The Annual Report on the Fishing Fleet of Estonia 2022

Summary on the balance between fishing opportunities and fishing capacity

The annual report evaluates the balance between fishing opportunities and fishing capacity of Estonia's fishing fleet in the year 2022. Compared to 2021, the number of vessels increased by 61 vessels in 2022. Both total main engine power and gross tonnage decreased - by 186 kW and 1397 GT. Throughout the period Estonia has followed the entry-exit scheme as foreseen under the common fisheries policy and fleet capacity is in compliance with the reference levels.

Estonian marine fishery consists of 3 national fleet segments – Baltic Sea coastal fleet (DCF vessel segments PG VL0010 and PG VL1012), Baltic Sea trawling fleet (TM VL1218, TM VL1824, TM VL2440) and high seas fishing fleet (VL40XX).

For the calculation of the balance indicators the Guidelines of the 02.09.2014 document COM (2014) 545 final are used. The calculation of indicators is based on the latest data available on STECF JRC web-page, report STECF 22-15 - Balance capacity - indicator table.xlsx and on Data Collection Framework. For the evaluation, altogether 6 indicators have been calculated – SHI, SAR, ROI, CR/BR, inactive fleet indicator and vessel utilisation indicator. As data availability varies by indicators, then the viewed time period differs also. For example, for biological indicators a time period 2017-2021 is used as there is no newer data in the STECF report 22-15 available. For economic indicators a time period 2017-2021 is used as 2022 data is not yet available nationally. For vessel use indicators, the years 2018-2022 are viewed.

Due to the lack of data in STECF report 22-15, SAR is present only for PG VL0010 and TM VL2440. SHI is present only for the Baltic Sea fleet segments and not for fleet segment VL40XX. The economic indicators for fleet segment VL40XX will be sent with a separate report due to the confidentiality restrictions (low number of vessels in segment). Lack of data for most recent years and for some fleet segments in STECF report 22-15 causes some difficulties in compiling a comprehensive analysis of the balance between fleets' fishing possibilities and fishing capacity.

Balance indicators

Fleet segments PG VL0010 and PG VL1012. Fleet segments PG VL0010 and PG VL1012 form one Estonian Baltic Sea costal fleet. In Estonia, Baltic Sea costal fleet segment is mixed fishery that catches EU regulated and non-regulated species and is dependent on very different stocks. Although Baltic herring makes large proportion of the segments' catches, the dependence on EU-level regulated species is the smallest in the fleet segments as it targets many different high-valued species which are essential in the social dimension of the CFP in terms of maintaining an adequate standard of living for local communities. Other important circumstances like catching with passive gear and high seasonality - an integral dimension of fishing activities - should also be taken into account. Due to that, various issues arise in this regard as the methodology is not entirely applicable to our circumstances in connection to Baltic Sea costal fleet.

In fleet segment PG VL0010, SHI and SAR were above 1 in years 2017-2021. In fleet segment PG VL1012, SHI was below 1 in years 2017-2021 and SAR below 1 in years 2017-

2018. SAR data was taken from the STECF report 22-15, where regrettably SAR information is questionable for VL0010. The methodology for the Stocks-at-risk (SAR) indicator should give an indication whether a fleet or a fleet segment catches stocks that are considered to be at risk, but it should be emphasised that according to Guidelines, only stocks at risk that make up for more than 10% of the segment's landed quantities, or from which the segment takes more than 10%, are taken into account in the assessment. That leads to the situation where the adequate situation of the fleet is hindered due to the generalized methodological aspiration that doesn`t fit to the small-scale coastal fleet assessment which targets different species. As fleet segment PG VL0010 is mixed fishery, it targets various high-valued species as well and the main stocks on which fleet segment PG VL0010 is reliant on, are European perch, Pike-perch, European smelt and Baltic herring. European perch, Pike-perch and European smelt are not regulated on an EU-level, while Baltic herring is regulated on EU-level. The most valuable species were European perch and European smelt in fleet segment PG VL0010 in 2022. While Baltic herring catches made large proportion of segment VL1012 catches, then HER 3D-R30 catches made only around 7% of all catches in the segment VL1012 in 2022. Gulf of Riga herring, which makes most of VL1012 catches, has been evaluated by ICES as being fished below F_{msy} in the last years. Segment VL0010 practices mixed fishery and SAR may be influenced by Subdivision 32 (Gulf of Finland) Atlantic salmon Estonia's quota. Catches of Atlantic salmon are purely received as by-catch in mixed fishery. Once again, it is important to emphasize that Baltic Sea costal fishing fleet is mixed fishery that catches many different stocks that are not regulated on EU level and that should be taken into account while calculating SAR.

During 2017-2021, ROI has fluctuated in both segments (VL0010 and VL1012). While ROI was well above low risk long term interest rate in 2017 for both segments VL0010 and VL1012, then since 2018 the same indicator has been negative for VL0010. For VL1012 ROI turned negative in 2018, but turned back positive in 2019 and has stayed so since. Thus the situation has been fluctuating in these segments in five-year span, showing also some remarkable improvements. So it is too early to conclude that these segments are economically not viable. The same applies also for CR/BER, where year 2017 have shown decent results and lower results for segment VL0010 for period 2018-2021. For VL1012, despite a slight slump in 2018, the indicator is quite positive.

Vessel use indicator has been very low throughout the reference period (2018-2022) - below 0.3 in VL1012 and below 0.1 in VL0010 – and decreased further in 2022. VUI strongly corresponds to seasonality, vessel use on target species, fishing methods and so on. In our circumstances for the reasons of high seasonality, diversification of economic activities and the dependence of vessel use on target species, the calculation of vessel use indicator has little value in coastal fishery with passive gears. Due to decreasing fishing quotas in Baltic Sea, vessel use indicator has decreased even more. So once again, methodological generalisations do not allow a substantive assessment.

Fleet segments TM VL1218, TM VL1824, TM VL2440. SHI was above 1 in 2017-2021 in all segments. All Baltic Sea trawling vessels depend on Baltic herring and sprat stocks and thus the state of these stocks affects these fleet segments directly. In recent years, ROI has been above 1 and well above average low risk long term interest rate. CR/BER has been above 1 since 2015, thus also for the period 2017-2021. These segments are considered to be economically viable, both in short-term and long-term. Also, the overall trend is stable according to the STECF report 22-15. For vessel use indicator, fleet segments TM VL1824, TM VL2440 have been rather stable, with low number of inactive vessels. Fleet segment TM VL1824 has had vessel use indicator above 0.7 for the whole period of 2018-2022. Fleet segment TM VL2440 has had vessel use indicator above 0.7 in 2018-2020, but VUI decreased

in 2021 to 0.6 and increased 0,68 in 2022. Fleet segment TM VL1218 has had number of inactive vessels in 2017-2021 but from 2022 there are no vessels in this segment.

Fleet segment VL40XX. There is no data available on SAR and SHI in STECF report 22-15. Considering that the share of catches of Northern prawn in the Barents sea has been around 66% of all distant fleet catches, and the state of the Northern prawn stock in the Barents Sea is good according to the ICES, then large share of the fishery can be considered to be sustainable in terms of biological indicators. Groundfish fishery taking place in the NAFO RA is more dependent on fish stocks, which need more attention to stay in balance. Fleet segment VL40XX has the highest and most homogenous vessel use of all Estonia's fleet segments. The results of economic indicators are presented in a separate report.

Conclusions

Based on the calculations and analysis of the balance indicators presented in section F, it can be stated that in general all fleet segments are structurally balanced. The evaluation of balance indicators shows that an overall assessment of the situation in Estonia's fleet is rather positive – the structural balance has been achieved and there is some room left for adapting with the changes in stocks. Negative values for single years or for single indicators should not be overemphasized as they may not accurately reflect general trends in fleet segments. Baltic herring (HER 3D-R30) and sprat stocks are highly fished and efforts are made at the EU level to achieve sustainable state of both stocks. TACs for HER 3D-R30 and sprat significantly decreased in 2022 but has slightly increased for 2023. As ITQ system is in use in Estonian Baltic Sea trawling fishery, then vessel operators make themselves necessary changes in the fleet and vessels' usage rate, according to economic and profitability factors. But there must remain flexibility for the sector if the state of sprat and herring stocks should improve.

As Estonia's Baltic Sea trawling fleet is rather old (average age is 32 years), then the sector urges for fleet renewal. More economical and modern vessels that use for example different type of fuel, would have positive impact on indicators due to the economic self-regulation in circumstances of ITQ.

In analysing balance indicators, it is important to also refer to the statement by the Expert group in Expert Working Group EWG-17-08 report (in document STECF-18-14), that *the indicator values for all of the indicators being used to assess the balance between capacity and fishing opportunities merely inform on whether fleet segments should be scrutinised further to determine whether an action plan is warranted. The indicator values (either singly or in combination) cannot be considered reliable metrics to identify which fleet segments require an action plan.*

All Baltic Sea stocks analysed in the assessment are subject to quota management and the Estonian fisheries management is based on ITQ-s and ITE-s which are effective tools for vessel owners for keeping capacity in structural balance with their fishing opportunities. Ministry of Rural Affairs is closely monitoring the situation (stock status and vessel usage) and can take less finite measures than permanent cessation of vessels if necessary. For example, free fishing capacity can be transferred from one fleet segment to another for ensuring sustainable use of fish resources according to the national Fishing Act. Due to above mentioned reasons the assessment demonstrates that the fishing capacity in Estonian fishing fleet is structurally balanced with fishing opportunities and does not identify structural overcapacity. Therefore, there is no need for action plan for Estonia.

