

The Annual Report on the Fishing Fleet of Estonia 2011

1. Summary

Decreasing of the fishing opportunities in the main fleet segments (4S1 and 4S3) during the last five years have had an impact on the fleet balance, but as the number of active vessels has decreased too, the fleet capacity and fishing opportunities have been relatively at the same balance for the period 2007-2011. Both the ratio of kWdays and CPUE for segment 4S1 vessels have fallen slightly in 2011, the ratio of kWdays for segment 4S3 vessels has risen compared to 2010 and the CPUE has stayed almost the same.

2. Description of fleets

According to Council Regulation (EC) No 1242/2004, Estonia as one of the Member States to join the EU on 01.05.2004 is not subject to reference levels imposed by the Council Regulation (EC) No 2371/2002 of 20 December 2002. Estonia follows the entry-exit strategy defined in Article 13 of Council Regulation (EC) No 2371/2002. In addition to this scheme, the vessel and its owner must comply with several additional requirements set in the Fisheries Act.

Estonia adheres to the entry-exit strategy when entering fishing vessels into the fleet register. As a result of following the entry-exit strategy, the fishing capacity of the Estonian fleet has reduced over time. It has also made it possible to monitor and control the increase in engine power and gross tonnage in the fishing fleet. The entry of a new fishing vessel into the register is refused if there is no free fishing capacity or the vessel does not comply with the requirements set by national or EU legislation. The fishing capacity of a vessel deleted from the register with public aid can not be replaced.

In the Baltic Sea trawling segment and high seas fishery (segments 4S1 and 4S3 respectively), the fishing opportunities allocated to Estonia (usually given in tonnes or fishing days) are divided between companies based on their 3-year historical fishing rights. In coastal fishing, (segment 4S2), fishing effort is regulated by the number of fishing gear and the total number (determined by the Ministry of Environment based on scientific advice) is divided between fishing rights owners also based on their 3-year historical fishing rights.

In the end of 2011, there were 919 vessels in the Estonian fishing vessel register with overall engine power of 38 771 kW and gross tonnage of 14 259 GT. The number of fishing vessels decreased by 12 vessels compared to year 2010. Overall gross tonnage decreased by 392 GT and engine power by 1295 kW in the 2011.

3. Main fleet segments

On community level, the Estonian marine fishing vessels belong into the MFL segment. On national level, the Government Regulation of 09.03.2004 No 62 determines the criteria for grouping fishing vessels into segments based on overall length (LOA), fishing gear, main target species and fishing grounds, and sets the possibility of entering fishing vessels into a segment. The national segments for marine fishing vessels are: the Baltic Sea trawling segment (4S1, vessels with an overall length above 12 metres), high seas fishery segment (4S3, overall length over 24 m) and coastal fishing segment (4S2, less than 12 metres in length).

By the end of 2011, there were 46 trawling vessels in the 4S1 segment. These vessels fish in the Baltic Sea and the main target species are Baltic herring, sprat and cod. The vessels in this segment make up for ca 5 % of the total number and 30 % of both the overall engine power and the overall gross tonnage of vessels in marine segments. In 2011, the total Baltic herring catch for the 4S1 segment was 16 727.98 tonnes, which makes 66 % of all Baltic herring catches by Estonian fishing vessels. Majority of the 34 976.31 tonnes of sprat was caught by trawling vessels (34 975.67 t) as was most of the cod: 99.7 % of the 1179.8 tonnes was caught by trawling vessels.

In the end of 2011, there were 867 vessels in the 4S2 segment (94% of the total number, 37% of total kW, 12% of total GT). These vessels fish in the coastal areas of the Baltic Sea, using mainly fixed fishing gear and target a variety of species. Total catches by fishing vessels in segment 4S2 made about 12 % of total catches made by all Estonian fishing vessels in the 2011. About 83 % of the 4S2 segment catches was made of Baltic herring (8597.266 t), other species caught were, for example, European perch (796.214 t), European flounder (244.935 t) and pike-perch.

