the total GT and 14.6% of the total kW.

The coastal fleet segment is very important for the socio-economic reasons of the Latvian coastal regions along the Gulf of Riga and the Baltic Sea coast. Small-scale fishing is the main source of livelihood and employment for the inhabitants of remote coastal communities.

However, the catches of the coastal fishing fleet are relatively small (about 5.9% of the total Baltic Sea catches) and these include Baltic herring, round goby, flounder, smelt, as well as vimba, bream, garfish, perch, and other non-TAC species, mainly caught with fixed passive gears. In 2024, this fleet segment accounted for around 3.0% of Latvia's total catch (if including also High Sea fishery).

From 2023, according to Commission Decision (EU) 2021/1167, the segmentation of ships less than 12 metres in length is as follows:

- VL0008PGP - coastal vessels less than 8 metres in length.
- VL0812PGP - coastal vessels between 8 and 12 metres in length.

In 2024, coastal fishermen actively and regularly used 181 boats for the commercial fishing and 16 boats - for self-consumption fishing, registered to the companies. Some boats (3) were used for both fisheries. Other fishing boats mostly fished episodically or were used as support boats in fishing operations (Table 3).

Table 3. Description and segmentation of the Baltic Sea coastal fleet in 2024

| Length | Type of gear | Number of vessels | | | | |
|--------|--------------|-------------------|-----------------------------------|--|-----------------------------|------------|
| | | 31.12.2023 | Active in 2024 (self-consumption) | Active in 2024 (self-consumption + commercial) | Active in 2024 (commercial) | 31.12.2024 |
| VL0008 | PGP | 547 | 16 | 3 | 138 | 553 |
| VL0812 | PGP | 66 | 0 | 0 | 43 | 66 |

Vessels of the fleet register that fish for self-consumption are subject to the one gear rule (a maximum of 1 net or 1 herring net or 1 fyke net or 100 hooks can be used at any one time) and the marketing of these catches is prohibited.

The decommissioning plan for the coastal fleet has been achieved in terms of GT and kW, but it has not been fully achieved in terms of the number of vessels. As only passive gears are used in coastal fisheries,

the balance in terms of the number of vessels is more important than in terms of GT and kW. However the high number of this segment vessels which cover both commercial and self-consumption activities are staying inactive and not used in commercial operations

3.3. Development in the fleets

Some increase in the number of vessels is observed in 2024. This is due to the entry into the fleet of a several small coastal vessels in the VL0008 segment. At the same time, the decrease in kW and GT is linked to the withdrawal of a number of vessels from the VL2440 segment as a result of fleet balancing measures. All changes in the fleet number and capacity have been made using previously unused/reserved capacity (Table 4).

Table 4. Evolution of the Latvian fishing fleet (from 1 May 2004 to 31 December 2024)

| Date | Number of vessels | GT | kW |
|--|-------------------|-------|-------|
| Census: 1 st of May, 2004 | 898 | 44449 | 74320 |
| 31 st December, 2023 | 662 | 22058 | 39327 |
| 31 st December, 2024 | 663 | 21701 | 38750 |
| Difference between CEN date and 31 st of December, 2024 | 235 | 22748 | 35570 |

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

In 2024 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 intentions for entries – purchase or construction of any fishing vessel shall be agreed before with the relevant authorities (the Ministry of Agriculture).

Table 5. Management of entry/exit regime on 31.12.2024

| | | 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) | | 61542 | | 81080 |
| 5 | Increases in tonnage GT for reasons of safety | GTS | 0 | - | - |
| 6 | Total entries (3+ 4 + 5) | | 61542 | | 81080 |
| 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 | 9723 | kWa2 | 24043 |
| 9 | Other exits (not included in 7 & 8) | | 71433 | | 85166 |
| 10 | Total exits (7 + 8 +9) | | 84290 | | 116650 |
| 11 | Power of engines replaced with public aid conditional to power reduction | - | - | kWr | 0 |
| 12 | Capacity of the fleet on 31.12.2024 (1 + 6 – 10) | GTt | 21701 | kWt | 38750 |
| 13 | Fleet ceiling on 31.12.2024 | | 44134 | | 52446 |

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

Section C

5.1. Information on general level of compliance with the fleet policy

In 2024, as before, the main organizations responsible for the management of the national fleet and its capacity were:

- Ministry of Agriculture (the Fisheries Department (FD)) 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 (SES) of the Ministry of Environment and Regional Development is responsible for control and enforcement of the fishing activities and vessel monitoring system (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, all relevant data in the system in real time is available for the competent authorities;
- 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 2024 still some improvements were done in the LFICIS to comply with all the requirements set by the EU Fisheries control regulation (EC 1224/2009). This ensured not only improvement of the fisheries data quality by the crosschecks and data validation but also facilitates the work efficiency of the personnel working with LFICIS.

At this stage massive work is done 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 2024 in the administrative procedures. However, it should be mentioned that the work with LFICIS improvements and development is still continuing. For the years 2012-2024, the Ministry of Agriculture 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 the Latvian fishing fleet have been calculated according to the guidelines. These indicators show how much fleet capacity could be reduced without reducing the total output of the fleet (landings). The technical indicators can be considered as a baseline indicator for each fleet segment. The maximum number of days at sea was calculated as follows: the average number of days at sea of the top 10 most active vessels in the 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 (areas 27 and 34) due to the limited number of vessels involved in the fishery and the confidentiality of the information.
- Part of the coastal vessels listed in the Fishing Fleet Register, which are not involved in commercial fishing and obtained fish only used for own consumption.