Section A

Description of fleets

On EU level, all Estonian marine fishing vessels belong into the MFL segment. On national level, the Regulation of the Minister of Rural Affairs No 79 of 28.11.2017 determines the criteria for grouping fishing vessels into national fleet segments based on overall length (LOA), fishing gear, main target species and fishing grounds. The national segments for marine fishing vessels are: the Baltic Sea trawling segment (4S1), high seas fishery segment (4S3) and coastal fishing segment (4S2). An overview of fishing vessels in the Estonian marine fishing fleet at the end of 2021, together with their main characteristics, is given in the table below.

Table 1. Estonian marine fishing fleet as of 31 December 2022 according to the Estonian fishing fleet register.

National sement	DCF Fleet Segment	No of Vessels	Kw	GT	Avaerage age	Average kw	Average GT	Average lenght (m)
4S2	PG VL0010	1920.0	18707.3	1894.2	24.0	9.7	1.0	5.3
	PG VL1012	66.0	3307.4	450.0	31.2	50.1	6.8	11.6
4S1	TM VL1218	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TM VL1824	6.0	1914.4	746.0	32.2	319.1	124.3	22.7
	TM VL2440	19.0	7754.0	3051.0	37.5	408.1	160.6	27.3
4S3	VL40XX	6.0	17966.0	10195.0	26.8	2994.3	1699.2	58.6
Total		**2017**	**49649**	**16336**				

Fleet segments PG VL0010 and PG VL1012

The Baltic Sea coastal fishing segment is divided between two distinctive fleet segments PG VL0010 and PG VL1012. These vessels are used in the Baltic Sea coastal waters up to 12 nautical miles or up to the 20-metre isobaths.

Fleet segment PG VL0010 has the largest number of vessels, 95% of the whole Estonian marine fishing fleet and their total engine power and gross tonnage make up 38% and 12% of the fleet respectively. As can be seen from the Table 2 below, total landings by vessels in fleet segment PG VL0010 are relatively small, making only 4% of the total landings of marine fisheries. These vessels are used for fishing for different species (European perch, smelt, Baltic herring, flounder, pike-perch, roach, northern pike, etc.) with various passive gears. Fishing is highly seasonal and depends on weather conditions.

Fleet segment PG VL1012 comprises of vessels used for fishing for Baltic herring in the Baltic Sea with stationary uncovered pound nets, mostly in a short spring season from April to June. The total number of vessels in fleet segment PG VL1012 is relatively small, comprising 3% of the whole fleet, and their total engine power and gross tonnage make up 7% and 3% of the fleet respectively. Quantities landed by these vessels make 9% of the total landings of marine fisheries and 24% of all Baltic herring landings.

Fleet segments TM VL1218, TM VL1824 and TM VL2440

By DCF classification, the Baltic Sea trawling segment consists of three fleet segments: TM VL1218, TM VL1824 and TM VL2440. These vessels are used for fishing sprat and Baltic herring in the Baltic Sea. Cod fishing has lost its importance as cod stocks have been in decline and fishing grounds are farther away, thus making fishing for cod not profitable already several years ago. Moreover there has been ban on directed fishery for cod in 2022. Combined, vessels of segments TM VL1218, TM VL1824 and TM VL2440 make up only 1% of the total number of vessels, but their total engine power and gross tonnage make up 20% and 23% of the fleet respectively. This fleet segment makes up to 65% of total landings from marine commercial fisheries in 2022.

Fleet segment VL40XX

Length class VL40XX comprises of distant water trawling vessels used for fishing various regulated and non-regulated species in the Atlantic Ocean. Six vessels in length class VL40XX make up to 36% of the total engine power and 62% of the total gross tonnage of the whole fleet. Total landings by these vessels were 15681.7 tonnes in 2022, which made 22% of total landings from marine commercial fisheries.

Table 2. Main fisheries and total landings in year 2022.

DCF fleet segment	National segment	Main fishing area(s)	Main target species	Main gear	Total landings (t)
PG VL0010	4S2	Baltic Sea, coastal	European perch, Baltic herring, smelt, European flounder	FYK, FPN, GNS	2961.95
PG VL1012			Baltic herring	FPN	6741.266
TM VL1218	4S1	Baltic Sea	Baltic herring, sprat	OTM, PTM	0
TM VL1824				OTM	10700.265
TM VL2440				OTM	35537.784
VL40XX	4S3	NAFO, NEAFC, SVA, GRL	Northern prawn, redfish, cod, Greenland halibut, American plaice	OTB	15681.7
Total					71622.95

Link with fisheries

Commercial fishery in Estonia is based on the system of individual transferrable quotas (ITQ) and in small scale coastal fishery individual transferrable effort (ITE), allocated to companies, i.e. fishing rights owners, based on their 3-year historical fishing rights. The share of each applicant's allocation of fishing right depends on the amount of legally acquired fishing opportunities in previous consecutive three years. Legally acquired fishing opportunities mean that the allocated fishing opportunities are paid for and a fishing authorisation has been issued. Formula based on historical fishing rights is used for allocating fishing opportunities in a situation where the applicants have applied more fishing opportunities than are available.

Baltic Sea trawling fleet catches mainly herring and sprat, which are subject to quotas agreed on EU level and allocated as individual fishing quotas to companies. In case of small scale coastal fishery an ITE system is applied, where national limits on gears in order to limit fishing effort are set based on national scientific advice, and the total number is divided between fishing rights owners. This kind of management ensures that companies themselves are keeping optimal capacity for utilization of their fishing opportunities.

It is allowed to swap given year's fishing quotas with other companies or with other countries. Since the beginning of 2018, fishing rights owner cannot swap quota, received from another Estonian company, to another Member State. This is to ensure that swapped quantities are used by the receiving company itself and not just used for further transactions with other Member States. A company has the right to waive or sell its historical fishing rights. If the fishing rights owner has not paid for its current year's allocation, the owner will not be granted a fishing authorisation and the allocated quantity is divided between other applicants. If a fishing authorisation has not been issued or catches have not been reported under the fishing authorisation for a three consecutive years, the fishing rights owner loses its historical fishing rights.

Fishing is allowed only if a relevant fishing authorisation has been issued, irrespective whether fishing for regulated or non-regulated species, vessel length or whether the vessel has been used at all. There are two types of fishing authorisations: fisherman's fishing authorisation and fishing vessel's fishing authorisation. Fishing vessel's fishing authorisation is issued for a specific fishing vessel when fishing with vessels in fleet segments 4S1 and 4S3 and that vessel must have a valid fishing licence.

Fisherman's fishing authorisation is in use in coastal fisheries for vessels below 10 m length overall, where ITE system is in use and allowed fishing effort - the type and number of fishing gears – is marked on a fishing authorisation. Fishing authorisations are issued to a fishing rights owner and authorisation is not directly linked with a specific vessel. Not all fishing is conducted with fishing vessels (for example ice-fishing in winter, fishing in shallow waters). Starting from 1 December 2017, fisherman's fishing authorisation is given for a specific vessel for vessels of fleet segment PG VL1012 using pound nets to fish for Baltic herring or demersal saine to fish for European flounder. As coastal fishing uses mostly passive gears, capacity management through vessel kW and GT is not appropriate tool for regulating effort in this kind of fisheries. Fishing effort in the fishery where passive gear is used depends on number of gear multiplied with time when gear is actually fishing. Therefore, limitation of capacity in this kind of fishery is not relevant at all and has no reasonable justification for management and protection of fish stocks. However, vessels that are used must be registered in the fishing fleet register and must have a valid fishing licence.

Estonia has fishing opportunities in the Baltic Sea, in the NAFO and NEAFC Regulatory Areas, and shrimp fishing days in the Svalbard area. In addition, Estonia's distant water

fishing vessels fish for non-regulated species in the Barents Sea and NAFO. In coastal fishery, most of the target species are non-regulated on EU-level, but regulated by national effort limitation scheme (ITE).

Baltic Sea fisheries

The evolution of Estonia's initial fishing opportunities (before swaps, as adopted with the EU TAC regulation) in the Baltic Sea in the last five years is shown below in chart 1. Subdivisions 25-27, 28.2, 29 and 32 Baltic herring TAC decreased substantially in the last 4 years (2019-2022) compared to 2018. At the same time Gulf of Riga Baltic herring quota increased in the last 4 years (2019-2022) compared to 2018. While sprat quota was increased in 2019, then decreased in 2020 and has been increasing in 2021 and 2022. There has been no improvements in cod fishing opportunities. Salmon fishing opportunities have decreased in 2022. For cod stocks recovery, no directed fishery of cod was allowed in Subdivisions 24 and 25-32 in 2022 according to the EU Baltic Sea TAC regulation (2022/109).