The 4S3 segment consisted of 6 vessels by the end of 2011. Although few in number, the vessels make for ca 33% of the total kW and 59% of the overall GT of the marine fishing fleet because of their size - the vessels in this segment have an overall length over 24 m - and fish outside the Baltic Sea, mostly in the NAFO and NEAFC Regulatory Areas. Main target species is Northern prawn (caught both in NAFO and NEAFC), but several other species are also caught like, for example, redfishes and Greenland halibut.

Table 1. Estonian fleet register on 31.12.2011, marine fishing vessel segments and total catches in 2011.

Segment	kW	GT	Main fishing area(s)	Main target species	Total catches, (t)
4S1	11 605	4 286	Baltic Sea	Baltic herring, sprat, cod	52 998
4S2	14 496	1 692	Baltic Sea, coastal areas	Baltic herring, perch, flounder,	10 353
4S3	12 670	8 281	NAFO, NEAFC	Northern prawn, redfishes, Greenland halibut	19 610
Total:	38 771	14 259		Total:	82 961

4. Additions to and removals from the fleet

As regards the 4S1 segment, 7 vessels left the register during the year and all of them with public aid; 1 vessel re-entered the register. No new vessels entered the 4S1 segment in 2011, resulting in a 9.3 % decrease in the segment's total main engine power and a 7.9 % decrease in the total gross tonnage.

During 2011, 13 vessels were deleted from the 4S2 segment, none with public aid and 7 fishing vessels entered the segment. Both total engine power and total gross tonnage decreased by ca 1 %.

There were no entries or exits and therefore no changes in number of fishing vessels, gross tonnage and engine power in 4S3 segment.

5. Change in state of stocks and/or in fishing opportunity during the year

In 2011, Estonian Baltic Sea trawling vessels were allocated the following fishing opportunities in the Baltic Sea: 1195.2 tonnes of cod in areas 25-32 (taking into account quota swaps), 182 tonnes of cod in areas 22-24, 8317 tonnes of Baltic herring in the Gulf of Riga and 10 998 tonnes in the rest of the Baltic, and 36 734 tonnes of sprat. Most of these quotas were almost completely exhausted. 22-24 cod quota was almost fully exchanged with other countries. The overall fishing opportunities for vessels in segment 4S1 have decreased compared to the 2010.

In the high seas, several fishing opportunities were allocated to the Estonian fishing vessels of which some were almost fully exhausted (such as the Greenland halibut (3LMNO), Atlantic cod (3M) and Northern prawn (3L) quotas in the NAFO area), while out of others, considerably less than 50% was used (Svalbard fishing days) or were exchanged with other countries for other fishing opportunities. In many cases, the fishing opportunities in the high seas have decreased like in the 4S1 segment.

6. Effort reduction schemes

For fishing vessels in segments 4S1 and 4S3 and fishing vessels in small-scale coastal fishing (segment 4S2) schemes were available in 2011 for financing of equipment and the modernisation of fishing vessels. The main conditions were that the engine power and the ability to catch fish are not increased and the age of fishing vessel is at least 5 years.

On previous years it was possible for fishing vessel owners to apply for public aid for the permanent cessation of a vessel's fishing activities, thereby reducing the total fishing capacity of the fleet. Permanent withdrawal with public aid only concerns fishing vessels at least 10 years old which have carried out fishing activities during the 12 month period preceding the date of the application for permanent withdrawal - at least 75 days at sea or, for at least 80 % of the number of days at sea permitted by current national regulations for the vessel concerned.

Seven fishing vessels were deleted from the fleet register under this scheme in 2011 resulting in permanent decrease of fleet register capacity in main engine power by 1056 kW and gross tonnage by 371 t.

7. Compliance with entry/exit scheme during the year

Every entry into the fleet register or increase in tonnage and/or engine power was covered by the removal of at least the same quantity of capacity from the fleet. The fishing capacity of a vessel deleted from the register with public aid can not be replaced. As can be seen from the table below, all entries into the fleet register were compensated by removal of same or larger capacity from the register.

