Fleet Report of The Netherlands for the year 2019

Following Art 22 of Regulation 1380/2013.

Summary

The active fleet at 31-12-2019 was in total 98.791 GT en 243.985 KW.

The reserved capacity was in total 64.750 GT and 99.568 KW, hence the Dutch fleet has not and will not exceed the capacity ceiling (166.859 GT, 350.736 kW respectively).

Fleet at 31-12-2019

	Nr of vessels	KW active	reserved KW	GT active	reserved GT
MFL1	523	210.891	88.851	89.546	60.962
MFL2	200	33.094	10.717	9.245	3.774

Indicators

All the indicators in this report have been calculated using the formulas in *Guidelines for analysis of the balance between fishing capacity and fishing opportunities according to Art. 22 of Regulation 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy (COM(2014)545)* and updated in 2020 based on the methods used in the Balance STECF EWG 20-11 (see also Beukhof and Hamon 2020).

On the next page is presented a summary table on all indicators, status and trends. These are given for the respective segments according to the '*Guidelines'* and as well aggregated to the more commonly used segmentation in the Netherlands.
Some explanatory remarks on the indicators are made for each segment below the table.
It can be derived from these observations that the Netherlands authorities have not concluded that ultimo 2019 based on these indicators an immediate need existed to adjust the capacity of the fleet.

Conclusion
The overall conclusion on basis of the indicators ultimo 2019 in this report, the Netherlands see no need to initiate an action plan for structural adjustment of the fleet capacity.

Following this Summary the two Parts of this report are presented; Part I, the biological indicators and Part II, the economic indicators.

Summary-table

of the indicators demonstrating the status of the balance between capacity of the Dutch fleet and their fishing opportunities in 2019, and the trend in the indicators between 2015 and 2019. Green and red status mean 'in balance' or 'out of balance', respectively. Colours of the trends: green decreasing, red increasing, yellow no trend, blue no clear trend, yellow null/flat trend. For both status and trends: white indicates that the indicator

Fleet	Status						Trend				
	SHI	SAR	ROI	CR/BER	NPM	VUR	SHI	ROI	CR/BER	NPM	VUR
Small scale and coastal	red	red	green	green	green	red	white	yellow	yellow	yellow	yellow
PG-VL0010	green	red	green	green	green	red	green	yellow	yellow	yellow	yellow
PG-VL1012	red	red	green	green	green	red	green	yellow	yellow	yellow	yellow
DFN-VL1824	white	green	green	green	green	red	white	yellow	yellow	yellow	yellow
TBB-VL0010	white	green	red	red	red	green	white	yellow	yellow	red	yellow
Small beam trawlers	red	green	red	red	red	red	white	yellow	yellow	yellow	yellow
TBB-VL1218	white	green	green	green	red	red	white	green	green	green	blue
TBB-VL1824	white	green	red	red	red	red	white	yellow	yellow	yellow	yellow
Large beam trawlers	red	red	green	green	green	red	white	yellow	yellow	yellow	blue
TBB-VL2440	red	red	green	green	green	green	green	yellow	yellow	yellow	yellow
TBB-VL40XX	red	red	green	green	green	green	green	yellow	yellow	yellow	blue
Demersal trawlers	red	green	green	green	green	green	white	yellow	yellow	yellow	blue
DTS-VL1824	white	green	red	red	green	green	white	yellow	yellow	yellow	blue
DTS-VL2440	white	green	green	green	green	green	white	yellow	yellow	yellow	blue
Pelagic	green	green	green	green	green	green	white	green	green	green	yellow
TM-VL40XX	green	green	green	green	green	green	blue	green	green	green	yellow

could not be calculated. Information is presented for fleet segments as well as for clustered fleets (in grey).

Explanatory notes for the aggregated segments in this table.

Small scale and coastal vessels
Note that these segments combined only represent 1% of total value of landings of the entire Dutch fleet.
Landings data are uncertain because catches <50 kg did not have to be reported.
Activity (VUR) is very low in general (26% on average for most active vessel).
Biological indicators point towards imbalance of the passive gear segments due to landings of seabass (bss.27.4bc7ad-h) and landings of North Sea sole for the PG-VL1012 segment. Note however that North Sea sole was benchmarked in 2020, leading to a changed perception of the stock, which was not yet known in 2019.
Economic information is not so trustworthy, because it is based on questionnaires that are collected only once a year.

Small beam trawlers
Biological indicators indicate a balance, as no stocks at risk are caught by this fleet. Note however that the SHI could not be calculated for these segments.
The main target specie is shrimp, which had low prices and catches in 2019. There is however a positive economic return due to fisheries on *Ensis.*
Low VUR is due to seasonality of shrimp fishing (e.g. variable prices).

Large beam trawlers
Both segments seem to be out of balance from biological viewpoint, due to high landings of North Sea sole and low bycatch of protected skate species (for TBB-VL40XX only). Note however that North Sea sole was benchmarked in 2020, leading to a changed perception of the stock, which was not yet known in 2019. Furthermore, trend indicates that the SHI is improving strongly over time. The TBB-VL2440 segment was affected by shrimp prices in 2019, and was therefore not doing so well from an economic viewpoint. The TBB-VL40XX did economically well in 2019 and thus seems to be in balance.

Demersal trawlers
From biological perspective, both segments seem to be in balance. Note however that SHI could not be calculated for these segments.
Both segments do economically well and also seem to be in balance throughout the years, but were affected in 2019 by drop in prices of *Nephrops* and poor catches of plaice

Pelagic trawlers
All indicators of the pelagic fleet point towards balance.

Part I

Biological sustainability indicators for the Dutch demersal and pelagic fleet segments

Two biological indicators (Sustainable Harvest Indicator (SHI) and Stock-at-risk (SAR) indicator) are used to assess whether the Dutch fleet is relying on overfished stocks, and/or is involved in causing a high biological risk to a depleted stock. The indicators in this chapter have been calculated using the formulas in *Guidelines for analysis of the balance between fishing capacity and fishing opportunities according to Art. 22 of Regulation 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy (COM(2014)545)*. Calculations were updated in 2020 based on the methods used in the Balance STECF EWG 19-13 (see also Beukhof and Hamon 2020). New this year is that *Nephrops* functional units (FU) have been included in the biological analysis. As the Dutch fleet only fishes upon FU5 and FU33, splitting factors were calculated based on the sum of the Dutch landings of these FUs as reported by ICES from 2014-2017.

The indicators were calculated for the eleven active fleet segments, as well as for aggregated fleet clusters. The interpretation of the indicators with regards to the balance is indicated in Table 1. For SHI, a trend is calculated following STECF-20-11 (Table 2).