Chart 1. Estonia's initial fishing opportunities in the Baltic Sea in the years 2018-2022

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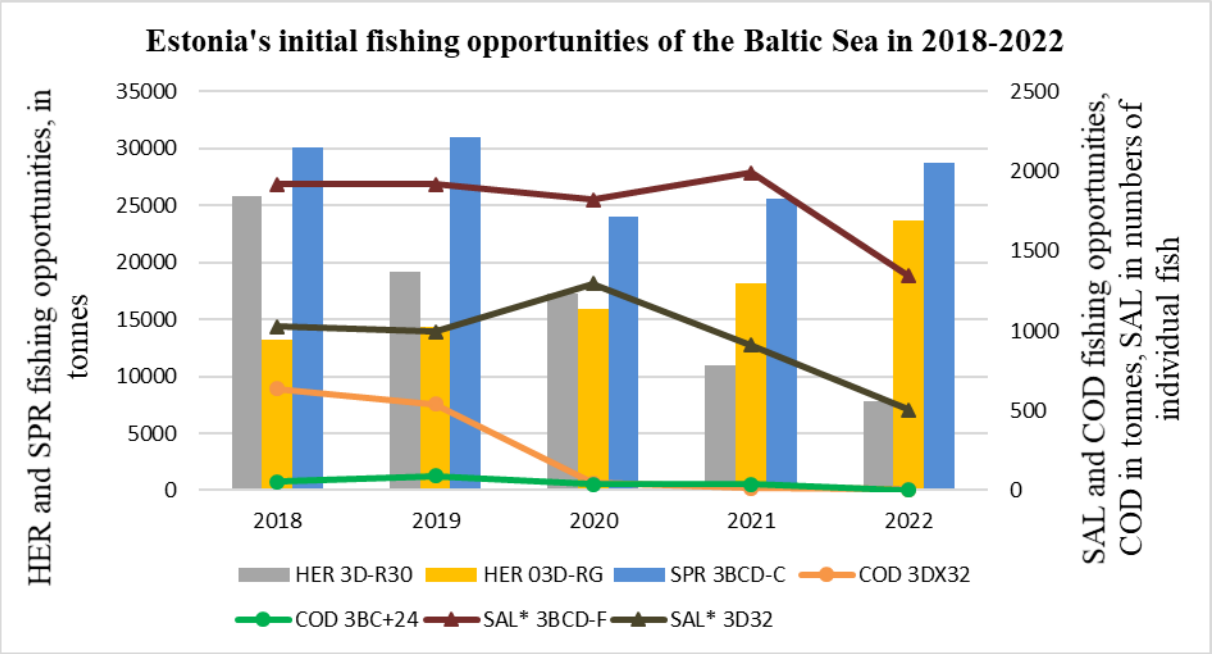


Landings of regulated species and total landings in 2022 by the Baltic Sea coastal and trawling fleets are shown in the table 3 below. Baltic herring is an important species both for the coastal and trawling fleets. In 2022, 71% of all landed quantities in the Baltic Sea coastal fleet and 40% in the Baltic Sea trawling fleet, was Baltic herring. Catches of the Atlantic salmon and cod have been marginal in all Baltic Sea fleet segments. Atlantic salmon was caught only by the coastal fleet segment PG VL0010 as a by-catch in mixed fishery. The dependence on species regulated on EU-level is the smallest in the fleet segment PG VL0010, which targets various high-valued species. Other Baltic Sea fleet segments specialize on the exploitation of the EU-level regulated species – sprat and Baltic herring.

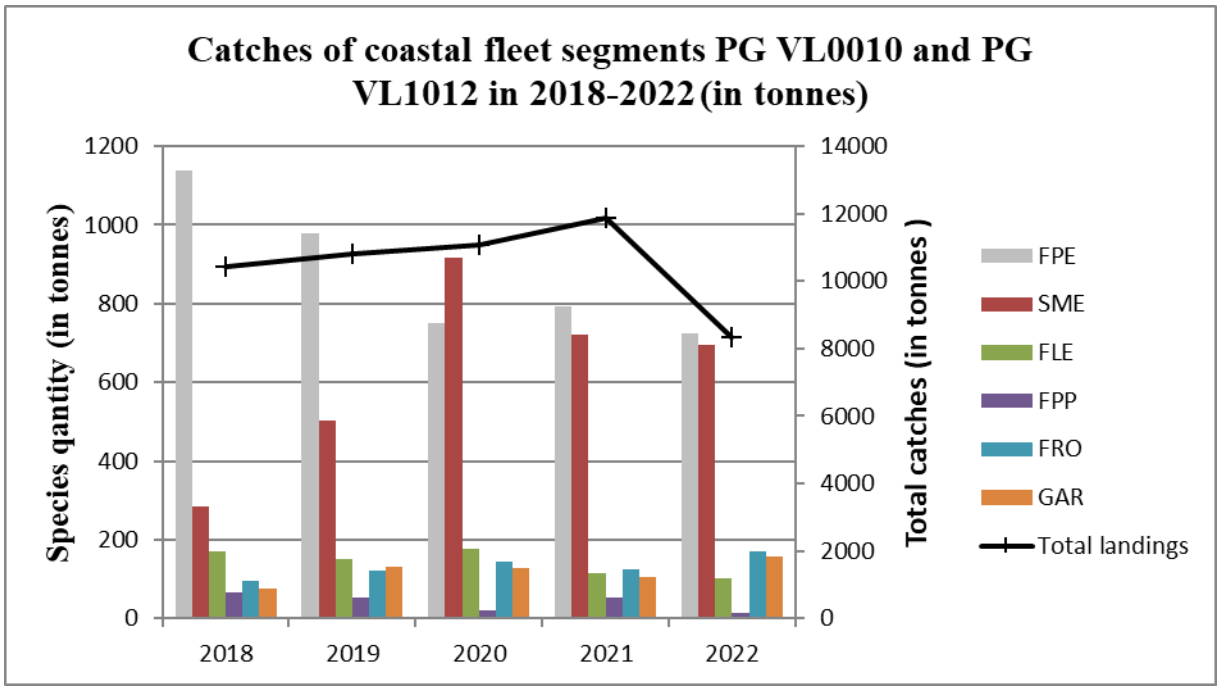
Table 3. Landings of regulated species and total landings in the Baltic Sea in 2022 (in tonnes).

DCF fleet segment 2022	COD 3DX32	COD 3BC+24	HER 3D-R30	HER 03D-RG	SAL 3BCD-F	SAL 3D32	SPR 3BCD-C	Total landings (t)
PG VL0010	1.0	0.0	465.4	196.4	0.8	5.5	0.3	2974.2
PG VL1012	0.0	0.0	438.2	5703.4	0.0	0.0	0.0	6616.7
TM VL1218	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM VL1824	0.0	0.0	1103.3	3581.8	0.0	0.0	5998.3	10700.3
TM VL2440	0.0	0.0	4495.3	9327.4	0.0	0.0	21553.2	35537.8
Total	**1.1**	**0.0**	**6502.1**	**18809.1**	**0.8**	**5.5**	**27551.8**	**55828.9**

Concerning species targeted by coastal fleet, which are not regulated at the EU-level, according to the 2020 report from the University of Tartu Estonian Marine Institute, the general recommendation, as in previous years, is not to increase fishing effort. The report includes also the recommendation to decrease fishing effort, to decrease catches of juveniles and to increase the efficiency of protecting fish during spawning season. The number and type of fishing gear allowed to use in coastal fishery in 2022 was kept mostly at the same level as in previous years.

Catches of the main species, excluding EU-level regulated stocks, and total catch by coastal fleet (PG VL0010 and PG VL1012) in 2018 - 2022 are shown in chart 2 below. The main species other than EU-level regulated stocks caught by coastal fleet are European perch, European smelt, European flounder, pike-perch, roach and garfish.

Chart 2. Catches of main non-regulated species, excluding Baltic herring, and total catch by coastal fleet (PG VL0010 and PG VL1012) in 2018– 2022.



Distant water fisheries (VL 40XX)

After several years of reductions in NAFO 3L Northern prawn quota the fishery closed finally in 2015. The moratoria of NAFO 3M Northern prawn ended in 2020, but the fishing sector has been cautious about returning to the fishery. Altogether, there hasn't been any shrimp fishing in NAFO RA by Estonian fishing vessels since 2015. Since 2022 NAFO area 3M has been under moratoria again.
Thus, fishing for non-regulated species (mostly Northern prawn in the Barents Sea), cooperation for quota swaps, charter agreements and finding new fishing techniques have become more important for Estonia's distant water fishing fleet. Also, the importance of combined fishery of Northern prawn, American plaice and cod in Barents Sea has increased over the years. NAFO RA has remained important fishing ground for various groundfish species – cod, redfish, Greenland halibut, and skates.