7.1.1. The Inactive Fleet Indicator – IFI

The share of inactive vessels in the total fleet has been calculated in terms of number of vessels, GT and kW. To determine the number of inactive vessels by length class, the total number of vessels registered in the fleet register on 31 December of each year and all active vessels in that year were taken into account. The values of the Inactive Fleet Indicator (IFI) for the period 2010-2024 are shown in Annex I.

The IFI indicator for the segment VL1218 which is very low in number exceeded the reference value in 2024 due to the inactivity of one vessel in the segment. For the segment VL2440, the number of inactive vessels in the segment remained the same and the average value of the IFI indicator over the last five years is above 20%.

7.1.2. The Vessel Utilisation Indicator – VUI

The Vessel Utilisation Indicator (VUI) characterises the ratio between the actual effort deployed and the maximum effort that could be deployed by the fleet. All active vessels in the Baltic Sea that had a licence and fished at least one day per year were included in the calculation. The values of the VUI, also known as the Vessel Utilisation Ratio (VUR), are given in Annex II.

The VL1218 trawler segment operates mainly in the Gulf of Riga targeting Baltic herring. The number of vessels in 2024 is 72% lower than in 2006. Considering that the VUI value for the last eight years is higher than 0.9, it can be said that the capacity of this segment is in balance with the fishing opportunities.

The VL1824 net and trawler segment has not existed since 2017. In accordance with the clustering rules (Regulation (EU) 2016/679), two trawlers have been included in the VL2440 trawler segment, while one trawler that has historically operated in the Gulf of Riga has been included in the VL1218 segment.

The VL2440 trawler segment operates mainly in ICES SD 25-32, targeting Baltic sprat with by-catches of Baltic herring. The number of vessels in 2024 is 64% lower than in 2006. The VUI for this segment decreases to 0.61 in 2024, which is below the threshold of 0.7. It can be said that the capacity of this segment is not in balance with the fishing opportunities.

Segment VL0008, small-scale coastal fishing, has been calculated for commercial fishing only. Coastal fishing uses various static gears such as nets, traps, lines and seines. The activity level for this segment reached 30% of the potential in 2024. In general, this indicates that for a significant part of the coastal fishermen, fishing is only a part of their activities. This could also be related to the lower availability of fish resources and their seasonality in the coastal areas. Low activity is also associated with high interaction periods and damage caused by seals to coastal fishing gears and catches. During the period when seals are observed in large numbers, fishermen do not use their fishing gear to avoid the destruction and damage to their property. Although the utilization rate of small boats VL0008 is consistently at a very low level, this segment is very important in socio-cultural terms as a traditional activity for the population of coastal settlements.

Segment VL0812, small-scale coastal fishing, has been calculated for commercial fishing only.

Various static gears such as nets, traps, lines and seines are used in the coastal area and the level of activity for this segment is 93% of the potential for the last two years. Despite the high level of the indicator, the average activity of the segment is less than a half of the potential. This is related to the partial activity of the coastal fishermen and to the lower availability of fish resources and their seasonality in the coastal areas, as well as the high activity of seals. This segment is of great socio-cultural importance as a traditional activity for the population of coastal settlements.

Summary

In segments with a fleet of 10 vessels or less, any change in the fishing strategy of a vessel or an enterprise could significantly alter the values of the technical indicators. For the Latvian fleet, the segment of trawlers VL1218 can be considered as small in number of vessels, and any conclusion of this balance should be treated with caution and verified over time. Due to the inactivity of one vessel, the IFI indicator exceeds the threshold value in 2024. The IFI indicator for the VL2440 segment is above 20% on average over the last five years.

In 2024 the VUI for segment VL1218 exceeds the threshold value but with caution it could be said that the capacity of this segment is still in balance with the fishing opportunities. The VUI value for segment VL2440 decreases to 0.6, indicating that the capacity of this segment is not in balance with the fishing opportunities.

The VUI for the VL0008 segment is relatively low, reaching 0.3 in 2024. The VUI for VL0812 shows a stable high level of 0.93, but the average activity of the segment is less than half of the indicator value. This could be explained by the high activity of the largest vessels in the segment and the low activity and seasonality of the smaller vessels during the year. The development of these segments in relation to the available fish resources should be monitored more closely in future years.

7.2. Biological indicators

7.2.1. Biological indicator Sustainable Harvest Indicator – SHI

The Sustainable Harvest Indicator (SHI) was defined for three segments of the Latvian fishing fleet, which account for about 96% of the total Latvian catch in the Baltic Sea. The SHI values for the period of 2008-2023 and two fishing areas (the Baltic Sea proper and the Gulf of Riga) were calculated for the following fleet segments:

- VL2440 trawlers in SD 25-32 (excluding SD 28.1) targeting sprat (91% of the mixed sprat/herring catches).
- VL1218 trawlers in the Gulf of Riga (SD 28.1) targeting herring (93% of the mixed herring/sprat catches).
- VL2440 trawlers in the Gulf of Riga (SD 28.1) targeting herring (96% of the mixed herring/sprat catches).

The values of current fishing mortality rate (F_c), fishing mortality rate at maximum sustainable yield (F_{msy}) and F_c/F_{msy} ratios (for herring in SD 25-29,32) for the stocks exploited by the Latvian fleet were taken from the Baltic Fisheries Assessment Working Group report (*ICES Scientific Reports*. 6:53. 628 pp. <https://doi.org/10.17895/ices.pub.25764978>):

- Sprat in SD 22-32 – $F_c=0.36$, $F_{msy}=0.34$.
- Herring in SD 25-27, 28.2, 29 and 32 – $F_c/F_{msy}=0.85$.
- Herring in SD 28.1 (Gulf of Riga herring) – $F_c=0.29$, $F_{msy}=0.28$.
- There are no data for the SHI calculation for the Baltic cod stock. Also, it is not anymore, the target species for any of the Latvian fishing fleet segment.