Table 1. Interpretation of biological indicators.

Indicators	Out of balance	In balance
SHI	SHI > 1	SHI ≤ 1
SAR	SAR > 0	SAR = 1

Table 2. Interpretation of the trend in SHI.

Slope	Results
> 0.05	Increasing
< -0.05	Decreasing
-0.05 ≤ slope ≤ 0.05	No clear trend

Sustainable Harvest Indicator

The SHI was calculated based on the Dutch landing value per fleet segment in 2019. Values of F and F_{MSY} were taken from ICES stock advice. For segments that have a SHI>1, the underlying F, F_{MSY} and landings value are presented. The main results are presented in Table 3 and Figure 1, and will be discussed below in detail.

Table 3. The SHI for the Dutch fleet in 2019, trend of in SHI presented as the slope of the trend, the number of stocks included in the analysis and the percentage of landings value for which stock assessment data was available. Clustered fleets are in grey, whereas the corresponding disaggregated STECF fleet segments are presented below each clustered fleet. No trend was calculated for the clustered fleets.

| Fleet	SHI	Trend (2015-2019)	Number of stocks included	Proportion of landings value with stock assessment data available
Small scale and coastal	**1.25**	**-**	**10**	**0.81**
PG-VL0010	0.60	-0.19	10	0.80
PG-VL1012	1.10	-0.20	7	0.86
DFN-VL1824	-	-	6	0.13
TBB-VL0010	-	-	7	0.06
Small beam trawlers	**1.22**	**-**	**15**	**0.95**
TBB-VL1218	-	-	8	0.003
TBB-VL1824	-	-	15	0.24
Large beam trawlers	**1.16**	**-**	**16**	**0.96**
TBB-VL2440	1.10	-0.11	14	0.81
TBB-VL40XX	1.10	-0.12	16	0.90
Demersal trawlers	**1.01**	**-**	**27**	**0.62**
DTS-VL1824	-	-	15	0.40
DTS-VL2440	-	-	27	0.41
Pelagic	**0.98**	**-**	**15**	**0.88**
TM-VL40XX	0.98	0.02	15	0.88
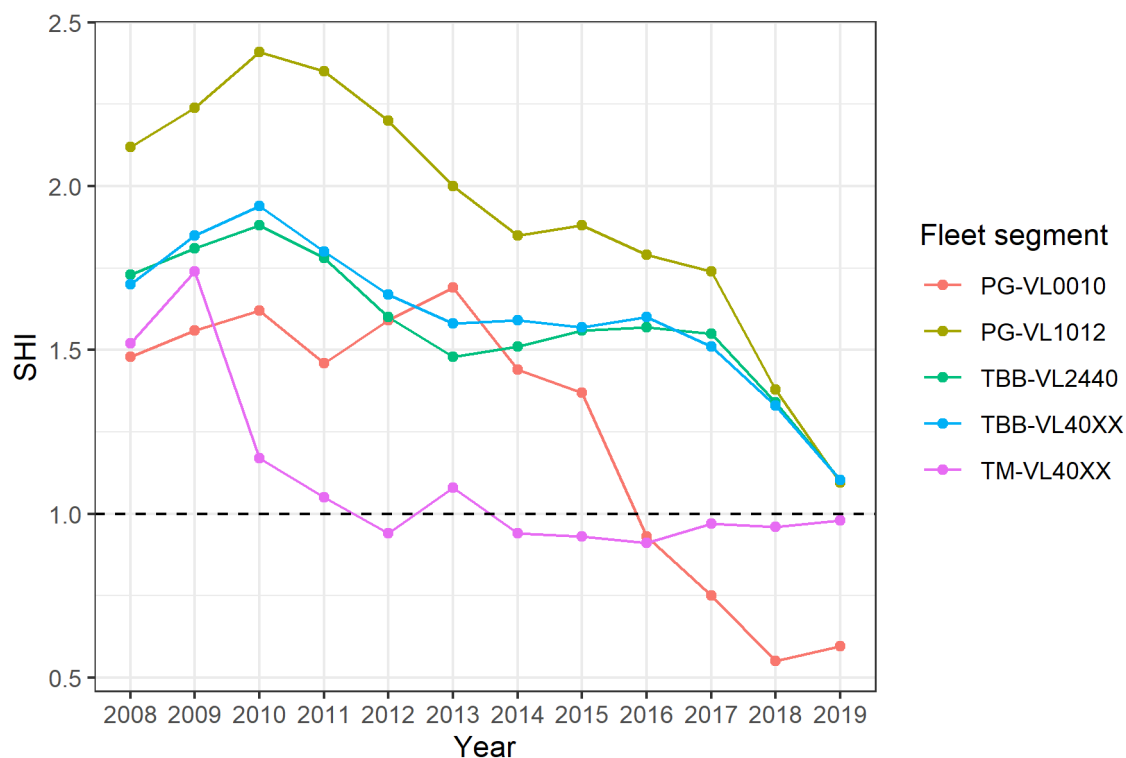
Figure 1. Trends in the Sustainable Harvest Indicator (SHI) from 2008 to 2019 for the fleet segments (pelagic, large beam trawlers and passive gears) that were calculated in this report. Data from 2008-2018 were

Small scale and coastal fleet

For the drift and fixed nets segment (DFN-VL1824) and the small beam trawl segment (TBB-VL0010), the landings value of stocks with data on F and F_{MSY} was less than 60% of the total landings value for these segments, and therefore, no SHI was calculated (Table 3). This was mostly due to lack of assessment data for invertebrates, such as brown shrimp (*Crangon crangon*) and brown crab (*Cancer pagurus).* For the 0-10m and 10-12m passive gear segments the SHI for 2019 was calculated to be 0.60 and 1.10, respectively. The SHI > 1 for PG-VL1012 fleet is mainly caused by the high landings of North Sea sole for which F in 2019 was above FMSY (Table 4).

The SHI of the clustered fleet is 1.25 (Table 3), and is above 1 due to high landings of North Sea sole (F/F_{MSY} = 1.31), and to a lesser extent of North Sea saithe (F/F_{MSY} = 1.27).

Both passive gear fleet segments show a strong decreasing trend (Table 3). The SHI of PG-VL1012 is above 1 throughout the time series, while the SHI of PG-VL0010 has been below 1 since 2016 (Figure 1).

Table 4. F, F_{MSY}, ratio of F over F_{MSY}, landing value and cumulative proportion of stocks of the passive gears segment 10-12 m (PG-VL1012) in terms of total landing value in 2019. Stocks are listed from highest to lowest cumulative contribution.