Table 2. Entry-exit balance in 2011.

Year 2011	kW	GT
Exits (without public aid)	195.66	30.26
Exits (with public aid)	1056.00	371.38
Entries	129.71	18.36

8. Plans for improvements in fleet management system

Administrational need for improvements in fleet management system may arise with the implementation of the point system for serious infringements according to the Article 92 of the Council Regulation (EC) No 1242/2004. Another plan in fleet management system for the period 2011-2012 is to create for the coastal areas fishermen an additional opportunity to register their vessels in the fishing fleet register. These new entries into the fleet would be fully compensated by vessels that were deleted (without public aid) from the fleet segments 4S1 and 4S3 in the period of 2004-2008.

9. Application of the balance indicators

The technical indicator is calculated both in term of fishing days and effort (kWdays) to compare results of the two calculation methods for technical indicator. As can be seen from the results below, the differences are in most cases minor. The biological indicator is

calculated in catch per unit of effort (CPUE). Both, technical and biological indicator data has been calculated based on data from those fishing vessels in 4S1 and 4S3 segments that performed fishing operations in 2007 – 2011 (i.e. the vessels with zero fishing days have been omitted).

The economic indicator - Return on Investment (ROI) is calculated based on data collected under the DCR by the Ministry of Environment. Economic indicator is calculated for the period 2009-2010. As the DCF data for 2011 is available from the second half of 2012, the calculation of ROI for 2011 could not be done.

The social indicator is calculated for the period 2008-2010 by average crew share per full-time equivalent job (FTE). As the DCF data for 2011 becomes available from the second half of 2012 and data concerning FTE is not available for years 2008-2009, then the social indicator was calculated only for the 2010.

9.1. Technical indicator

The technical indicator was calculated separately for the Baltic Sea trawling vessel segment (4S1) and the high seas fishery segment (4S3), based on data from 2007 to 2011.

As can be seen from the chart below (Chart 1), the maximum number of fishing days in segment 4S1 in 2011 has risen to 166 days compared to 151 days in 2010, while the average ratio between a given vessel's number of fishing days and the maximum number of fishing days for the particular year has fallen from 0.70 to 0.60. Increase in maximum number of fishing days together with decrease in minimum fishing days from 30 days in 2010 to 8 in 2011 could explain fall in ratio as well, which may refer to some overcapacity in the 4S1 segment according to the STECF guidelines. The maximum number of fishing days for the 4S3 vessels has increased from 284 in 2010 to 322 in 2011, while the minimum number of fishing days has remained almost the same (Chart 2). The average ratio 0.83 has been the same for 3 years (2009-2011).