The calculated SHI indicator values for all species and fleet segments are presented in the Annex III. A value of the SHI biological indicators below “1” is usually considered to indicate a sustainable exploitation of the stock, and a value above “1” is usually considered to indicate overfishing of the stock.

For the segment VL2440 trawlers in SD 25-32 (excl. 28.1), SHI values were calculated separately for the herring and sprat stocks and a weighted average SHI value was calculated for the segment (Figure 1, Annex III). The average SHI values for this segment fluctuate around the reference point “1” over the period 2008-2023 and depend mainly on the ratio of F_c/F_{msy} values for sprat, which accounts for most of the mixed catches (around 90% on average). Catches of herring in this segment should be considered as a permanent by-catches in the sprat fishery.

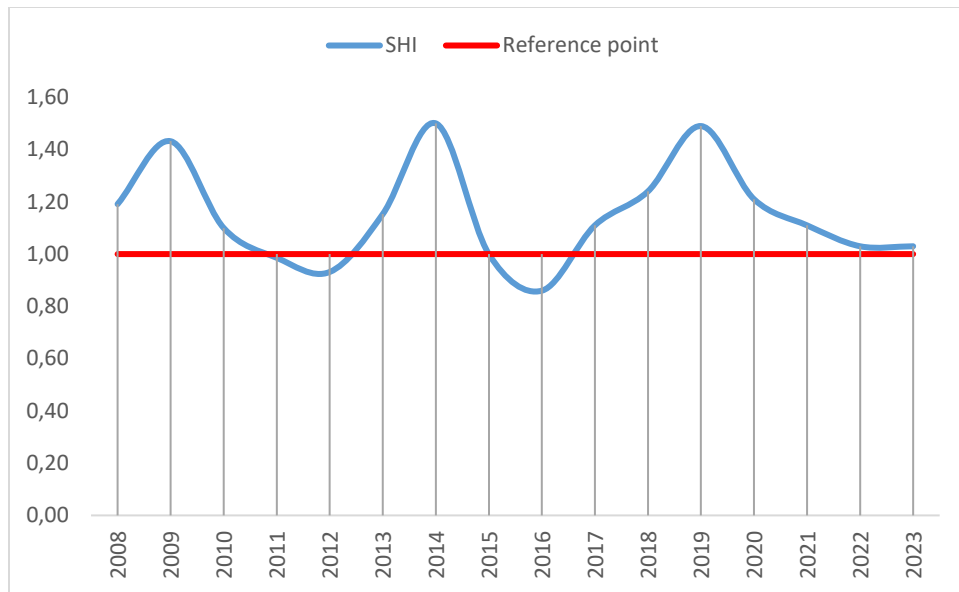


Figure 1. Changes in the SHI biological indicator over the period of 2008-2023 for the VL2440 trawler segment in the Baltic Sea.

The separate SHI indicator (F_c/F_{msy} ratio) for herring SD 25-32 (excl. 28.1) increases in 2023 (0.85) compared to 2022 (0.82). The separate SHI indicator for sprat stock SD 22-32 decreases to 1.04 in 2023 compared to 2022 (1.06). As a result, the weighted average SHI value for the VL2440 trawler segment remains the same in 2023 as in 2022, at 1.03, indicating that the segment at some degree is "not in balance between fleet capacity and fish resource potential".

For the trawler segments VL2440 and VL1218 in the Gulf of Riga, the share of herring in mixed catches is similar for the two segments considered (93-96%) and catches of sprat are recorded as by-catches. The long-term dynamics of the SHI indicator for these segments show a rather large fluctuation around the reference point "1" for the period 2008-2023 and has been above the reference point for the last three years (Figure 2, Annex III).

In 2023, the weighted average value of the SHI parameter for both trawler segments in the Gulf of Riga remained the same as in 2022 at 1.02. This means that the segments (VL2440 and VL1218) in the Gulf of Riga are at some degree "not in balance between fleet capacity and fish resource potential".

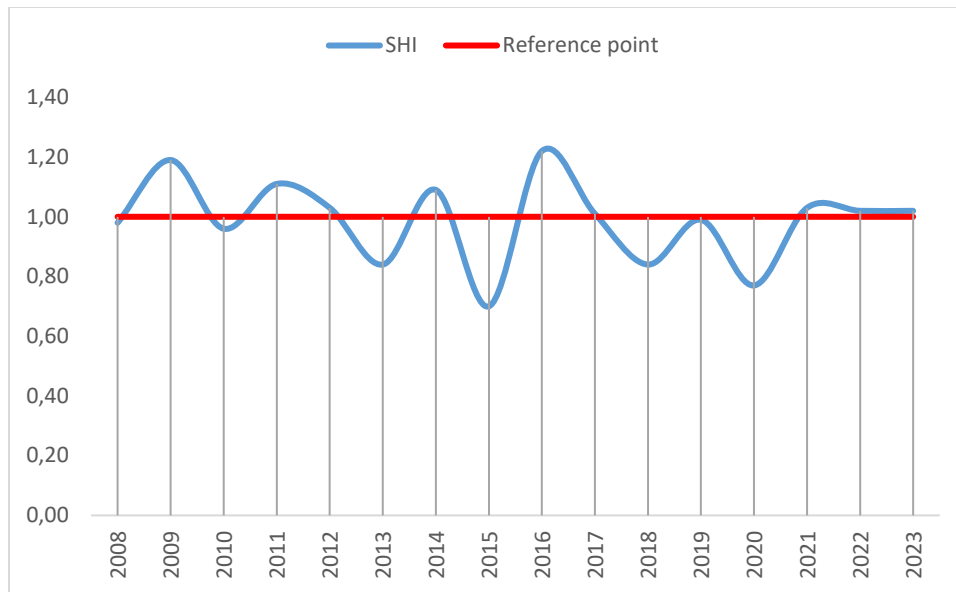


Figure 2. Changes in the biological indicator SHI over the period of 2008-2023 for the segments of trawlers VL1218 and VL2440 in the Gulf of Riga.