Stock	F	F_{MSY}	F/F_{MSY}	Landing value (€)	Cumulative proportion
sol.27.4	0.27	0.21	1.31	227,933	0.675
bss.27.4bc7ad-h	0.10	0.17	0.57	91,727	0.947
tur.27.4	0.37	0.36	1.02	16,284	0.995
cod.27.47d20	0.64	0.31	2.06	830	0.997
ple.27.420	0.17	0.21	0.79	470	0.999
mac.27.nea	0.22	0.26	0.86	353	1
pok.27.3a46	0.46	0.36	1.27	30	1

Small beam trawlers

The percentage of landings value for the two small beam trawler segments with stocks for which stock assessment data was available was very low, and therefore, no SHI was calculated (Table 3). These low percentages can be explained by the large amount of landings of brown shrimp and other invertebrates for which there is no stock assessment.

When combining the landings of the two fleet segments, the SHI could be calculated and is in 2019 1.22 (Table 3). The SHI is above 1 due to high landings of North Sea sole (F/F_{MSY} = 1.31).

Large beam trawlers

The SHI for the large beam trawler segments in 2019 is 1.10 for the 24-40 m and >40 m segment (Table 3). The stocks that contributed together at least 87% to the total landing value are sole (sol.27.4) and plaice (ple.27.420) (Table 5, Table 6). The SHI above 1 for both segments is likely caused by the exploitation rate of North Sea sole, which was above F_{MSY} in 2019. Note that Norway lobster (*Nephrops norvegicus*) was also caught by these segments, but FU6 and FU8 got assigned zero landings value, as the Dutch fleet only catches upon FU5 and FU33, which do not have stock assessments providing F and F_{MSY} estimates.

The SHI of the clustered fleet is 1.16 (Table 3), and is above 1 due to high landings of North Sea sole (F/F_{MSY} = 1.31), and to a lesser extent of North Sea saithe (F/F_{MSY} = 1.27).

The SHI of both fleet segments is above 1 throughout the time series, but shows a strong decreasing trend (Figure 1, Table 3).

Table 5. F, F$_{MSY}$, ratio of F over F$_{MSY}$, landing value and cumulative proportion of stocks of the large beam trawler segment between 24-40m (TBB-VL2440) in terms of total landing value in 2019. Stocks are listed from highest to lowest cumulative contribution.

Stock	F	F$_{MSY}$	F/F$_{MSY}$	Landing value (€)	Cumulative proportion
sol.27.4	0.27	0.21	1.31	9,222,821	0.534
ple.27.420	0.17	0.21	0.79	5,868,562	0.873
tur.27.4	0.37	0.36	1.02	1,926,232	0.985
sol.27.20-24	0.20	0.23	0.88	115,733	0.991
cod.27.47d20	0.64	0.31	2.06	71,321	0.995
whg.27.47d	0.21	0.17	1.21	36,894	0.998
bss.27.4bc7ad-h	0.10	0.17	0.57	21,471	0.999
wit.27.3a47d	0.20	0.15	1.31	11,779	0.999
hke.27.3a46-8abd	0.23	0.26	0.88	7,674	1
had.27.46a20	0.18	0.19	0.93	636	1
mac.27.nea	0.22	0.26	0.86	478	1
pok.27.3a46	0.46	0.36	1.27	83	1
nep.fu.6	16.10	8.12	1.98	0	1
nep.fu.8	18.30	16.30	1.12	0	1

Table 6. F, F$_{MSY}$, ratio of F over F$_{MSY}$, landing value and cumulative proportion of stocks of the large beam trawler segment >40m (TBB-VL40XX) in terms of total landing value in 2019. Stocks are listed from highest to lowest cumulative contribution.

Stock	F	F$_{MSY}$	F/F$_{MSY}$	Landing value (€)	Cumulative proportion
sol.27.4	0.27	0.21	1.31	53,343,580	0.533
ple.27.420	0.17	0.21	0.79	34,416,221	0.877
tur.27.4	0.37	0.36	1.02	10,413,956	0.981
cod.27.47d20	0.64	0.31	2.06	675,441	0.988
sol.27.20-24	0.20	0.23	0.88	620,379	0.994
whg.27.47d	0.21	0.17	1.21	193,338	0.996
wit.27.3a47d	0.20	0.15	1.31	165,442	0.998
bss.27.4bc7ad-h	0.10	0.17	0.57	154,677	0.999
hke.27.3a46-8abd	0.23	0.26	0.88	35,066	1
had.27.46a20	0.18	0.19	0.93	27,310	1
sol.27.7d	0.37	0.57	0.66	12,646	1
pok.27.3a46	0.46	0.36	1.27	8,382	1
mac.27.nea	0.22	0.26	0.86	1,098	1
ple.27.7d	0.30	0.25	1.19	584	1
nep.fu.6	16.10	8.12	1.98	0	1
nep.fu.8	18.30	16.30	1.12	0	1

Demersal trawlers

The percentage of landing value for the two demersal trawler segments (vessel length 18-24 and 24-40m) with stocks for which stock assessment data was available was low (~40%), and therefore, no SHI was calculated (Table 3). These low percentages could be explained by the large amount of landings of brown shrimp and squid, for which no stock assessment is available. *Nephrops* was also landed by both segments, but all landings got assigned to FU5 and FU33, which do not have assessments were F and F_{MSY} estimates are provided.

When combining the landings of the two fleet segments, the SHI could be calculated and is in 2019 1.01 (Table 3). The SHI is slightly above 1 due to landings of North Sea turbot (F/F_{MSY} = 1.02), North Sea cod (F/F_{MSY} = 2.06) and North Sea whiting (F/F_{MSY} = 1.21).

Pelagic fleet

The SHI for the pelagic fleet segment in 2019 is 0.98 (Table 3). The SHI has been below 1 since 2014 and shows no significant trend over time (Figure 1).

Splitting of the landings data of herring in ICES sub-division 4a over the two stocks in this area was done by assigning all catches to North Sea herring (her.27.3a47d), as the Dutch pelagic fleet has not been catching any Norwegian spring spawning herring (her.27.1-24a514a) in this area in recent years. Note that this is different from the splitting factors from Annex IV in STECF-20-11.

Stock-at-risk indicator

The stock-at-risk (SAR) indicator was calculated based on the Dutch landings (in weight) per fleet segment and clustered fleet in 2019 and the total landings per stock as estimated by ICES. Values of SSB and B_{lim} were taken from ICES stock advice. For ICES category 3 stocks with a production model (e.g. SPiCT) the B/B_{MSY} estimate was used to assess criterion A (whether stock is being below B_{lim}). The main results are presented in Table 7, and are discussed in more detail below.