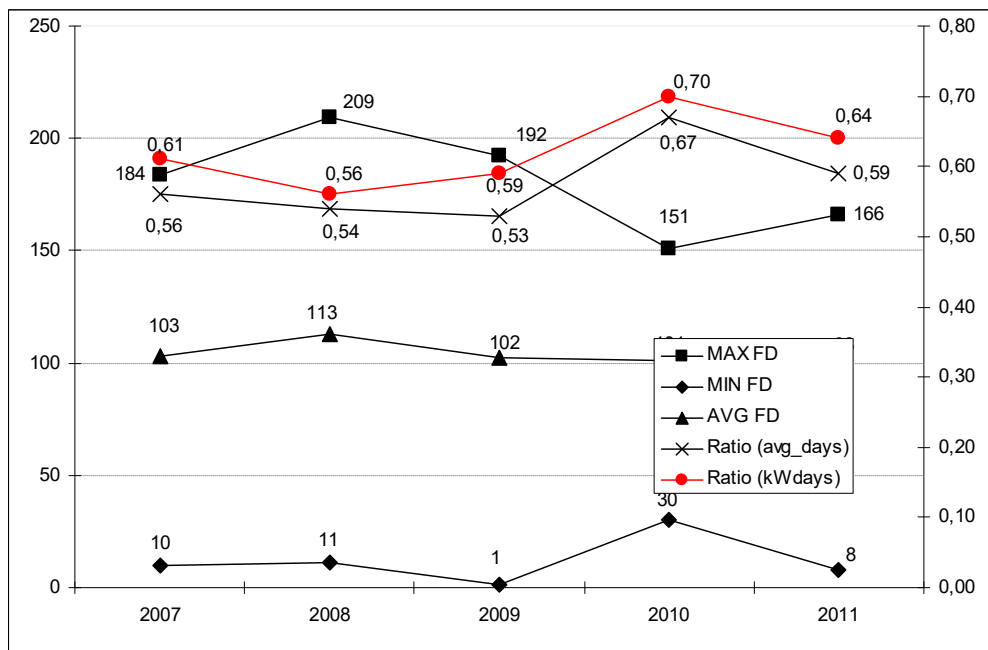


Chart 1. Number of fishing days and technical indicator (Ratio) for 4S1 segment in 2007-2011.

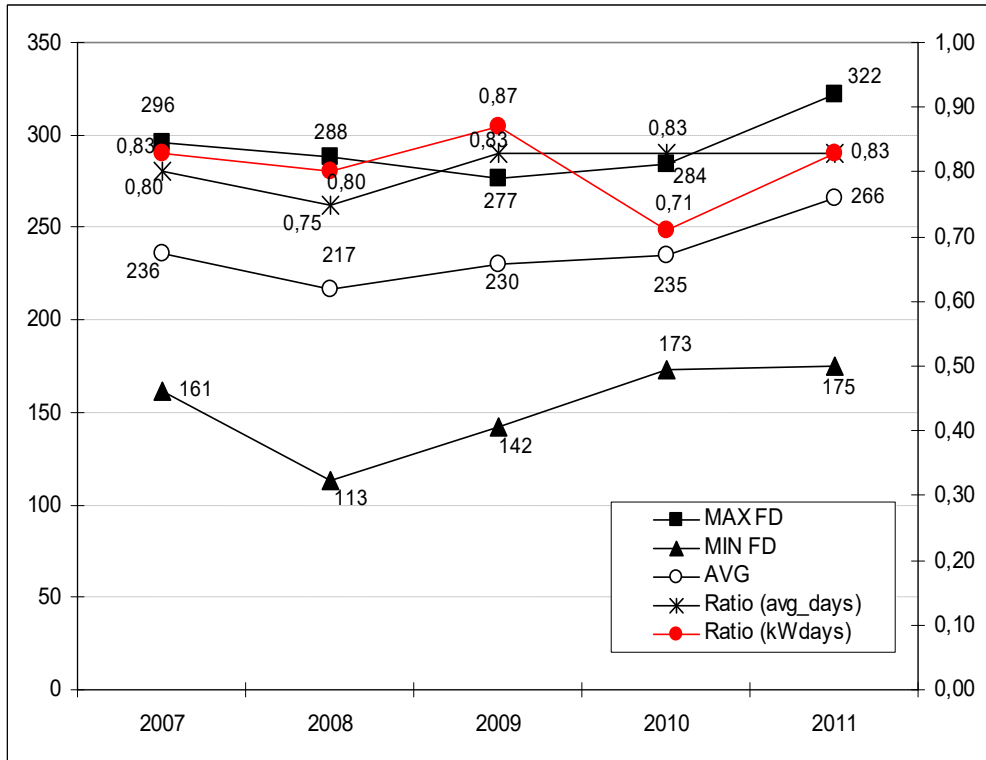


Chart 2. Number of fishing days and technical indicator (Ratio) for 4S3 segment in 2007-2010

The number of active fishing vessels in segment 4S1 has decreased from 48 in 2010 to 42 in 2011, the number of active vessels in segment 4S3 has not changed compared to 2010. The proportion of inactive vessels can be seen from the table below.