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

- for the segment of trawler VL2440 in the Baltic Sea proper (SD 25-32, excluding 28.1), which mainly exploits the sprat stock with by-catches of herring, the SHI value (1.03) indicates a state of some "imbalance between fleet capacity and fish resource opportunities".
- for two segments (trawlers VL1218 and VL2440) in the Gulf of Riga targeting herring and sprat (by-catch), the weighted average value of the SHI is 1.02 and it should be concluded that these trawler segments in the Gulf of Riga are in a state of some "imbalance between fleet capacity and fishing opportunities".
- biological indicators for the Baltic cod stock have not been assessed due to the total ban on targeted fishing for cod in the eastern part of the Baltic Sea.

7.3. Economic Indicators

The methodology used for the economic indicators analysis has been proposed in Guidelines.

To assess the achievement of balance between fleet capacity and fishing opportunities in Latvian fisheries from 2019 to 2023, four Baltic Sea fleet segments (VL0008; VL0812; VL1218; VL2440) were selected and included in the analysis. For each fleet segment, two indicators proposed in the Guidelines were calculated to assess whether the fleet segments are economically sustainable in the long and short term.

The economic indicators show the extent to which a fleet is economically over- or undercapitalised in both in the short and long term. To assess the long-term profitability of the fleet, the Return on Investment (ROI) indicator has been calculated. The second indicator used - the ratio of current revenue to break-even revenue (CR/BER) - reflects the financial ability of companies with vessels in a given fleet segment to continue operations on a day-to-day basis. The indicator characterises the economic situation in the short term.

The following categories of vessels have been excluded from the analysis of the corresponding indicators:

- Vessels over 40 meters operating in the Atlantic (areas 27 and 34) due to the limited number of vessels and the confidentiality of the data.
- Part of the coastal vessels listed in the Fishing Fleet Register, which are not involved in commercial fishing and obtained fish is used only for their own consumption purposes.

For the calculations and analysis, the data collected within the frame of Data Collection Programme (implemented under *Reg. (EU) 2017/1004; Commission Delegated Decision (EU) 2021/1167* Table 7 Fleet economic variables and Table 6 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 8 *COM (EU) 2021/1167*. All commercial vessels operating in the coastal zone have been included in the segments VL0008 and VL0812 (VL0010 until 2022).

According to the recommendations of the workshop on capital value estimation (Salerno, 7-10 October 2019), the net profit from 2018 was calculated based on the cost of capital and capital value provided by the perpetual inventory method (PIM), which provides a more accurate economic assessment from a macro perspective. Long-term interest rates for the calculation of indicators have been taken from the European Central Bank as the average Latvian interest rate for the last five years, available at: <https://data.ecb.europa.eu/data/datasets/IRS/IRS.M.LV.L.L40.CI.0000.EUR.N.Z>

7.3.1. Return on Investment (ROI)

Return on investment (ROI) shows the profitability of the investment and is defined as net profit after depreciation of the capital stock, divided by the capital value of the fleet. Subsidies are not included in the calculation. According to the guidelines, a positive ROI greater than the low-risk long-term interest rate indicates a positive return on investment and suggests that exceptional profits are being made, which is a sign of economic undercapitalisation. Values of ROI that are positive but less than the low-risk rate would give negative values for the indicator, indicating that in the long run it would be more beneficial to invest elsewhere, which is a sign that the fleet is likely to be overcapitalised and therefore economically inefficient. Negative ROIs may themselves indicate economic overcapitalisation. The ROI results and calculations for each fleet segment are presented in Table 6 and Annex IV.

Table 6. Return on Investment (ROI – risk-free long-term interest rate %)

| Fleet Segments | 2019 | 2020 | 2021 | 2022 | 2023 |
|-------------------|------|------|------|------|------|
| VL0008 PGP | -34 | 125 | 71 | 40 | 43 |
| VL0812 PGP | | | | 290 | 304 |
| VL1218 TM | -409 | 402 | 297 | 447 | -195 |
| VL2440 TM | 178 | 249 | 175 | 273 | 463 |

Application and interpretation

During the period analysed, from 2019 to 2023, the ROI indicator shows stable positive values for the segment VL2440 trawlers, which characterises a cost-effective segment activity. This is mainly because the segment's target species are sprat and herring, which provide the necessary turnover for the segment. The catches of sprat and herring for the segment contribute 57% and 42% respectively to the total volume of landings and 63% and 35% respectively to the total value of landings in the Baltic Sea in 2023. Catches

of sprat and herring contribute 47% and 50% respectively to the total volume of landings and 53% and 41% respectively to the total value of landings in the Baltic Sea in 2023. The increase in the ROI indicator in 2023 is 70% compared to 2022 and can be explained by an increase in the average prices of sprat and herring by 32% and 18% respectively. From 2021, the average prices of sprat and herring increase by 55% and 32% respectively, allowing the VL2440 segment to generate additional revenue.