Table 7. The stock-at-risk (SAR) indicator for the Dutch fleet segments in 2019, and the corresponding stocks at risk. Stock and SAR-value in parentheses suggest another stock at risk, but it is argued in the text why this stock should be included in the SAR calculation. Clustered fleets are in grey, whereas the corresponding disaggregated STECF fleet segments are presented below each clustered fleet.

Fleet		SAR	Stocks at risk
Small scale and coastal		**1**	**bss.27.4bc7ad-h**
	PG-VL0010	1	bss.27.4bc7ad-h
	PG-VL1012	2	bss.27.4bc7ad-h, sol.27.4
	DFN-VL1824	0	
	TBB-VL0010	0	
Small beam trawlers		**0**	
	TBB-VL1218	0	
	TBB-VL1824	0	
Large beam trawlers		**1**	**rjb.27.3a4**
	TBB-VL2440	2	rjb.27.3a4, sol.27.4
	TBB-VL40XX	1	sol.27.4
Demersal trawlers		**0**	
	DTS-VL1824	0	
	DTS-VL2440	0	
Pelagic		**0 (1)**	**(her.27.6a7bc)**
	TM-VL40XX	0 (1)	(her.27.6a7bc)

Small scale and coastal fleet

For the 0-10 m passive gear segment SAR was calculated to be 1, whereas SAR was 2 for the 10-12 m passive gear segment (Table 7). The corresponding stock at risk is seabass in 27.4.bc7ad-h for both segments, and North Sea sole also for PG-VL1012. The landings of seabass of both segments comprised of more than 10% of the total landings of the segments in 2019 (criterion 1), and landings by PG-VL0010 comprised also more than 10% of the total landings of the stock (criterion 2). Landings of sole comprised more than 10% of the total landings of PG-VL1012. The SSB of seabass and sole in 2019 is estimated to be below Blim. No stocks at risk were identified for the small beam trawl and drift/fixed net segments (Table 7).

The number of stocks at risk for the clustered fleet segment is 1, corresponding to seabass.

Small beam trawlers

No stocks at risk were identified for the two small beam trawler segments and the clustered fleet (Table 7).

Large beam trawlers

The number of stocks at risk for the large beam trawler segments was 2 for the 24-40m segment, and 1 for the >40m segment (Table 7). North Sea sole was a stock at risk for both segments and comprised more than 10% of the landings of the segments (criterion 1). For TBB-VL40XX, sole landings also comprised more than 10% of the total landings of the stock (criterion 2). Another stock at risk for TBB-VL2440 was the common skate complex (consisting of common blue skate and flapper skate) in the North Sea, Skagerrak and Kattegat, as the landings by the fleet segment (211 kg) comprised more than 10% of the total landings of the stock (1,000 kg; criterion 2). As STECF-20-11 mentions, the SAR indicator can be sensitive to low catch values, leading to that the threshold for criterion 2 can easily be reached, as shown also here. No landings are allowed for this stock (criterion C) and the species are listed on the IUCN Red List as critically endangered (criterion D).

The number of stocks at risk for the clustered fleet segment is 1, corresponding to the common skate complex.

Demersal trawlers

No stocks at risk were identified for the two demersal trawler segments and the clustered fleet (Table 7).

Pelagic fleet

The number of stocks at risk for the pelagic fleet in 2019 is assessed to be 0 (Table 7). However, the pelagic fleet landed catches of the herring stock in West of Scotland and West Ireland, which has a zero catch advice in terms of commercial catches. However, it has a monitoring TAC of 5800 t for scientific purposes. It is therefore argued that this stock should not be included in the SAR indicator for the pelagic fleet, as the landings fall under the monitoring TAC.

Summary and comments to the biological indicators

According to the thresholds and criteria in the 2014 Commission Guidelines, three fleet segments, namely PG-VL1012, TBB-VL2440 and TBB-VL40XX, are out of balance according to the SHI (Table 8). PG-VL1012, TBB-VL2440 and TBB-VL40XX are also out of balance according to the SAR indicator. All four segments have a decreasing trend in SHI, indicating that the SHI is improving. The pelagic fleet is in balance according to both the SHI and SAR indicator. For six segments, the SHI could not be calculated. The SAR indicator of these segments was zero, suggesting that these segments are in balance according to the SAR indicator.

For most fleet segments with SHI>1 and/or SAR>0, North Sea sole was (partially) driving this result. The stock was benchmarked in 2020, which led to a drastic change in the perception of the stock and new reference points. The following stock assessment in 2020, on which this biological analysis is based,

therefore indicated that stock level (SSB) and exploitation rate (F) had been outside save biological levels in 2019. This is a different perception than the 2018 assessment (F still above F_{MSY}, but SSB above B_{lim} and MSY $B_{trigger}$), which formed the basis of the TAC for 2019 and the Dutch catches in 2019. With our current knowledge of the stock the stock biomass was already back then outside safe biological limits, to which the Dutch fleet contributed. However, this was not yet known in 2019, neither by fishermen nor by managers.

Uncertainties around the biological indicators

The estimates of F and F_{MSY} depend on the quality of the assessment. Many of the stock assessments used to define the F/ F_{MSY} ratio are uncertain, and some are even highly uncertain, such as for western horse mackerel and North Sea cod. This affects the calculation of SHI, also acknowledged by STECF-20-11. Longer trends in SHI values are therefore useful to interpret any potential fleet over-capacity.

Fisheries advice aims to fish stocks at or below F_{MSY}. Given the uncertain nature of estimation of stock size and exploitation rate, it is to be expected that, looking back, F exceeds F_{MSY} in some years while management was in line with F_{MSY} advice. Longer-term perspectives on SHI are indicative of constant over- or under-exploitation of target species.

Due to the schooling nature of rays and skates, bycatch of these species is likely to be binary over the years (absent vs present). Especially for stocks for which a zero-TAC is issued, like the common skates complex, an incidental bycatch triggers SAR to take a value of 1, while measured over slightly longer periods one would conclude that bycatches are minimal.

Stock assessments regularly go through benchmarks, where the perception of the stock and its reference points can change. It may therefore happen that advice given in the past and TACs set based on that advice were, looking back, do not follow the MSY approach (as for benchmark of North Sea sole in 2020). This can lead to situations where before the benchmark, indicators are calculated to be pointing towards balance between fleet capacity and fishing opportunities, whereas calculating the indicators after the benchmark, indicators point towards fleets being out of balance. By making use of the most recent stock assessment available when calculating the indictors, the indicators do not consider the knowledge on the stock that managers had at the time the TACs were set. A revision of the indicators and their calculation could take this issue into account.