Table 3. Proportion of inactive vessels in the total fleet.

year 2011	Active			Inactive			Proportion of inactive vessels	
Segment	No of vessels	kW	GT	No of vessels	kW	GT	kW (%)	GT (%)
4S1	42	11131.94	4358.79	11	1528.8	293.14	12,08	6,30
4S3	5	10462	6750	1	2208	1531	17,43	18,49

9.2. Biological indicator

The biological indicator (CPUE) was calculated separately for the Baltic Sea trawling vessel segment (4S1) and the high seas fishery segment (4S3), based on data from 2007 to 2011.

For the 4S1 segment, the catch data for the three main target species – Baltic herring (HER), sprat (SPR) and Atlantic cod (COD) is given, although not all of the vessels listed targeted all three species. For the 4S3 segment, only total catches are shown on the graph, since some of the vessels targeted Northern prawn, while others targeted several other species.

As can be seen from chart 3, both the maximum and average CPUE in segment 4S1 have decreased. Although the catches of cod have increased, it has little effect on the overall catches which have decreased substantially compared to the 2010. The fact that number of maximum fishing days has increased, but total catches have decreased much due to the quota reductions, may refer to that some overcapacity has evolved in the fleet segment 4S1.

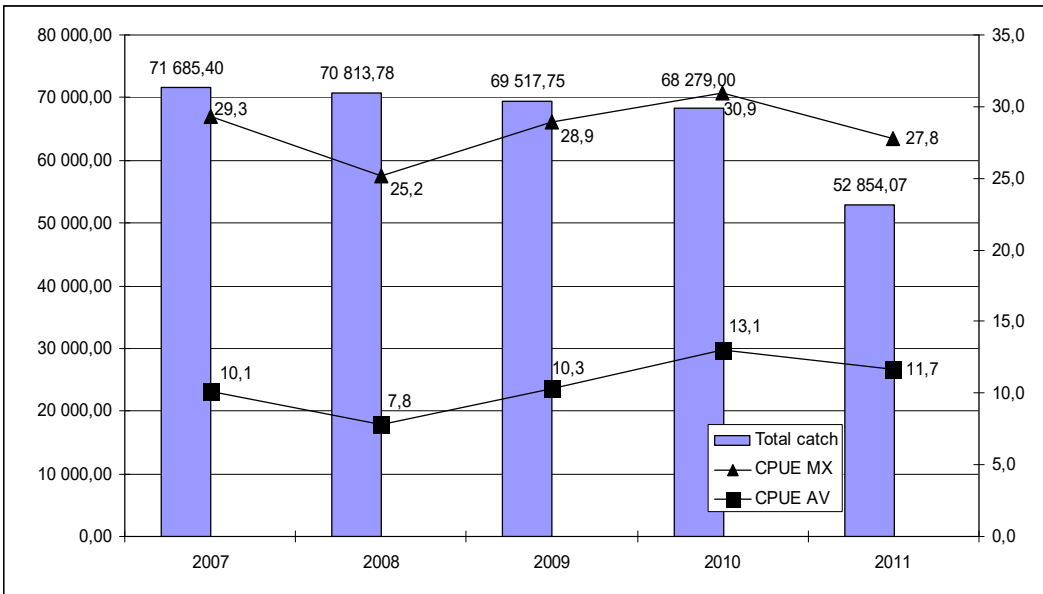


Chart 3. CPUE and total catch for 4S1 vessels in 2007-2011

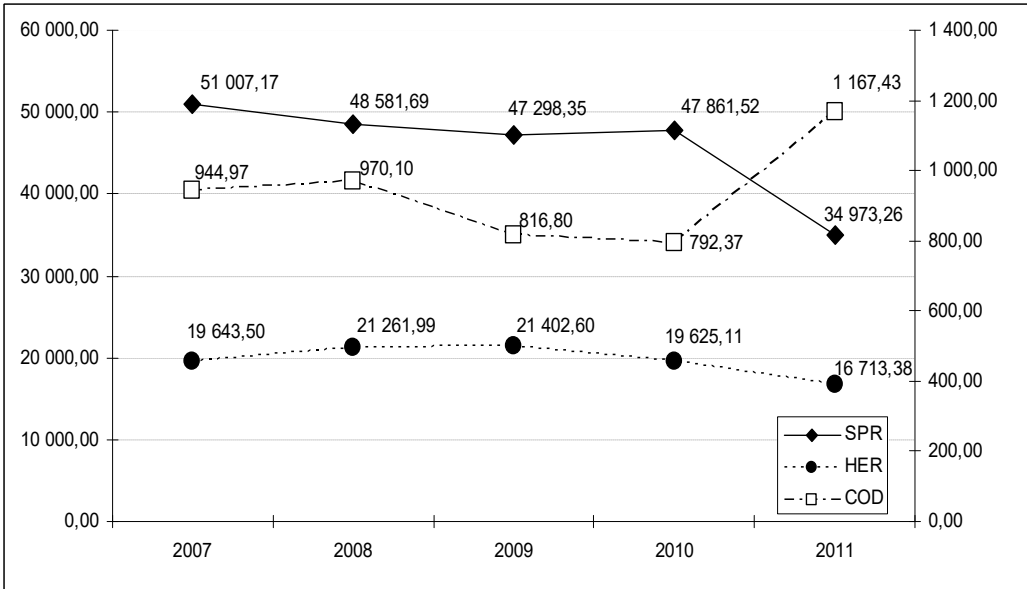


Chart 4. The catches of 3 main target species for 4S1 vessels in 2007-2011

The maximum CPUE in segment 4S3 has fallen slightly from 15.00 in 2010 to 14.85 in 2011, as have the minimum and average CPUE, despite the increasing catches. It may be partly caused by the fact that the vessel that had the highest number of fishing days had the smallest catches and therefore the lowest CPUE.