Over the period analysed, a negative ROI is observed for the VL1218 segment trawlers operating in the Gulf of Riga in 2019 and 2023. The negative ROI in 2019 is due to the sharp increase in total operating costs of 48%, while in 2023 it is due to the increase in crew wages by almost two and a half times. However, between 2020 and 2022, the ROI indicator was positive, indicating the potential for profitability and efficiency of the investment.

From 2022, the fleet segment VL0010 is split into two segments (forming after that segments VL0008, VL0812), which should be analysed separately. In 2023, the ROI indicator for segments VL008 and VL0812 increases by 9% and 5% respectively compared to 2022. The ROI indicator is positive for both segments, indicating that they are cost-effective in the long term.

In general, the ROI is positive in the period analysed in 2019-2023 and shows an increase for segments VL2440 and VL0010 (VL0008 and VL0812 from 2022), indicating that the economic activity is cost-effective in the long term. The profitability of segment VL1218 is negative in 2023, directly affected by excessive crew wages, while the return on investment shows an increasing trend in this segment from 2019 to 2022.

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

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

Break-even revenue (BER) is the revenue required to cover both fixed and variable costs so that no losses are incurred, and no profits are made. Current revenue (CR) is the total operating revenue of the fleet segment, consisting of income from landings and non-fishing income. Data on subsidies are excluded from the calculation. In addition, income and expenses from the fishing rights have a value of 0, as there is no market for fishing rights in Latvia. The opportunity cost of capital is included in the calculation.

As defined in the guidelines, the ratio of current fleet revenue to break-even revenue shows how close a fleet's current revenue is to the revenue required for the fleet to break even in the short term. If the ratio is greater than 1, sufficient revenue is being generated to cover variable, fixed and capital costs, indicating that the segment is profitable and may be undercapitalised. Conversely, if the ratio is less than 1, there is insufficient income to cover variable, fixed and capital costs, indicating that the segment is unprofitable and may be overcapitalised. If the CR/BER result is negative, it means that variable costs alone exceed current revenues, indicating that the more revenues generated, the greater the losses. The ratio of current revenue to 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 7 and Annex V.

Table 7. Ratio of Current revenue to Break-even revenue (CR/BER)

| Fleet Segments | 2019 | 2020 | 2021 | 2022 | 2023 |
|-----------------------|-------------|-------------|-------------|-------------|-------------|
| VL0008 PGP | -0.24 | 2.08 | 0.85 | 0.66 | 0.41 |
| VL0812 PGP | | | | 3.65 | 2.2 |

| | | | | | |
|------------------|-------|------|------|------|------|
| VL1218 TM | -0.04 | 4.90 | 2.77 | 5.26 | 0.21 |
| VL2440 TM | 1.56 | 1.89 | 1.33 | 2.03 | 3.26 |

Application and interpretation

The profitability of the Latvian fleet segments decreases in 2023, except for the VL2440 segment, whose profitability increases by 61% in the short term. The CR/BER for the VL0008 and VL1218 segments is less than 1, indicating that the business does not generate sufficient revenues to cover costs (variable, fixed, and capital costs), is unprofitable and may be overcapitalised.

The detailed CR/BER calculations are presented in the 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 |
| 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 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2024 | 1 | 165 | 27 | 11.1 | 8.7 | 9.8 |

Values for trawlers VL2440

| Year | Inactive vessels | | | % of total | | |
|-------------|------------------|------|------|---------------|------|------|
| | No of vessels | kW | GT | No of vessels | kW | GT |
| 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 |
| 2021 | 9 | 1984 | 929 | 29 | 5.2 | 4.3 |
| 2022 | 5 | 1249 | 481 | 16.1 | 10.9 | 11.4 |
| 2023 | 7 | 1690 | 718 | 21.2 | 14.8 | 15.4 |
| 2024 | 7 | 1690 | 718 | 25.9 | 16.2 | 17.2 |

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 |
| 2021 | 192 | 2.2 | 47 | 109 | 222 | 488 | 0.21 | 0.22 |
| 2022 | 153 | 2.03 | 35 | 78 | 142 | 310 | 0.23 | 0.25 |

Values for boats VL0008 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 |
| 2022 | 116 | 0.9 | 36 | 34 | 140 | 129 | 0.25 | 0.26 |
| 2023 | 125 | 0.9 | 41 | 38 | 156 | 142 | 0.26 | 0.27 |
| 2024 | 138 | 0.89 | 46 | 42 | 156 | 139 | 0.29 | 0.30 |

Values for boats VL0812 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 |
| 2022 | 37 | 5.5 | 34 | 214 | 81 | 445 | 0.42 | 0.48 |
| 2023 | 39 | 5.7 | 42 | 535 | 95 | 575 | 0.45 | 0.93 |
| 2024 | 43 | 5.6 | 46 | 576 | 107 | 618 | 0.43 | 0.93 |

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 |
| 2021 | 9 | 204 | 168 | 34236 | 180 | 36720 | 0.93 | 0.93 |
| 2022 | 9 | 204 | 187 | 38211 | 187 | 38042 | 1 | 0.99 |
| 2023 | 9 | 204 | 174 | 35946 | 174 | 36015 | 0.99 | 0.99 |
| 2024 | 9 | 210 | 124 | 26204 | 124 | 26274 | 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 |
| 2021 | 29 | 368 | 100 | 37861 | 152 | 55973 | 0.66 | 0.68 |
| 2022 | 26 | 373 | 115 | 41601 | 167 | 62110 | 0.69 | 0.67 |
| 2023 | 26 | 373 | 123 | 43957 | 150 | 52901 | 0.82 | 0.83 |
| 2024 | 27 | 387 | 95 | 33554 | 158 | 54960 | 0.6 | 0.61 |