References

Beukhof, E. & Hamon, K. (2020). Indicators of the balance between fleet capacity and fishing opportunities: discrepancies between the Dutch national fleet report and STECF. Wageningen Marine Research report C045/20, Wageningen University & Research, 29 p.

Scientific, Technical and Economic Committee for Fisheries (STECF) – Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-20-11). EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27163-5, doi:10.2760/414107, JRC123057.

Part II

Economic and social indicators for the 2019 Dutch fleet

There were 723 vessels in the Dutch fleet in 2019 (720 vessels in 2020), that were allowed to fish commercially in marine waters. From these vessels 518 were considered active based on logbook information (see Table 1). The active fleet is then split into several fleets, the small scale and coastal fishery, the small and large beamtrawlers (<24m or >24m), the demersal trawlers and the pelagic trawlers. Except for the pelagic trawlers, those fleets are themselves made of several segments defined by the data collection framework (DCF) and used by STECF. Because of data trustworthyness and economic importance, the small scale and coastal fleet was previously excluded from the economic part of the fleet report. The fleet segments which include the main fleets (commercially active cutters and trawlers grossing more than 50.000 euro) consisted of 325 vessels and cumulated about 99% of the landings value in 2020.

Since 2017, three small scale segments have been pooled with others because the number of vessels fell below the threshold of 10 vessels used to protect confidentiality of data. The DFN_VL1218 was clustered with DFN_VL1824, DTS_VL0010 with TBB_VL0010 and DRB_VL2440 with TBB_VL1218 in the small beamtrawler fleet. Those choices were made to pool the fleets with fleets with as similar cost structures as possible.

Table 1: Number of vessels per fleet (in grey) and disaggregated by STECF segment.

Fleet	2013	2014	2015	2016	2017	2018	2019	2020
Small scale and coastal	254	248	232	231	219	210	206	221
DFN_VL1218	13	13	8	8	-	-	-	-
DFN_VL1824	9	10	7	7	13	17	17	15
DRB_VL2440	7	8	8	8	-	-	-	-
DTS_VL0010	15	13	10	12	-	-	-	-
PG_VL0010	179	167	165	162	161	157	158	171
PG_VL1012	12	17	17	19	18	18	17	20
TBB_VL0010	19	20	17	15	27	18	14	15
Small beamtrawlers	171	176	174	174	178	184	171	173
TBB_VL1218	14	17	17	19	23	23	23	19
TBB_VL1824	157	159	157	155	155	161	148	154
Large beamtrawlers	86	79	77	83	85	88	86	87
TBB_VL2440	32	27	24	28	27	28	25	28
TBB_VL40XX	54	52	53	55	58	60	61	59
Demersal trawlers	27	32	36	32	35	33	49	44
DTS_VL1824	9	10	12	9	8	5	17	10
DTS_VL2440	18	22	24	23	27	28	32	34

Fleet	2013	2014	2015	2016	2017	2018	2019	2020
Pelagic trawlers	13	10	7	7	8	7	6	6
TM_VL40XX	13	10	7	7	8	7	6	6

All the indicators in this chapter have been calculated using the formulas in *Guidelines for analysis of the balance between fishing capacity and fishing opportunities according to Art. 22 of Regulation 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy (COM(2014)545)* and updated in 2020 based on the methods used in the Balance STECF EWG 19-13 (see also Beukhof and Hamon 2020). Changes to the method used led to small changes in the indicator value compared to previous years reports. Those changes included i) using real values adjusted for inflation using the consumer price index, ii) opportunity costs of capital are calculated using real interest rate and iii) the return on investment (ROI) should be compared to the 5 year average interest rate. The real interest rate used to calculate opportunity costs of capital and the 5 years average low risk long term interest rate are shown below in table 2.

Table 2: Inflation, interest rate, real interest rate, 5 year average low risk long term interest rate and consumer price index for the Netherlands. sources: Eurostat and ECB

indicator	2013	2014	2015	2016	2017	2018	2019
inflation	2.60	0.30	0.20	0.10	1.30	1.60	2.70
interest rate	1.96	1.45	0.69	0.29	0.52	0.58	0.01
real interest rate	-0.62	1.15	0.49	0.19	-0.77	-1.01	-2.62
5yr average interest rate	2.71	2.26	1.80	1.27	0.98	0.71	0.42
consumer price index	0.99	1.00	1.00	1.00	1.01	1.03	1.06

Below the results for specific segments are discussed in more detail.

Economic indicators

The economic indicators are calculated in real terms with 2015 as base year (see Table 2 for the consumer index price used for the calculations), this is in line with STECF practice and Beukhof and Hamon (2020). Five socio-economic indicators are given in this section, the interpretation of the ROI (return on investment), CR/BER (current revenue over break even revenue) and NPM (net profit margin) following the STECF guidelines are found in Table 3.

Table 3: Interpretation of economic indicators.

Indicators	Out of balance	Not sufficiently profitable	In balance
ROI[*]	ROI < 0	0 <= ROI < 5yr average interest rate	ROI > 5yr average interest rate
CR/BER	CR/BER < 1	-	CR/BER > 1
NPM	NPM < 0	-	NPM > 0

[*]due to an inactive fishing right market, the value of rights could not be calculated in 2019, ROI values in 2019 are likely overestimated and cannot be compared to those of earlier years

Total fleet

The economic indicators of the Dutch fleet demonstrate a positive return of investment (ROI) well above the 5 year average interest rate since the year 2014 indicating that the fleet is viable in the long run. The negative ROI and very low ratio of current revenue over break-even revenue (CR/BER) before 2014 were caused by the economic results of the pelagic fleet segment. The social indicators of the total fleet are positive with the average crew costs per full time equivalent (FTE) above the average Dutch gross salary[1] and a gross value added (GVA) of more than 147 million euro in 2019.

None of the indicators showed a significant trend over the last 6 years, however all indicators have been decreasing since 2016.