The proportion between Estonia's own initial fishing opportunities and total landings in 2022 is shown in the table 4 below. The biggest difference in Estonia's own fishing opportunities and actual landings is in NEAFC RA, where Estonia owns various small fishing opportunities, most of them for deep sea species. Estonia has not used these deep sea fishing opportunities since 2007 as the allocated quantities are too small to conduct targeted fishing. These fishing opportunities are exchanged for other fishing opportunities in the NAFO RA and NEAFC RA. Northern prawn constitutes the largest part of the landed quantities of the distant water fishing fleet - 71% (2894.8 t out of 15 681 t). Overall, 100% of RED 3LN, 100% of RED 3M, 100% of COD 3M, 100% of GHL 3LMNO, 0,59% of SKA 3LNO, 39,6% of WIT 3NO, 0% of SQI 3 and 4, and 0% of PRA 3M fishing days Estonia's year 2022 quotas (final quota after quota swaps with other states) in NAFO RA were exhausted.

Table 4. The comparison between total landed quantities (both regulated and non-regulated species) and the amount of Estonia's own initial fishing opportunities (excluding swaps) in distant water fleet segment in year 2022.

Fishing Area	**Estonia's initial fishing opportunities (t)**	**Total landings (t)**
NAFO	5147,113	2894,776
NAFO PRA 3M	0*	
NEAFC	2867,15	12447,32
Svalbard PRA	334*	

*fishing days

The evolution of Estonia's fishing opportunities is shown below. As can be seen from chart 3, COD 3M quota was reduced drastically due to bad stocks condition in 2021, but had a slight increase in 2022. GHL 3LMNO quota was reduced in 2022. Other quotas remained at the same level as in 2021.
In NEAFC RA, RED 51214D quota decreased to 0 in 2021 and has remained so in 2022. MAC 2CX14- quota was reduced from 152 tonnes to 137 tonnes. Also RNG 5B67- quota and BSF 56712- quotas remained the same as 2021. BLI 5B67- has decreased from 18 tonnes to 16 tonnes and GHL 2A-C46 quotas remained the same as in 2021.

Chart 3. Initial fishing opportunities allocated to Estonia in the NAFO RA in years 2018-2022.

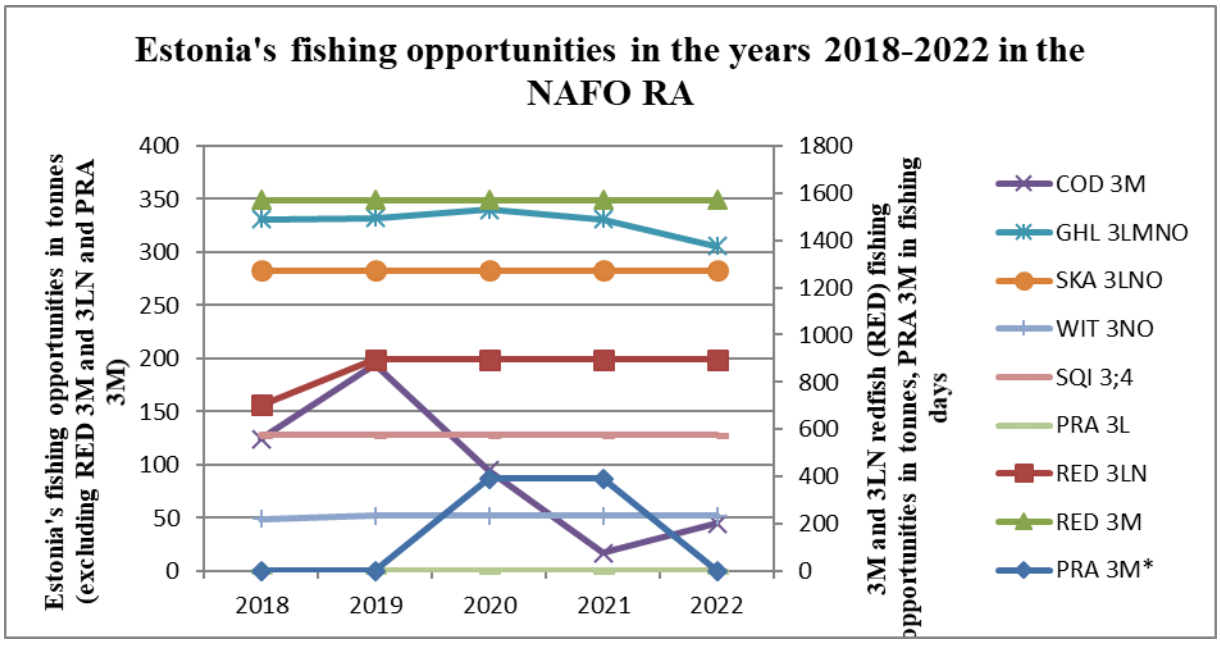
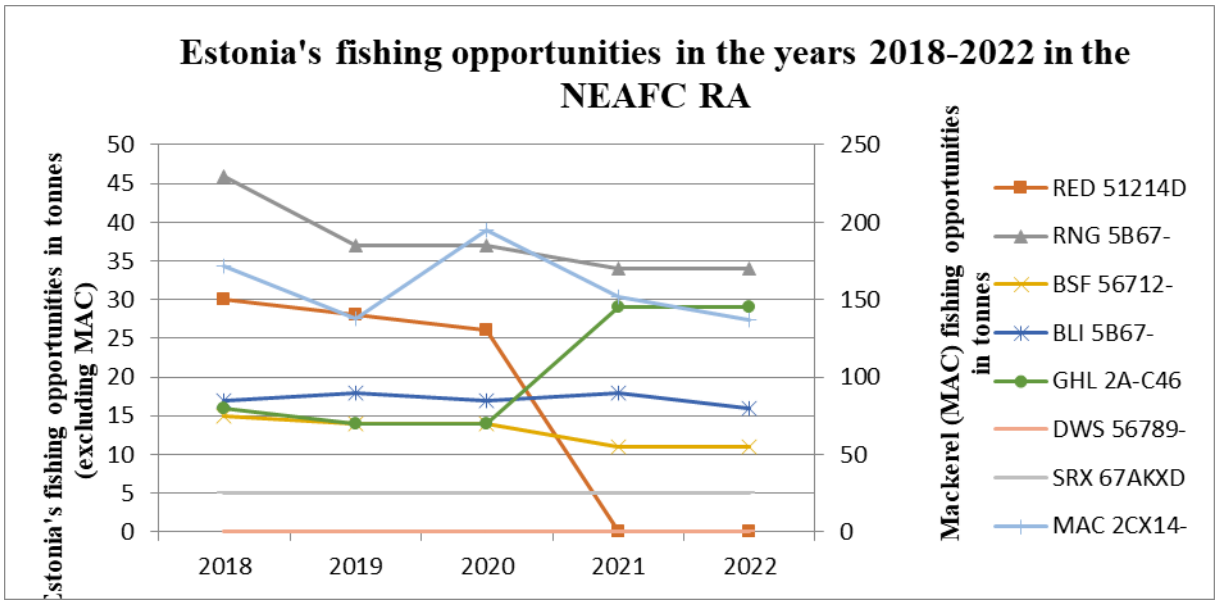


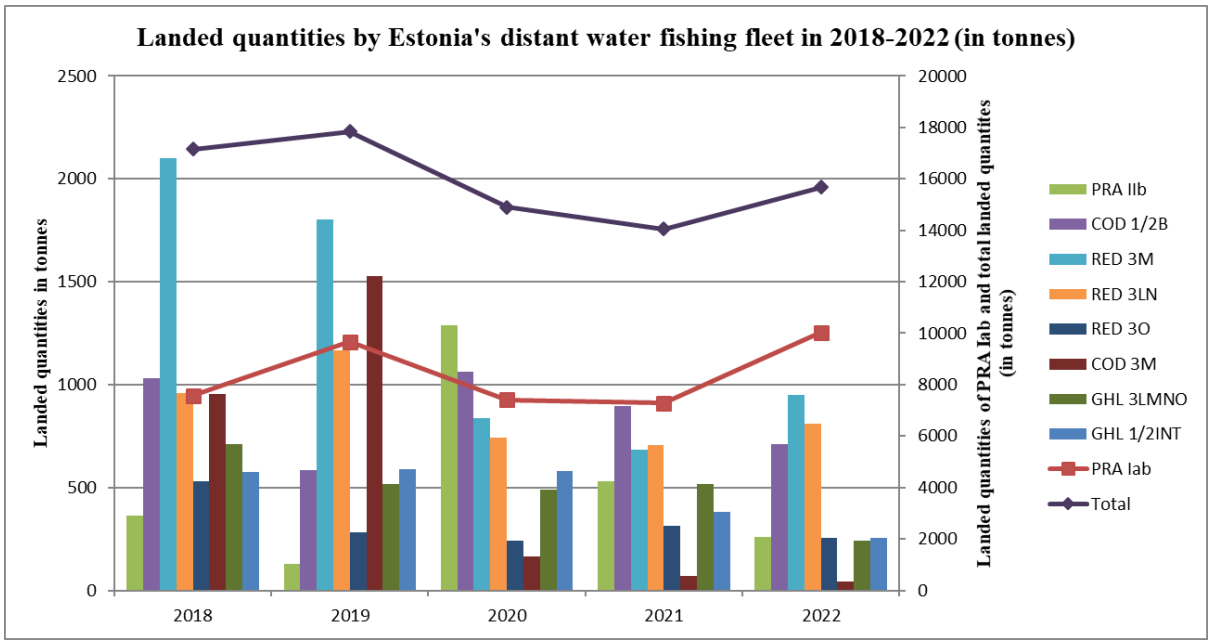
Chart 4. Initial fishing opportunities allocated to Estonia in the NEAFC RA in years 2018-2022.