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 2021-2023

| | | | 2021 | | | | 2022 | | | | 2023 | | | |
|-------------------------|-----------------|--------------------|-----------|---------------------------|-----------|----------------|-----------|---------------------------|-----------|----------------|-----------|---------------------------|-----------|----------------|
| 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 | 7 | 3655 | 26846 | | 0.243 | 3457 | 29413 | | 0 | 2771 | 27533 | |
| | | Fc | n/d | n/d | 0.36 | | n/d | n/d | 0.36 | | n/d | n/d | 0.36 | |
| | | Fmsy | n/d | n/d | 0.34 | | n/d | n/d | 0.34 | | n/d | n/d | 0.34 | |
| | | F/Fmsy | n/d | 1.55 | 1.05 | | n/d | 0.82 | 1.06 | | n/d | 0.85 | 1.06 | |
| | | F/Fmsy for segment | | 1.11 | | | | 1.03 | | | | 1.03 | | |
| 28.1 Gulf of Riga (GOR) | VL1218 trawlers | Catch,t | 0 | | 632 | 7708 | 0 | | 737 | 7767 | 0 | | 542 | 7469 |
| | | Fc | n/d | | 0.36 | 0.29 | n/d | | 0.36 | 0.28 | n/d | | 0.36 | 0.29 |
| | | Fmsy | n/d | | 0.34 | 0.28 | n/d | | 0.34 | 0.28 | n/d | | 0.34 | 0.28 |
| | | F/Fmsy | n/d | | 1.05 | 1.03 | n/d | | 1.06 | 1.01 | n/d | | 1.06 | 1.02 |
| | | F/Fmsy for segment | | | 1.03 | | | | 1.02 | | | | 1.02 | |
| | VL2440 trawlers | Catch,t | 0 | | 1609 | 12603 | 0 | | 1203 | 15051 | 0 | | 740 | 18373 |
| | | Fc | n/d | | 0.36 | 0.29 | n/d | | 0.36 | 0.28 | n/d | | 0.36 | 0.29 |
| | | Fmsy | n/d | | 0.34 | 0.28 | n/d | | 0.34 | 0.28 | n/d | | 0.34 | 0.28 |
| | | F/Fmsy | n/d | | 1.05 | 1.03 | n/d | | 1.06 | 1.01 | n/d | | 1.06 | 1.02 |
| | | F/Fmsy for segment | | | 1.03 | | | | 1.02 | | | | 1.02 | |

Annex IV. ROI calculation

| Year | Values for calendar year (€000) | VL0010PGP | VL0008PGP | VL0812PGP | VL1218TM | VL2440TM |
|-------------|--|------------------|------------------|------------------|-----------------|-----------------|
| 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 = (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 |
| | | | | | | |
| 2020 | Income from landings + other income | 2 608 197 | | | 2 953 103 | 16 237 019 |
| | Low risk long term interest rate % | 0.50 | | | 0.50 | 0.50 |
| | Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs | 1 190 815 | | | 1 877 296 | 10 481 597 |
| | Capital costs (depreciation + interest payments) | 160 507 | | | 32 100 | 277 761 |
| | Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation) | 1 256 876 | | | 1 043 707 | 5 477 662 |
| | Fleet capital asset value (vessel replacement value + estimated value of fishing rights) | 1 003 297 | | | 259 541 | 2 193 438 |
| | ROI = Net profit / capital asset value % | 125.27 | | | 402.14 | 249.73 |
| | ROI – risk-free long-term interest rate % | 124.77 | | | 401.64 | 249.23 |

| Year | Values for calendar year (€000) | VL0010PGP | VL0008PGP | VL0812PGP | VL1218TM | VL2440TM |
|------|--|--------------|--------------|---------------|---------------|---------------|
| 2021 | Income from landings + other income | 1 535 204 | | | 2 830 208 | 14 284 192 |
| | Low risk long term interest rate % | 0.86 | | | 0.86 | 0.86 |
| | Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs | 211 321 | | | 2 025 241 | 10 598 369 |
| | Capital costs (depreciation + interest payments) | 194 877 | | | 32 100 | 245 011 |
| | Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation) | 1 129 005 | | | 772 867 | 3 440 812 |
| | Fleet capital asset value (vessel replacement value + estimated value of fishing rights) | 1 576 033 | | | 259 541 | 1 957 751 |
| | ROI = Net profit / capital asset value % | 71.64 | | | 297.78 | 175.75 |
| | ROI – risk-free long-term interest rate % | 70.78 | | | 296.92 | 174.89 |
| | | | | | | |
| 2022 | Income from landings + other income | | 682 935 | 489 940 | 3 118 027 | 17 449 172 |
| | Low risk long term interest rate % | | 0.69 | 0.69 | 0.69 | 0.69 |
| | Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs | | 82 993 | 165 788 | 2 095 078 | 10 544 719 |
| | Capital costs (depreciation + interest payments) | | 142 748 | 13 618 | 30 294 | 307 619 |
| | Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation) | | 457 194 | 310 533 | 992 655 | 6 596 833 |
| | Fleet capital asset value (vessel replacement value + estimated value of fishing rights) | | 1 119 479 | 106 950 | 221 993 | 2 412 841 |
| | ROI = Net profit / capital asset value % | | 40.84 | 290.35 | 447.16 | 273.41 |
| | ROI – risk-free long-term interest rate % | | 40.15 | 289.66 | 446.47 | 272.72 |