Table 4: Economic and social indicators total Dutch fleet. ROI: Return on Investment in %, CR/BER: current revenue over break-even revenue, NPM: net profit margin in %, Crew Costs/FTE: crew costs per full time equivalent in thousand euro and GVA: gross value added in million euro. Trend calculated over the last 6 years of data, '-' indicates a non-significant trend at 5%

Indicators	2013	2014	2015	2016	2017	2018	2019	trend
ROI	-3.40	3.50	4.60	14.40	11.70	13.50	10.50[*]	-
CR/BER	0.86	1.33	1.39	2.06	1.82	1.71	1.42	-
NPM	-3.40	7.00	8.00	19.50	15.80	13.40	7.90	-
Crew Costs/FTE	59.20	63.50	71.10	92.10	78.40	74.00	61.60	-
GVA	143.60	177.50	180.40	278.90	232.40	210.20	146.90	-

[*]due to an inactive fishing right market, the value of rights could not be calculated in 2019, ROI values in 2019 are likely overestimated and cannot be compared to those of earlier years

Small scale and coastal fleets

This section was added in 2020 to allow comparison with the balance report of STECF. The economic data for these fleets are collected using questionnaires and the quality is highly variable between years. In 2019, 206 vessels were operating in the small scale and coastal fisheries. They are a heterogeneous group of vessels, including mainly smaller vessels, vessel using active gears with an annual fishing revenue lower than EUR 50 k, vessels using passive gears and vessels fishing for shellfish (because of the lack of data and the similarity in cost structure, the dredgers DRB 24-40 have been pooled with the small beamtrawl fleet TBB 12-18 since 2017). In 2019, the small scale and coastal fleets represented about 1% of the total Dutch value of landings. For the past two years, the economic indicators have been in balance for most of the smallscale and coastal fleets expect for the TBB_VL0010 for which all indicators are negative and the net profit margin is decreasing. The high year-to-year and between segments variability is likely due to the quality of the data rather than real changes in the fleet.

Apart from the NPM for TBB_VL0010, none of the indicators showed a significant trend over the last 6 years. Given the quality of the data of these segments, trends would be hard to detect and any trends is more likely an artifact from the data.

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[1] Average Dutch labour cost was around EUR 59 k/year in 2018
https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84163NED/table?ts=1558951433485

Table 5: Economic and social indicators small scale and coastal fleet (in grey) and for all the STECF segments in that cluster. ROI: Return on Investment in %, CR/BER: current revenue over break-even revenue, NPM: net profit margin in %, Crew Costs/FTE: crew costs per full time equivalent in thousand euro and GVA: gross value added in million euro. Trend calculated over the last 6 years of data, '-' indicates a non-significant trend at 5% . Missing values from 2017 for some segments are due to the aggregation of the fleets with less than 10 vessels with larger fleets.

Fleet	Indicators	2013	2014	2015	2016	2017	2018	2019	trend
Small scale and coastal	**ROI**	**14.90**	**29.30**	**17.40**	**-30.50**	**4.40**	**11.20**	**17.90***	-
DFN_VL1218	ROI	1.10	1.50	1.70	1.30	-	-	-*	-
DFN_VL1824	ROI	19.60	8.30	9.50	-21.20	3.20	5.50	37.50*	-
DRB_VL2440	ROI	508.40	679.00	104.80	-115.50	-	-	-*	-
DTS_VL0010	ROI	-4.10	-1.10	-3.10	-8.10	-	-	-*	-
PG_VL0010	ROI	3.50	10.00	13.70	9.20	7.00	19.50	17.90*	-
PG_VL1012	ROI	4.00	9.30	11.80	7.00	6.30	20.40	17.90*	-
TBB_VL0010	ROI	1.50	9.00	15.40	-5.70	-0.20	-4.60	-8.80*	-
Small scale and coastal	**CR/BER**	**2.49**	**4.62**	**3.25**	**-0.20**	**1.70**	**2.50**	**2.98**	**-**
DFN_VL1218	CR/BER	1.44	1.65	2.65	2.17	-	-	-	-
DFN_VL1824	CR/BER	3.97	2.13	1.83	-0.10	2.73	2.22	6.27	-
DRB_VL2440	CR/BER	32.72	70.34	9.02	-1.43	-	-	-	-
DTS_VL0010	CR/BER	0.19	0.76	0.18	0.09	-	-	-	-
PG_VL0010	CR/BER	1.44	1.65	2.65	2.17	1.73	2.91	2.80	-
PG_VL1012	CR/BER	1.44	1.65	2.65	2.17	1.73	2.91	2.80	-
TBB_VL0010	CR/BER	0.97	1.83	2.90	0.18	1.05	0.31	0.16	-
Small scale and coastal	**NPM**	**23.70**	**51.50**	**25.40**	**-29.90**	**22.40**	**32.40**	**33.20**	**-**
DFN_VL1218	NPM	10.60	18.10	37.80	31.20	-	-	-	-
DFN_VL1824	NPM	33.20	39.10	10.50	-115.60	36.00	25.00	41.20	-
DRB_VL2440	NPM	43.50	72.80	18.10	-42.10	-	-	-	-
DTS_VL0010	NPM	-179.70	-23.10	-249.20	-81.00	-	-	-	-
PG_VL0010	NPM	10.60	18.10	37.80	31.20	22.70	37.60	32.40	-
PG_VL1012	NPM	10.60	18.10	37.80	31.20	22.70	37.60	32.40	-
TBB_VL0010	NPM	-1.50	33.50	36.20	-37.40	2.90	-72.40	-171.30	decreasing
Small scale and coastal	**Crew Costs/FTE**	**17.50**	**14.90**	**29.20**	**91.10**	**11.90**	**18.60**	**11.50**	**-**

Fleet	Indicators	2013	2014	2015	2016	2017	2018	2019	trend
DFN_VL1218	Crew Costs/FTE	12.40	11.90	7.40	6.70	-	-	-	-
DFN_VL1824	Crew Costs/FTE	12.60	4.50	32.70	76.50	14.10	42.50	35.90	-
DRB_VL2440	Crew Costs/FTE	61.40	71.60	123.90	819.90	-	-	-	-
DTS_VL0010	Crew Costs/FTE	2.30	2.00	2.50	30.50	-	-	-	-
PG_VL0010	Crew Costs/FTE	12.40	11.90	7.40	6.70	10.90	15.40	8.20	-
PG_VL1012	Crew Costs/FTE	12.40	11.90	7.40	6.70	10.90	15.40	8.20	-
TBB_VL0010	Crew Costs/FTE	11.90	4.90	39.60	59.50	28.00	16.00	16.90	-
Small scale and coastal	**GVA**	**6.70**	**12.00**	**8.30**	**8.90**	**2.90**	**5.20**	**3.50**	**-**
DFN_VL1218	GVA	0.20	0.20	0.10	0.10	-	-	-	-
DFN_VL1824	GVA	0.60	0.50	0.30	0.20	0.40	1.10	1.10	-
DRB_VL2440	GVA	3.10	7.80	4.30	5.60	-	-	-	-
DTS_VL0010	GVA	-0.00	0.20	0.00	0.20	-	-	-	-
PG_VL0010	GVA	2.50	2.40	2.90	2.10	2.10	3.70	2.20	-
PG_VL1012	GVA	0.20	0.20	0.40	0.20	0.20	0.40	0.20	-
TBB_VL0010	GVA	0.20	0.70	0.30	0.50	0.30	0.00	-0.00	-