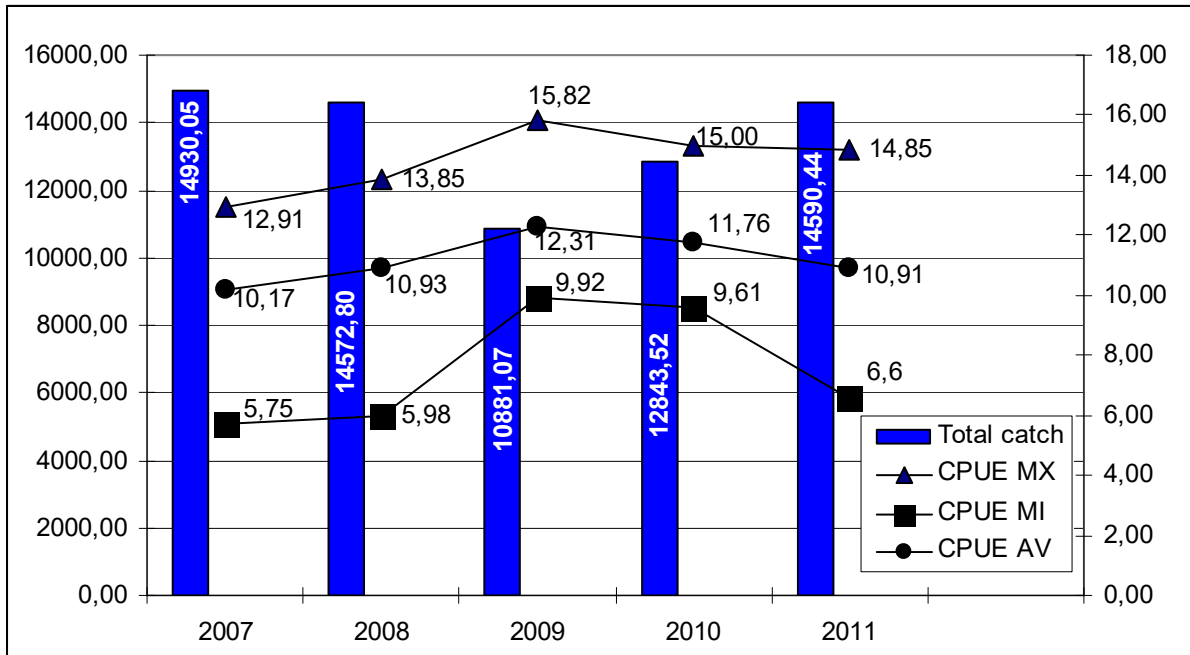


Chart 5. CPUE and total catch for 4S3 vessels in 2007-2011

9.3. Economic indicator

As can be seen from the chart below, the ROI is not grouped by usual segments, but is grouped by vessel length instead. Although these vessel length groups and segments overlap mostly (i.e. vessels with length under 10 m – 12 m belong to segment 4S2 and vessels 12-18 m and 24-40 m belong to segment 4S1), there are some exceptions, therefore it is more appropriate to use grouping by lengths. Over the three-year period, the ROI has been rather stable in vessel group 10-12 metres of length, but has been very fluctuating in vessel group 12-18 metres of length.

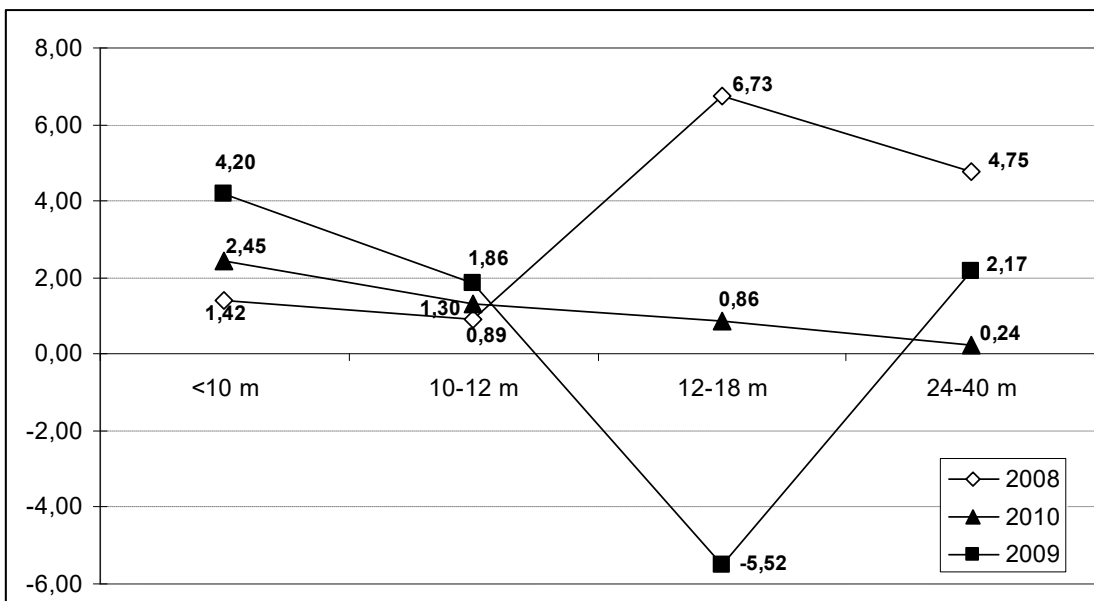


Chart 6. ROI for different vessel length groups in years 2008-2010.

9.4. Social indicator

The table below shows the average crew costs per full-time employment for the year 2010. The results are grouped by vessel lengths. As can be seen from the table, the average crew costs are higher for bigger vessels (Baltic Sea trawlers) and lower for smaller vessels (coastal fisheries).

Table 4. Average crew share per Full-time equivalent.

Social indicator	2010			
	<10 m	10-12 m	12-18 m	24-40 m
Crew share (%)	34.37	34.37	27.91	39.29
Value of landings (1000 EUR)	2376.74	1019.23	509.55	9010.26
Crew costs (1000 EUR)	707.85	303.36	73.93	3466.84
FTE	207	102	10	202
Average crew cost per FTE	3.42	2.97	7.39	17.16

Table 5. Average labour costs per employee by economic activity (by Statistics Estonia).