| Year | Values for calendar year (€000) | VL0010PGP | VL0008PGP | VL0812PGP | VL1218TM | VL2440TM |
|------|--|-----------|--------------|---------------|----------------|---------------|
| 2023 | Income from landings + other income | | 758,401 | 561,975 | 3,304,167 | 20,667,657 |
| | Low risk long term interest rate % | | 1.28 | 1.28 | 1.28 | 1.28 |
| | Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs | | 79,416 | 84,393 | 3,688,923 | 9,382,748 |
| | Capital costs (depreciation + interest payments) | | 151,109 | 19,233 | 27,510 | 298,409 |
| | Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation) | | 527,877 | 458,349 | -412,266 | 10,986,500 |
| | Fleet capital asset value (vessel replacement value + estimated value of fishing rights) | | 1,180,010 | 150,272 | 212,981 | 2,365,970 |
| | ROI = Net profit / capital asset value % | | 44.73 | 305.01 | -193.57 | 464.36 |
| | ROI – risk-free long-term interest rate % | | 43.46 | 303.74 | -194.85 | 463.08 |

* Net profit (economic) calculated by PIM.

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 | VL0008PGP | VL0812PGP | VL1218TM | VL2440TM |
|------|-----|--|--------------|-----------|-----------|--------------|-------------|
| 2019 | 1 | Current revenue (CR) = Income from landings + other income | 1 173 466 | | | 3 809 379 | 14 546 283 |
| | 2 | Fixed costs = Non variable costs + depreciation +opportunity of capital | 1 119 196 | | | 1 424 715 | 4 934 508 |
| | 3 | Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs | 1 436 822 | | | 3 867 224 | 6 850 378 |
| | 4 | BER = $2 / (1 - [3 / 1])$ | -4 986 926 | | | -93 825 359 | 9 326 875 |
| | 5 | CR / BER = 1 / 4 | -0.24 | | | -0.04 | 1.56 |
| 2020 | 1 | Current revenue (CR) = Income from landings + other income | 2 608 197 | | | 2 953 103 | 16 237 019 |
| | 2 | Fixed costs = Non variable costs + depreciation +opportunity of capital | 700 721 | | | 234 198 | 4 944 136 |
| | 3 | Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs | 1 152 249 | | | 1 804 968 | 6 911 940 |
| | 4 | BER = $2 / (1 - [3 / 1])$ | 1 255 278 | | | 602 378 | 8 608 832 |
| | 5 | CR / BER = 1 / 4 | 2.08 | | | 4.90 | 1.89 |
| 2021 | 1 | Current revenue (CR) = Income from landings + other income | 1 535 204 | | | 2 830 208 | 14 284 192 |
| | 2 | Fixed costs = Non variable costs + depreciation +opportunity of capital | 1 554 737 | | | 311 000 | 5 294 362 |
| | 3 | Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs | 206 849 | | | 1 969 546 | 7 232 684 |
| | 4 | BER = $2 / (1 - [3 / 1])$ | 1 796 838 | | | 1 022 696 | 10 724 754 |
| | 5 | CR / BER = 1 / 4 | 0.85 | | | 2.77 | 1.33 |

| | | | | | | | |
|------|---|--|--|-------------|-------------|-------------|-------------|
| 2022 | 1 | Current revenue (CR) = Income from landings + other income | | 682 935 | 489 940 | 3 118 027 | 17 449 172 |
| | 2 | Fixed costs = Non variable costs + depreciation + opportunity of capital | | 143 345 | 17 026 | 44 023 | 3 198 309 |
| | 3 | Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs | | 82 397 | 163 837 | 2 081 350 | 7 718 998 |
| | 4 | BER = $2 / (1 - [3 / 1])$ | | 163 012 | 25 579 | 132 408 | 5 735 545 |
| | 5 | CR / BER = 1 / 4 | | 0.66 | 3.65 | 5.26 | 2.03 |
| | | | | | | | |
| 2023 | 1 | Current revenue (CR) = Income from landings + other income | | 758401 | 561975 | 3304167 | 20667657 |
| | 2 | Fixed costs = Non variable costs + depreciation + opportunity of capital | | 1656822 | 222450 | 865918 | 3527311 |
| | 3 | Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs | | 79002 | 72873 | 3122207 | 9172035 |
| | 4 | BER = $2 / (1 - [3 / 1])$ | | 1849481 | 255593 | 15724033 | 6341654 |
| | 5 | CR / BER = 1 / 4 | | 0.41 | 2.20 | 0.21 | 3.26 |

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

| VL1218TM | | | | | | | | |
|-------------|---|--------------------|---|---|---|---|--|------|
| Indicator | Definition | ICES area | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| ECONOMIC1 | ROI | Area 27 SD 28.1 | negative ROI over-capitalization | positive ROI under-capitalization | positive ROI under-capitalization | positive ROI under-capitalization | negative ROI over-capitalization | *NA |
| ECONOMIC2 | CR/BER | Area 27 SD 28.1 | -0.04<0<1 economically unprofitable with potential over-capitalization | 1<4.90 economically profitable with potential under capitalization | 1<2.77 economically profitable with potential under capitalization | 1<5.26 economically profitable with potential under capitalization | 0<0.21<1 current revenue covers the current costs | *NA |
| TECHNICAL1 | IFI - Proportion of inactive vessels | Area 27 SD 28.1 | 0 | 0 | 0 | 0 | 0 | 11.1 |
| TECHNICAL2 | VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days) | Area 27 SD 28.1 | 0.92 | 0.99 | 0.93 | 0.99 | 0.99 | 0.99 |
| BIOLOGICAL1 | SHI - Ratio between F estimated and F target (MSY) | Area 27 SD 28.1 | 0.95 | 0.77 | 1.11 | 1.02 | 1.02 | **NA |
| BIOLOGICAL2 | SARI - Stock-at-risk | Area 27 SD 28.1 | Not calculated | | | | | |

*NA – not applicable. The economic data for 2024 will be available in November-December of 2025.