[*]due to an inactive fishing right market, the value of rights could not be calculated in 2019, ROI values in 2019 are likely overestimated and cannot be compared to those of earlier years

Beamtrawlers shorter than 24 meters

In 2019 the fleet segment beamtrawlers shorter than 24 meters consists of 171 vessels fishing mainly for shrimps (55% of their fishing revenue in 2019) and sole (14% of the revenue in 2019). The return on investment for the small beamtrawlers was high until 2018 with extreme values in 2016 because of low fuel prices, high fish catches and prices and high shrimp prices. The ratio of current revenue over break-even revenue and net profit margin show similar patterns indicating a segment viable until 2018. However, 2019 showed out of balance indicators driven by the 18-24m part of the segment while the 12-18m economic performances improved. The deteriorated economic performances are in large part due to the low price and landings of shrimps which affected most of the fleet. The 12-18m fleet's improved conditions are due to a small number of shellfish dredgers performing well in 2019.

During the same period, the average crew wage was higher than the Dutch minimum salary[2] and Dutch average wage[1] . The GVA of the small beamtrawlers is positive, indicating that the fleet has a value for society, in 2019 it still represented 17% of the total GVA for the Dutch fleet. The large

fluctuations in the values for the segment of beam trawlers 12-18 meters is partly due to the high variability in the data for this segment.

Overall the trends for the indicators are not significant for the small beamtrawlers

Table 6: Economic and social indicators small beam trawl fleet (in grey) and from the STECF segments in that cluster. ROI: Return on Investment in %, CR/BER: current revenue over break-even revenue, NPM: net profit margin in %, Crew Costs/FTE: crew costs per full time equivalent in thousand euro and GVA: gross value added in million euro. Trend calculated over the last 6 years of data, '-' indicates a non-significant trend at 5%

Fleet	Indicators	2013	2014	2015	2016	2017	2018	2019	trend
Small beamtrawlers	**ROI**	**12.80**	**10.30**	**9.80**	**44.60**	**18.60**	**21.30**	**-1.80**[*]	**-**
TBB_VL1218	ROI	-5.90	-7.30	-8.30	10.10	90.50	29.20	139.40[*]	increasing
TBB_VL1824	ROI	13.60	11.40	10.50	46.50	15.10	19.50	-21.10[*]	-
Small beamtrawlers	**CR/BER**	**1.51**	**1.45**	**1.48**	**3.16**	**1.87**	**1.66**	**1.00**	**-**
TBB_VL1218	CR/BER	0.82	0.68	0.77	1.39	4.35	3.14	6.23	increasing
TBB_VL1824	CR/BER	1.55	1.50	1.52	3.29	1.71	1.53	0.63	-
Small beamtrawlers	**NPM**	**9.50**	**10.10**	**11.50**	**29.40**	**16.80**	**13.90**	**-0.10**	**-**
TBB_VL1218	NPM	-6.50	-16.50	-10.90	11.60	28.70	27.10	33.80	increasing
TBB_VL1824	NPM	10.00	10.90	12.20	29.90	15.00	11.80	-12.60	-
Small beamtrawlers	**Crew Costs/FTE**	**64.60**	**55.70**	**55.80**	**105.30**	**77.90**	**75.70**	**47.30**	**-**
TBB_VL1218	Crew Costs/FTE	32.40	22.40	28.60	50.40	58.80	77.70	66.00	increasing
TBB_VL1824	Crew Costs/FTE	66.50	58.10	57.30	109.30	82.00	75.50	43.10	-
Small beamtrawlers	**GVA**	**43.50**	**41.70**	**39.70**	**91.50**	**62.10**	**56.20**	**25.70**	**-**
TBB_VL1218	GVA	1.00	0.90	0.80	2.50	9.40	9.10	11.10	increasing
TBB_VL1824	GVA	42.50	40.80	38.90	89.00	52.60	47.10	14.70	-

[*] due to an inactive fishing right market, the value of rights could not be calculated in 2019, ROI values in 2019 are likely overestimated and cannot be compared to those of earlier years

Large beamtrawlers

The large beamtrawlers consisted of 86 vessels fishing mainly flatfish in 2019, sole and plaice representing almost 78 % of the value of their landings in 2019 (74% in 2020). The segment of vessels between 24-40 meter is a heterogeneous group consisting of a number of so-called eurocutters (vessels of around 24 meter and an engine power of 221 kw) and a group of vessels of little less than 40 m and an engine power of 1471 kw).

Between 2013 and 2018 the average ROI was positive and the fleet had revenues well above the break even revenue. This was mainly due to the lower fuel costs and the transition to innovative

pulse gears, but also the increased fish prices. The 2019 ROI cannot be interpreted as value of fish quota could not be determined due to lack of fishing rights market that year. For these segments highly dependent on two species with individual quota, this has serious repercussion on the value of ROI. The fact that the current revenue is still much higher than the break-even revenue indicates an economically viable segment. However, the 24-40m part of the fleet was strongly affected by the shrimp low price and landings displaying *out-of-balance* economic performances, and the stop of the first pulse fishers in 2019 led to lower economic performances than in 2018 for the +40m. The ban of pulse trawl is expected to have further negative impact on the economic performances of this fleet as the last vessels stop with this gear in 2021.

The social indicators show that the average crew cost per FTE is higher than the average Dutch salary[1] The GVA of the large beam trawler is positive and contributes to 37% of the total GVA for the Dutch fleet. It is expected that with the prohibition of the pulse gear, the economic and social indicators for these segments will decrease in the coming years.

None of the indicators showed a significant trend over the last 6 years for the large beamtrawlers, however indicators have been decreasing since 2016. A negative trend likely to continue as the pulse trawl is being phased out of the fishery.