Over the period of last five years (2018-2022) the main changes in recent year has been the significant increase in catches of Northern prawn in the PRA Iab. Northern prawn is the most important species in catch volume making on average 66% of all fleet segment VL 40XX catches in last year. Catches of Northern prawn in Svalbard waters decreased in 2022 compared to 2021 (from 530 tonnes to 258 tonnes). In addition, Northern prawn catches has remained the same in the East-Greenland waters in 2022 (from 996 tonnes to 1000 tonnes).

Total landed quantity in fleet segment VL 40XX increased slightly in 2022 compared to 2021, increasing from 14052 tonnes to 15682 tonnes. Landed quantities of the main species during 2018-2022 are shown below in Chart 5.

Chart 5. Landed quantities by Estonia's distant water fishing fleet (VL 40XX) in 2018-2022, in tonnes.



Developments in fleet

By the end of 2022, there were 2015 vessels in the Estonian marine fishing fleet. The total number of vessels increased compared to 2021 mostly because of entries of new vessels into length class VL0010. One vessel was removed from segment VL1218. All other segments saw a reduction of the number of vessels or the number of vessels remained the same.

The development of the fleet in last 18 years since joining the EU in May 1, 2004, together with the level of Estonia's fleet ceiling, is given below in charts 6 to 8. Although the number of vessels has increased over the period of 2004-2022, the total gross tonnage and engine power have been decreasing considerably over the last 18 years compared to 2004. Total engine power remained relatively same in 2022 as in 2021 (increasing from 49754 kW in 2021 to 49649 kW in 2022). Total gross tonnage also remained relatively same, decreasing from 17721GT to 16336 in 2022.

By length classes, the number of vessels has decreased since 2004 in all length classes except in length class VL0010. As can be seen from the charts 6 to 8 below, the most stable vessel length class over the 18-year period has been VL1012, where the number of vessels has declined, but kW and GT have stayed the stable. Sharpest decline in the number of vessels, engine power and gross tonnage have taken place in the Baltic Sea trawling fleet length class VL1218. Length class VL1824 and VL2440 have stayed stable in the recent years.

Chart 6. Developments in the number of vessels in Estonian marine fishing fleet by vessel length classes in 2004-2022.

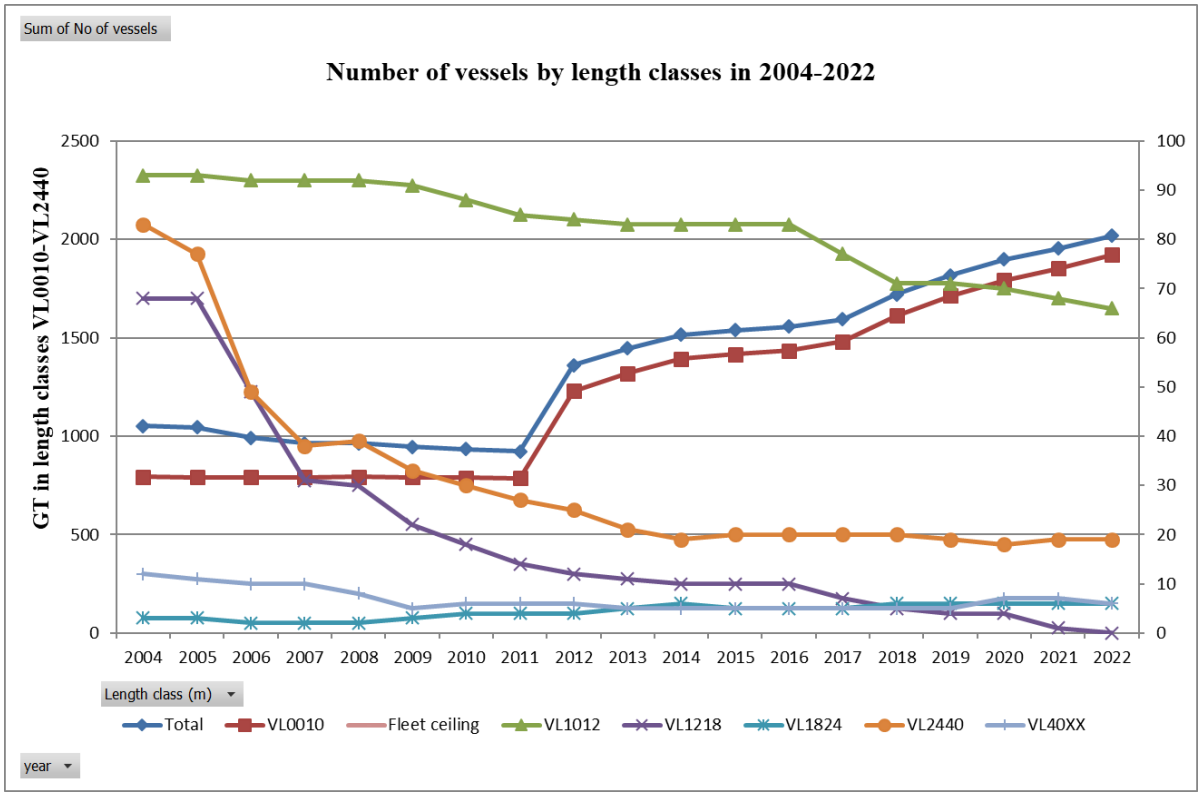


Chart 7. Developments in the main engine power of vessels in Estonian marine fishing fleet by vessel length classes in 2004-2022, together with Estonia's fleet ceiling.

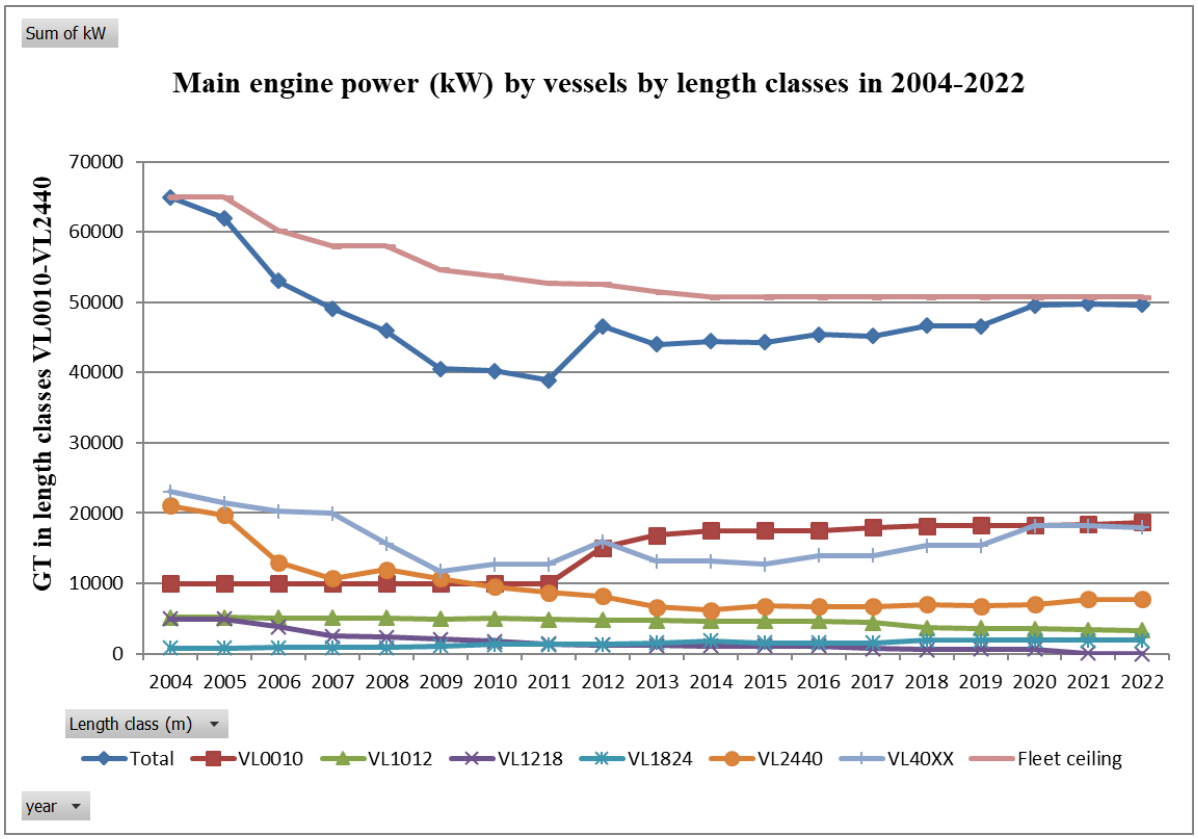
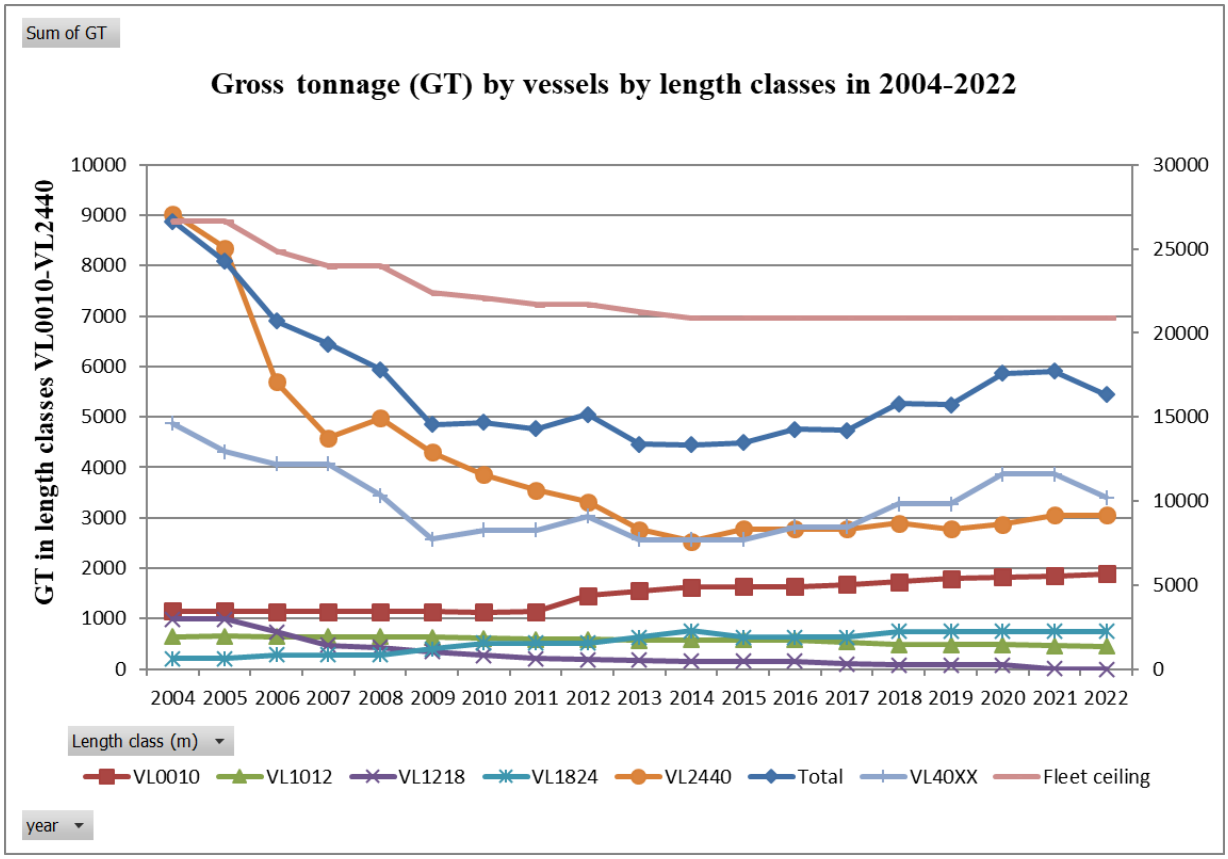