Labour costs per employee (EUR)	2000	2004	2008
Agriculture, hunting and related service activities	2878.71	5089.35	9959.54
Forestry, logging and related service activities	4997.00	7725.45	15864.92
Fishing, fish farming and related service activities	3884.93	4589.75	11113.72
Construction	4626.18	7740.66	14555.05

10. Balance of fleet capacity and fishing opportunity

In 2008, the Estonian Marine Institute (EMI) analysed the fishing capacity of the different segments of the Estonian fishing fleet on the basis of several indicators, including those suggested by the Commission (biological and technical indicators) based on 2007 data. According to the study, the optimum fishing capacity of the segment 4S1 would be ca 12 500 kW and 5000 GT. However, since this assessment of optimum capacity is based on the assumption that the fleet uses its fishing capacity to the full, and since this assumption may not be very realistic, the study concludes that the capacity of the 4S1 segment should not fall below ca 14 400 kW and 5800 GT.

According to the fleet register, the capacity of the 4S1 segment at the end of 2011 was ca 11 600 kW and 4 286 GT. However, this does not include the capacity of vessels that left the register without public aid that, according to the entry-exit scheme can be replaced (this type of capacity is referred to in the analysis as “passive capacity”). When this unused “passive capacity” is also taken into account, the potential fishing capacity of the 4S1 segment at the end of 2011 would be ca 15 100 kW and 5 600 GT, i.e. above the minimum fishing capacity in terms of main engine power, but slightly below the minimum gross tonnage.

As regards the 4S3 segment, the minimum fishing capacity necessary to make use of all Estonia’s high seas fishing quotas (based on the EMI analysis) would be ca 16 900 kW and 12 700 GT. At the end of 2011, the total capacity of active 4S3 fishing vessels was ca 12 700 kW and 8300 GT; the potential fishing capacity (which, in addition to active fishing vessels, includes the fishing capacity of vessels that left the register without public aid) was 19 200 kW and 12 500 GT, i.e. above the minimum fishing capacity in terms of main engine power, but below the minimum gross tonnage.

11. Summary of weaknesses and strengths of fleet management system

The main strength of the Estonian fleet management system is the system of transferable fishing concessions (TFC), which allows owner of the fishing rights to decide whether to fish by it or give the right to someone else. Although, as the results from balance indicators show, that there is some overcapacity in the fishing fleet, the application of TFC with other management methods have the potential to improve the balance of the fishing fleet. Some technical and administrative issues that complicate data checks between different national registers can also be seen as weaknesses of the fleet management system.

Annex I

Application of the entry-exit regime

a) Calculation of the baselines (GT04 and kW04) on 01/05/2004 Estonia

GTFR	GT1	GT2	GT3	GT4	GT04
26 625	0	0	0	0	26 625

kWFR	kW1	kW2	kW3	kW4	kW04
64 967	0	0	0	0	64 967

b) Management of the entry exit regime on 31/12/2011 Estonia

		GT		kW	
1	Capacity of the fleet on 01/05/2004	GTFR	26 625	kWFR	64 967
2	Capacity level for the application of the entry-exit regime	GT04	26 625	kW04	64 967
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)		6 044		14 577
5	Increases in tonnage GT for reasons of safety	GTS	0		
6	Total entries (3 + 4 + 5)		6 044		14 577
7	Exits before 1/1/2007 financed with public aid	GTa1	1 779	kWa	4 691
8	Exits after 1/1/2007 financed with public aid	GTa2	3 299		7 507
9	Other exits (not included in 7 and 8)		13 282		28 307
10	Total exits (7 + 8 + 9)		18 360		40 505
11	Power of engines replaced with public aid conditional to power reduction			kWr	0
12	Capacity of the fleet on 31/12/2011 (1 + 6 - 10)	GTt	14 309	kWt	39 039
13	Fleet ceiling on 31/12/2011		21 547		52 769