**NA – not applicable. In the latest ICES advice information about Fc and Fmsy is provided for 2023.

| VL2440TM | | | | | | | | |
|-------------|---|---------------------|---|---|---|---|---|-------------|
| Indicator | Definition | Area | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| ECONOMIC1 | ROI | Area 27 SD 22-32 | 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 22-32 | 1<1.56 economically profitable with potential under capitalization | 1<1.89 economically profitable with potential under capitalization | 1<1.33 economically profitable with potential under capitalization | 1<2.03 economically profitable with potential under capitalization | 1<3.26 economically profitable with potential under capitalization | *NA |
| TECHNICAL1 | IFI - Proportion of inactive vessels | Area 27 SD 22-32 | 13.9 | 20 | 29 | 16.1 | 21.2 | 25.9 |
| TECHNICAL2 | VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, kW*days) | Area 27 SD 22-32 | 0.66 (<0.7) | 0.67 (<0.7) | 0.68 (<0.7) | 0.67 (<0.7) | 0.83 | 0.61 (<0.7) |
| BIOLOGICAL1 | SHI - Ratio between F estimated and F target (MSY) | Area 27 SD 22-32 | 1.49 | 1.21 | 1.11 | 1.03 | 1.03 | **NA |
| | | Area 27 SD 28.1 | 1.01 | 0.77 | 1.03 | 1.02 | 1.02 | **NA |
| BIOLOGICAL2 | SARI - Stock-at-risk | Area 27 SD 22-32 | Not calculated | | | | | |

*NA – not applicable. The economic data for 2024 will be available in November-December of 2025.

**NA – not applicable. In the latest ICES advice information about Fc and Fmsy is provided for 2023.

| VL0010PGP | | | | | | | | |
|-------------|---|-------------------------|--|--|---|---|--|-------------|
| Indicator | Definition | Area | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| ECONOMIC1 | ROI | Area 27 SD 26, 28 | negative ROI over-capitalization | positive ROI under-capitalization | negative ROI over-capitalization | positive ROI under-capitalization | positive ROI under-capitalization | *NA |
| ECONOMIC2 | CR/BER | Area 27 SD 26, 28 | 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 | 1<2.08 economically profitable with potential under-capitalization | 0<0.85<1 current revenue covers the current costs | *NA |
| TECHNICAL1 | IFI - Proportion of inactive vessels | Area 27 SD 26, 28 | Not calculated | | | | | |
| TECHNICAL2 | VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, GT*days) | Area 27 SD 26, 28 | 0.27 (<0.7) | 0.28 (<0.7) | 0.27 (<0.7) | 0.22 (<0.7) | 0.22 (<0.7) | 0.25 (<0.7) |
| BIOLOGICAL1 | SHI - Ratio between F estimated and F target (MSY) | Area 27 SD 26, 28 | Not calculated | | | | | |
| BIOLOGICAL2 | SARI - Stock-at-risk | Area 27 SD 26, 28 | Not calculated | | | | | |

*NA – not applicable. The collection of economic data from vessels less than 12 metres in length has been modified and split into two segments from 2022.

| VL0008PGP | | | | | |
|-------------|---|-------------------------|---|---|-------------|
| Indicator | Definition | Area | 2022 | 2023 | 2024 |
| ECONOMIC1 | ROI | Area 27 SD 26, 28 | positive ROI under-capitalization | positive ROI under-capitalization | *NA |
| ECONOMIC2 | CR/BER | Area 27 SD 26, 28 | 0<0.66<1 economically profitable with potential under capitalization | 0<0.41<1 economically profitable with potential under capitalization | *NA |
| TECHNICAL1 | IFI - Proportion of inactive vessels | Area 27 SD 26, 28 | Not calculated | | |
| TECHNICAL2 | VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, GT*days) | Area 27 SD 26, 28 | 0.26 (<0.7) | 0.27 (<0.7) | 0.30 (<0.7) |
| BIOLOGICAL1 | SHI - Ratio between F estimated and F target (MSY) | Area 27 SD 26, 28 | Not calculated | | |
| BIOLOGICAL2 | SARI - Stock-at-risk | Area 27 SD 26, 28 | Not calculated | | |

*NA – not applicable. The economic data for 2024 will be available in November-December of 2025.

| VL0812PGP | | | | | |
|-------------|---|-------------------------|---|---|------|
| Indicator | Definition | Area | 2022 | 2023 | 2024 |
| ECONOMIC1 | ROI | Area 27 SD 26, 28 | positive ROI under-capitalization | positive ROI under-capitalization | *NA |
| ECONOMIC2 | CR/BER | Area 27 SD 26, 28 | 1<3.65 economically profitable with potential under capitalization | 1<2.20 economically profitable with potential under capitalization | *NA |
| TECHNICAL1 | IFI - Proportion of inactive vessels | Area 27 SD 26, 28 | Not calculated | | |
| TECHNICAL2 | VUI-Vessel utilisation (Ratio between average and maximum effort per vessel, GT*days) | Area 27 SD 26, 28 | 0.48 (<0.7) | 0.93 | 0.93 |
| BIOLOGICAL1 | SHI - Ratio between F estimated and F target (MSY) | Area 27 SD 26, 28 | Not calculated | | |
| BIOLOGICAL2 | SARI - Stock-at-risk | Area 27 SD 26, 28 | Not calculated | | |

*NA – not applicable. The economic data for 2024 will be available in November-December of 2025.