Chart 8. Developments in the gross tonnage of vessels in Estonian marine fishing fleet by vessel length classes in 2004-2022, together with Estonia's fleet ceiling.



Section B

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

Estonia adheres to numerous effort control and reduction schemes established by legal acts of national, EU or RFMO level. Different seasonal/spatial fishing restrictions are applied, as well established yearly list of vessels allowed to fish in the Gulf of Riga. Every year, temporary fishing restrictions for the effort reduction are enforced in the Baltic Sea coastal and trawl fisheries to ensure sustainable use of fishery resources. In Svalbard fishing area, the number of shrimp fishing days and the number of vessels that may fish at the same time in the area, are limited.

National fishing capacity reduction schemes have been used in earlier periods for reducing fishing capacity. Detailed information can be found in previous reports, year 2020 for example. Taking into account the long-term dynamics of the relevant fish stocks, no further decommissioning schemes are foreseen in Estonia as Estonian fleet capacity is in compliance with the reference levels.

Section C

Compliance with entry/exit scheme and with level of reference

As in previous years, in 2022, Estonia followed the entry-exit scheme as foreseen under the common fisheries policy. Every entry into the fleet register or increase in tonnage and/or engine power is compensated by the removal of at least equal quantity of capacity from the fleet. The fishing capacity of a vessel deleted from the register with public aid cannot be replaced. Since the accession to the European Union in 2004, Estonia has always been in compliance with the reference levels.

Table 5. Compliance with the entry/exit scheme and with level of reference in year 2022.

	Management of the entry/exit scheme in 2022	**GT**	**kW**
1	**Fleet ceiling on 01/01/2014 according to Annex II of the European Parliament and the Council Regulation (EU) No 1380/2013**	**21 677**	**52 566**
2	Capacity of the fleet on 01/01/2022	17 721	49 754
3	Entries of vessels of more than 100 GT financed with public aid	0	0
4	Other entries or capacity increases (not included in 3 & 5)	65	714
5	Increases in tonnage GT for reasons of safety	0	0
6	**Total entries (3 + 4 + 5)**	65	714
7	Exits financed with public aid*	0	0
8	Other exits (not included in 7)	1432	819
9	**Total exits (7+8)**	1451	819
10	Power of engines replaced with public aid		0
	conditional to power reduction		
11	**Capacity of the fleet on 31/12/2022 (2+6 - 9)**	**16336**	**49649**
12	**Fleet ceiling on 31/12/2022 ****	**21 314**	**51 850**

* All exits with public aid were finalised in 2014.
** With reference to our 15 June 2016 letter No 6.2-2/996 and 30 June 2016 letter No 3130753 from the Commission, when subtracting the capacity of 4*** vessels removed from the fleet with public aid between 17 October 2013 and 30 December 2013, **the actual fleet ceiling on 31/12/2021 was 20 890 GT and 50 747 kW**.
*** In 2020, one fishing vessel from fleet segment VL40XX, which was removed from the fleet with public aid in 2013, was re-entered into the fleet. This was done after consulting with the European Commission (Ares(2018)3941009-25/07/2018) and after the recovery of public aid with interest. Thus, also the capacity withdrawn in 2013 was reintroduced. This reintroduction was possible only because Estonia's distant water fishing fleet (VL40XX) is economically viable, existing vessels' utilisation rate is rather high and most of the targeted species are managed sustainably.

Section D

Summary of weaknesses and strengths of fleet management system and plans for improvements

The main strength of the Estonian management system is the system of transferable fishing concessions in the form of both ITQ and ITE. Allocating individual fishing opportunities to fishing operators creates an incentive for operators themselves to maintain an optimal fishing fleet to use the fishing opportunities allocated to them and to avoid excessive costs. Therefore, a fishing regime based on transferable fishing concessions creates a market-based precondition for an economically viable fishing fleet, also giving a certain stability regarding long-term investments.

The project by Estonia's Transport Administration for creating a new fully digital Vessel Information System was finished in July 2021. The project was financed under EMFF art 80 approx. 800 000 €. The system ensures the information and procedures for the audit, inspection and state supervision on the basis of the information related to vessels registered in Estonia, recreational craft and portable floating craft (hereinafter ship), ship owners' safety

and inland navigation safety, compliance with working and living conditions of crew members; electronic storage, systematisation and exchange of data on decisions and injunctions between the relevant authorities and the compilation of surveys and enables keeping records and exercising supervision over ships performing public administration functions. The interface of the system with the Estonian fishing vessel register is under construction in 2023 to endure automatic validations.

General level of compliance with fleet policy instruments

Entry/exit scheme is fully applied and the fleet ceiling set for the Estonian fishing fleet has not been exceeded.

Section E

Changes of the administrative procedures relevant to fleet management

No changes were made in 2022 in administrative procedures relevant to fleet management in Estonia.

Section F

Application of the balance indicators

For the calculation of the balance indicators the Guidelines of the 02.09.2014 document COM(2014) 545 final are used. Where appropriate, a traffic light system for visualising the results is used. Under the DCF, the data on expenditure, income and capital value for distant water fleet segment (length class VL40XX) are not included as the number of active vessels in this length class is too small. Thus, the calculations of economic indicator for the length class VL40XX is not presented in this report and is submitted separately.

For economic data, there is currently one clustered fleet segment, which is formed due to a small number of vessels. TM VL1218, TM VL1824 and TM VL2440 are clustered to form segment TM VL1840. Clustering is possible as vessels in all of these three length classes fish in the same area, for the same species and they use the same gear. In case the data is available, time-period of 5 years is used for calculating the indicators, but different clustering of economic data compared to previous years makes it more difficult to compare years between themselves.

In general, it is important to stress that vessels belonging to the same fishery (i.e. fishing in the same area, for the same species/stocks, using similar gear) should be analysed together as dividing them into smaller subsets (e.g. based on DCF fleet segments) might distort the results, especially in case where the number of vessels is very low as is the case with fleet segments TM VL1218 and TM VL1824.

Biological sustainability indicators

The calculation of biological sustainability indicators is based on the latest data available on STECF JRC web-page, report STECF 22-15 - Balance capacity - indicator table.xlsx (Version 1.3). Two indicators are given – sustainable harvest indicator – SHI, and stocks at risk indicator – SAR. From this report, SAR is available only for fleet segments PG VL0010 and TM VL2440. SHI is available for all Baltic Sea fleet segments up to year 2021.

Sustainable Harvest Indicator, SHI

According to the Guidelines, SHI > 1 may indicate that fleet segment is relying on a stock of which fishing opportunity is set above MSY if this has occurred in 3 consecutive years.

Table 6. Sustainable Harvest Indicator for each DCF fleet segment in period of 2017-2021 according to the report STECF 22-15.

DCF fleet segment	2017	2018	2019	2020	2021
PG VL0010	1,43	1,85	1,74	1,65	1,56
PG VL1012	0,77	0,69	0,86	0,81	0,77
TM VL1218	1,5	1,64	1,97	1,78	
TM VL1824	1,34	1,51	1,57	1,42	1,32
TM VL2440	1,33	1,43	1,47	1,35	1,33

As can be seen from table 6, all active Baltic Sea fleet segments have values above 1 on a period of 2017-2021 except PG VL1012. Nevertheless, there seems to be no clear trend according to the STECF report 22-15. Fleet segment PG VL0010 is based on a small-scale mixed fishery, where the dependence on EU-regulated species in directed fishery is not significant. According to the Annex III of the STECF 22-15 report, the main stocks on which fleet segment PG VL0010 is reliant on, are European perch, Pike-perch, European smelt and Baltic herring. European perch, Pike-perch and European smelt are not regulated on an EU-level, while Atlantic herring is regulated on EU-level. Based on the 2022 landing and first sales data, then by the landed quantity the three most important species were Baltic herring, European smelt and European perch. In first sales prices the most valuable species were European perch, European smelt and Baltic herring.

Fleet segment PG VL1012 depends on HER 03D-RG stock. The latest ICES advice in May 2022 states that HER 03D-RG TAC has been within the F limits set in the Regulation (EU) 2016/1139. The stock size was above MSY $B_{trigger}$ in years 2018-2020, but below MSY $B_{trigger}$ in 2022. HER 03D-RG has been evaluated as being fished under Fmsy. At the same time, catches of HER 3D-R30 made only around 7% of length class' catches.

Fleet segments TM VL1218, TM VL1824 and TM VL2440 depend mostly on two stocks – SPR 3BCD-C and HER 3D-R30 stock. According to the latest ICES advice in May 2022, for both stocks, fishing pressure has been above the Fmsy in the last years. Stock size has been above MSY $B_{trigger}$ for Sprat in all years (2017-2022), but below trigger in 2020-2022 for Baltic herring.

In the Baltic Sea, the sustainable management of stocks is foreseen with the Regulation (EU) 2016/1139 of the European Parliament and of the Council of 6 July 2016 establishing a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks, amending Council Regulation (EC) No 2187/2005 and repealing Council Regulation (EC) No 1098/2007).

According to the guidelines, in case of SHI, if more than 60 % of the value of the catch is made up of stocks for which values of F and Fmsy are unavailable the indicator is deemed to be unavailable. In such case, Member States should use available assessment information about one or more species that for reasons of historical abundance or consistency could be considered as indicators of the impact of fishing on an ecosystem.

Primary stocks harvested by vessels belonging to segment VL40XX during 2022 were Northern prawn (PRA) and Atlantic cod (COD) in the Northeast Atlantic and redfish (RED) in 3M and 3LN, Silver Hake (HKS) in 3O and Greenland halibut (GHL) in 3LMNO in the NAFO RA.

Concerning Northern prawn in the ICES Subareas I and II, the stock has always been exploited well below F_{MSY} and estimates of stock biomass have remained above MSY Btrigger according for the year 2022 advice from the ICES (Source: ICES_PRA_advice_fish_op). According to ICES 2022 advice Cod in subareas 1 and 2 (Northeast Arctic) the spawning stock is below B_{pa} and B_{lim} (Source: ICES_COD_advice_fish_op)

According to the scientific advice for NAFO stocks in 2022 (Source: https://www.nafo.int/Science/Science-Advice/Stock-advice), for RED 3M stock, the stock abundance and recruitment are declining. RED 3M TAC has remained the same over the period. For RED 3LN, a harvest control rule applies. The TAC in 2022 for RED 3LN remained the same since 2019, which was higher than in 2017-2018. Concerning GHL 3LMNO, new Management Strategy was adopted in 2017 and it will be in force from 2018-2023. GHL 3LMNO TAC decreased slightly in 2022 compared to 2021.

Stocks-at-risk indicator, SAR

The Stocks-at-risk (SAR) indicator should give an indication whether a fleet or a fleet segment catches stocks that are considered to be at risk. In that assessment, only stocks at risk that make up for more than 10% of the segment's landed quantities, or from which the segment takes more than 10%, are taken into account. SAR data was taken from the STECF report 22-15, where regrettably SAR information was available only for fleet segments VL0010 and VL2440 and which is reflected in positive result for the balance for VL2440 and more questionable situation for VL0010. The methodology for the Stocks-at-risk (SAR) indicator should give an indication whether a fleet or a fleet segment catches stocks that are considered to be at risk, but it should be emphasised that according to the Guidelines, only stocks at risk that make up for more than 10% of the segment's landed quantities, or from which the segment takes more than 10%, are taken into account in the assessment. That leads to the situation where the adequate situation of the fleet is hindered due to the generalized methodological aspiration that doesn`t fit to the small-scale coastal fleet assessment which targets different species.

Economic indicators

Economic indicators are calculated for the period of 2017-2021 and taken as basis in this report. Two indicators are calculated: return on investment (ROI) showing long-term viability of the fleet and ratio between current revenue and break-even revenue (CD/BER) showing short-term viability. For the calculation of ROI indicator, an interest rate of a low risk long term investment has been calculated based on the statistics of European Central Bank web-page, where the data of Estonia is available as of June 2020. In previous years we have used five-year arithmetic average of Lithuanian and Latvian low risk long-term investment interest rates according to the European Central Bank, as no harmonised long-term interest rate was available for Estonia. From 2020 we will rely on the existing official statistics on Estonia according to the rates of European Central Bank.

Return on investment, ROI

Table 7 shows, using a traffic light system, the values of ROI in three Baltic Sea segments. As can be seen from the table, fleet segment PG VL0010 has shown in recent years negative economic results. Segment PG VL1012 has turned positive since 2019. Although ROI value in fleet segment TM VL2440, TM VL1840 as of 2019 has been modest for the whole period under preview, it has always been positive and in recent years shows slight increasing trend.

Concerning all Baltic Sea trawling segments – TM VL1218, TM VL1824 and TM VL2440 - it is important to note that most of the fish landed by trawlers is owned by producer organisations in charge of the whole chain from catch to processing to exports, therefore their profits are generated at the export stage and not at the moment of landing and first sales.

Table 7. Values of ROI in length classes VL0010, VL1012 and VL1840 in years 2017-2021. According to the Guidelines, green values indicate that extraordinary profits are being generated, orange values indicate possible lack of long-term viability and red indicate possible economic over-capitalisation. Please note that prior to 2019, VL1824 and VL2440 were clustered together, as of 2019, vessels of length classes VL1218, VL1824 and VL2440 have been clustered together to form a segment TM VL1840. Also, since 2020, 21 months average low risk long term interest rate of Estonia is used according to existing official statistics of European Central Bank which is available since June 2020.

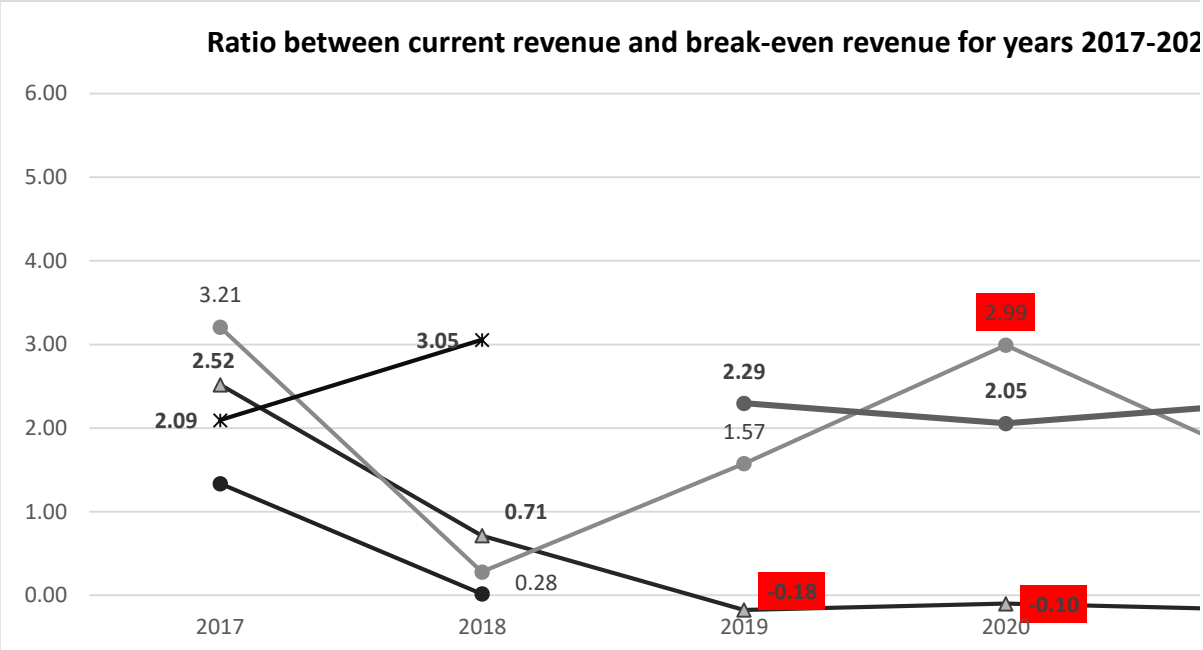
Segment	Year	2017	2018	2019	2020	2021
PG VL0010	**ROI**	8.39	-3.45	-11.27	-8.66	-14.38
PG VL1012	**ROI**	11.19	-6.53	0.32	13.23	0.77
TM VL2440	**ROI**	2.26	8.34			
TM VL1840	**ROI**			5.61	4.37	4.97
21 months average low risk long term interest rate EST					**0.079**	**0.015**

Ratio between current revenue and break-even revenue, CR/BER

The data on CR/BER is calculated based on national DCF data. For the calculation of CR/BER, opportunity cost of capital is excluded from the calculation, therefore, the indicator shows only the short-term viability of the Baltic Sea fishing fleets. According to the Guidelines, ratio greater than 1 indicates that in short-term the income is sufficient for covering variable and fixed costs, indicating that the segment is profitable. Ratio below 1 can indicate that insufficient income is generated to cover variable and fixed costs. Negative ratio means that variable costs exceed current revenue, indicating that the more revenue is generated, the greater the losses will be.

As can be seen from the chart 9 below, during the period of 2017-2021, for the years 2019-2021 (in PG VL0010) has the ratio been negative and twice between 1 and 0 (PG VL0010 and PG VL1012 in 2018). Ratio for Baltic Sea trawling fleets has been above 1 in all years. Also, PG VL1012 is beeing above 1 since in 2019, but has decreased in 2021 compared to 2020.

Chart 9. Ratio between current revenue and break-even revenue for years 2017-2021.



Vessel use indicators

Vessel use indicators have been calculated for years 2018-2022. The proportion of inactive vessels has been calculated for length classes VL1218-VL40XX only, as in coastal fisheries (VL0010 and VL1012) different vessels are used depending on the season, directed species and fishing gear used. For example, Baltic herring is targeted by coastal fisheries during a relatively short spring season and some of those vessels are not used in other fisheries throughout the year. Also, often vessel owners have several same type vessels just in case the main one in use will be out of order, then it is possible to quickly get a replacement vessel in use. In addition, fishing in coastal fisheries is an important way to diversify economic activities in peripheral areas and is not always the main economic activity for fishers. Therefore, it is not reasonable to calculate the proportion of inactive vessels in coastal fleet segments PG VL0010 and PG VL1012. For the same reasons, the results of the calculation of vessel use indicator in fleet segments PG VL0010 and PG VL1012 should be taken with caution. Moreover, vessel use indicator does not serve its purpose because in coastal fisheries fishing effort is limited by ITE – amount and type of fishing gears allowed to use by a licence owner.

Inactive Fleet Indicator

According to the Guidelines, it is considered normal that 10 % or less of the vessels in a fleet segment are inactive. An active vessel is one which was licensed to fish at some stage during the reference year and which recorded at least one day at sea during the reference year. An inactive vessel is one which may or may not be licensed to fish during the reference year, but which has recorded no time at sea and no landings during the reference year.

Over the course of 2022, there were 6 vessels in fleet register in length class TM VL1824. One of these vessels were inactive vessels, which means those vessels had recorded no time at sea nor landings during the year. In the length class VL2440 there were 19 active fishing vessels and VL40XX 6 active fishing vessels.

Tabel 8. Inactive Fleet Indicator - the proportion of inactive vessels of the total fleet provided with respect to number of vessels, GT and kW in 2022.

DFC segment	No of Active Vessels Throughout 2022	No of Inactive Vessels	% of Inactive Vessels	kW of Inactive Vessels	kW % of Inactive Vessels	GT of Inactive Vessels	GT % of Inactive Vessels
TM VL1218	0	0	0	0	0	0	0
TM VL1824	5	1	20%	220	29%	117	6%
TM VL2440	19	0	0	0	0	0	0
VL40XX	6	0	0	0	0	0	0

Vessel Utilisation Indicator

For calculation of vessel utilisation indicator, only active vessels, which have had at least one day at sea during a year, are included. For data comparability reasons an observed maximum activity level was chosen for calculations instead of theoretical (220 days at sea). An observed maximum days at sea for each fleet segment has been taken for the basis mostly because theoretical 220 days at sea is not fully applicable in the Baltic Sea fishery. In the Baltic Sea trawling fishery, and to some extent also in coastal fishery, fishing is very seasonal. Usually spring fishing season for trawlers ends in April or May, depending on the water temperature. Fishing starts again in August or September, when water is again cool enough. During summer, too warm water affects fish quality, therefore it is not reasonable to fish during summer period. In addition, during autumn-winter, ice conditions or stormy weather can considerably affect vessels' ability to catch.

The ratio between the average effort per vessel in a fleet segment and the observed maximum effort actually exerted by a vessel in kWdays was calculated in length classes VL1218, VL1824, VL2440 and VL40XX.

Table 9 shows that the number of average fishing days has fluctuated in all fleet segments. All values (Min, Max and Average) had a slight decrease in fleet segments TM VL1824 and TM VL2440. That is due to the small rise of fishing quota for sprat and herring. Vessel use has been the most homogenous in length class VL40XX in all surveyed years. Also, maximum and average days at sea is the highest in length class VL40XX.

Table 9. Minimum, maximum and average days at sea in fleet segments TM VL1218, TM VL1824, TM VL2440 and VL40XX in years 2018-2022.

	VL1218			**VL1824**			**VL2440**			**VL40XX**		
Year	**Min**	**Max**	**Average**	**Min**	**Max**	**Average**	**Min**	**Max**	**Average**	**Min**	**Max**	**Average**
2018	1	15	6	45	170	136	57	178	137	253	316	284
2019	1	37	13	21	165	135,5	75	172	129	264	347	284
2020	64	64	64	17	146	117	17	155	120	133	365	263
2021	1	1	1	17	145	108,7	4	137	82,4	113	366	249
2022	1	1	1	43	149	109,6	87	153	111,8	97	324	214,3

The calculation of ratio between the average effort and the observed maximum effort in kWdays for different fleet segments in the period of 2018-2022 is shown in table 10 below. The Guidelines suggest that ratio below 0.7 should be considered as showing structural overcapacity. The ratio of fleet segment VL1218 has been below 0.7 in 2017-2019, but has been stable in the recent 3 years. The ratio of length class VL1824 has been over 0.7 throughout the period. Ratio has been over 0.7 in length classes VL2440 and VL40XX in 2017-2020, but has decreased above 0.7 in 2021. It can be explained with low vessel number in length class VL40XX and one vessel was removed from the segment. Length class VL2440 was mostly affected by decreased Baltic Sea fishing quotas over the years.

Table 10. Vessel Utilisation Indicator (ratio in kWdays) for years 2018-2022. Red colour (below 0.7) indicates that there may be a substantial under-utilisation. Green colour (above 0.9) may refer to largely homogenous level of activity in the fleet segment according to the Guidelines.

kWdays_Ratio	2018	2019	2020	2021	2022
VL1218	0.38	0.35	1	1	1
VL1824	0.8	0.82	0.8	0.75	0.74
VL2440	0.78	0.75	0.77	0.6	0.68
VL40XX	0.9	0.82	0.72	0.68	0.66

For fleet segments PG VL0010 and PG VL1012, the vessel use indicator is given in GTdays (table 11). The indicator is low in those segments as fishing is often not the only economic activity, vessels are often used only for a specific fishing operation or fishing gear and in general fishing is very seasonal and dependent on weather conditions. In case of segment PG VL1012, the main target species is Baltic herring, which is harvested mostly on a relatively short period in spring. Baltic herring quota had a slight increase in 2022 compared to 2021.

Also, fishing in shallow waters can be done without a vessel and fishing in the winter time is generally made without a vessel due to the ice coverage. Thus the time a fishing boat is actually needed, is rather short. Large heterogeneity of the vessel use in the segment has a considerable impact on the vessel use ratio especially in PG VL0010. This has been stressed also by STECF (STECF-13-28) that a low vessel utilisation rate for smaller vessels would be expected.

Table 11. Vessel use indicator in GTdays for segments PG VL0010 and PG VL1012 in 2018-2022.

DCF fleet segment	2015	2016	2017	2018	2019	2020	2021	2022
PG VL0010	0.19	0.24	0.27	0.33	0.2	0.16	0.08	0.05
PG VL1012	0.57	0.48	0.46	0.44	0.46	0.36	0.46	0.28