Table 7: Economic and social indicators small beam trawl fleet (in grey) and from the STECF segments in that cluster. ROI: Return on Investment in %, CR/BER: current revenue over break-even revenue, NPM: net profit margin in %, Crew Costs/FTE: crew costs per full time equivalent in thousand euro and GVA: gross value added in million euro. Trend calculated over the last 6 years of data, '-' indicates a non-significant trend at 5%

Fleet	Indicators	2013	2014	2015	2016	2017	2018	2019	trend
Large beamtrawlers	**ROI**	**4.90**	**11.00**	**13.90**	**17.60**	**13.90**	**20.30**	**74.60**[*]	**-**
TBB_VL2440	ROI	4.00	8.70	14.40	27.00	19.50	21.80	-19.50[*]	-
TBB_VL40XX	ROI	5.10	11.50	13.90	16.00	13.00	20.00	107.40[*]	-
Large beamtrawlers	**CR/BER**	**1.42**	**2.00**	**2.58**	**3.25**	**2.70**	**2.34**	**1.73**	**-**
TBB_VL2440	CR/BER	1.25	1.54	2.00	2.97	2.28	1.78	0.81	-
TBB_VL40XX	CR/BER	1.48	2.18	2.78	3.35	2.84	2.53	1.98	-
Large beamtrawlers	**NPM**	**7.00**	**16.30**	**23.70**	**28.30**	**23.50**	**19.30**	**11.30**	**-**
TBB_VL2440	NPM	4.90	11.40	19.20	27.40	20.80	14.80	-4.10	-
TBB_VL40XX	NPM	7.60	17.60	24.90	28.50	24.20	20.30	14.20	-
Large beamtrawlers	**Crew Costs/FTE**	**62.40**	**68.90**	**79.80**	**93.70**	**83.20**	**75.50**	**64.20**	**-**
TBB_VL2440	Crew Costs/FTE	54.90	53.70	63.40	88.90	83.00	75.50	53.80	-
TBB_VL40XX	Crew Costs/FTE	65.40	74.90	85.50	95.20	83.30	75.50	67.00	-
Large beamtrawlers	**GVA**	**51.20**	**64.90**	**85.10**	**103.80**	**93.10**	**82.00**	**54.80**	**-**
TBB_VL2440	GVA	12.40	13.20	16.10	23.80	18.80	15.00	5.90	-
TBB_VL40XX	GVA	38.80	51.70	68.90	80.00	74.30	67.00	48.90	-

[*]due to an inactive fishing right market, the value of rights could not be calculated in 2019, ROI values in 2019 are likely overestimated and cannot be compared to those of earlier years

Demersal trawlers

The demersal trawl fleet segments consists of 49 vessels in 2019, targeting various species such as nephrops, plaice and mulet (those three species make up for about 43% of the value of landings in 2019). The segment of 24-40 meter also include one vessel which is larger than 40 meter. The fleet showed a positive return of investment and a revenue over break-even revenue above one since 2013 on average although the smaller demersal trawlers show high inter-annual variability and three years with indicators "not in balance". These indicate an economically viable fleet despite heterogeneity in the segments. The flyshooters (larger than 24m) have performed well while the other demersal trawls haven't performed well in 2019 due to poor plaice catches by twinrig and drop in the Nephrops price mid 2019, following the dump of Scottisch Nephrops on the EU market[3]

The average crew wage has been above average wage[1] in the Netherlands in all years. The GVA of the demersal fleet is positive and contributes to 13% of the total GVA for Dutch fleets.

None of the indicators showed a significant trend over the last 6 years for the demersal fleets.

Table 8: Economic and social indicators demersal fleet (in grey) and from the STECF segments in that cluster. ROI: Return on Investment in %, CR/BER: current revenue over break-even revenue, NPM: net profit margin in %, Crew Costs/FTE: crew costs per full time equivalent in thousand euro and GVA: gross value added in million euro. Trend calculated over the last 6 years of data, '-' indicates a non-significant trend at 5%

Fleet	Indicators	2013	2014	2015	2016	2017	2018	2019	trend
Demersal trawlers	**ROI**	**2.50**	**6.70**	**19.40**	**15.10**	**14.50**	**-3.30**	**0.50**[*]	-
DTS_VL1824	ROI	4.30	15.20	30.70	18.30	-3.00	-14.00	-3.30[*]	-
DTS_VL2440	ROI	1.60	4.60	17.30	14.80	17.60	-1.90	2.40[*]	-
Demersal trawlers	**CR/BER**	**1.22**	**1.32**	**2.18**	**1.72**	**1.59**	**0.92**	**1.15**	-
DTS_VL1824	CR/BER	1.28	1.40	2.00	1.31	0.96	0.64	0.95	-
DTS_VL2440	CR/BER	1.20	1.29	2.24	1.88	1.80	0.97	1.20	-
Demersal trawlers	**NPM**	**5.50**	**7.70**	**19.30**	**16.80**	**13.80**	**-2.40**	**3.30**	-
DTS_VL1824	NPM	6.60	9.30	17.20	9.50	-1.50	-15.10	-1.10	-
DTS_VL2440	NPM	5.00	7.20	19.90	18.80	16.40	-0.80	4.40	-
Demersal trawlers	**Crew Costs/FTE**	**48.80**	**58.40**	**82.20**	**75.40**	**80.60**	**62.50**	**63.10**	-
DTS_VL1824	Crew Costs/FTE	43.30	50.60	73.00	57.30	80.60	62.50	52.10	-
DTS_VL2440	Crew Costs/FTE	51.40	61.70	85.90	82.50	80.60	62.50	66.70	-
Demersal trawlers	**GVA**	**10.90**	**14.70**	**24.30**	**25.00**	**23.10**	**13.00**	**18.90**	-
DTS_VL1824	GVA	3.30	3.80	5.70	4.80	2.70	1.10	3.30	-
DTS_VL2440	GVA	7.60	10.90	18.60	20.20	20.50	12.00	15.70	-

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[3] see *https://www.visserijnieuws.nl/nieuws/kreeftjeshandelaren-trappen-op-de-rem*

Fleet	Indicators	2013	2014	2015	2016	2017	2018	2019	trend

Pelagic fleet

At the end of 2019, the pelagic fleet consisted of 6 vessels in targeting pelagic species on large trawlers (down from 7 vessels most of the year). In 2019, the four main species (herring, blue whiting, mackerel and horse mackerel) amounted for 89% of the revenue of the fleet.

The revenue of this fleet have been corrected for all years in 2021 due to the realisation that there was a mistake in what revenue was included for one of the fishing company (out of three companies).

The pelagic fleet has sustained a calculated loss every year over the period until 2015 with negative gross profits. However, there is a tidy positive result with a positive Return On Investment (ROI) and revenue above the breakeven revenue since 2016. Because the pelagic fleet is vertically integrated in companies the calculated losses do not mean that the sector is unprofitable: the prices used to calculate revenue are internally applied transfer prices provided by the fishing companies as the fish is not sold in auction but transformed and traded directly by the companies. The crew wage is higher than the average Dutch salary[1] and the GVA is positive. In 2019, this GVA contributed to 30% of GVA for the total Dutch fleet.

Table 9: Economic and social indicators pelagic fleet (in grey). ROI: Return on Investment in %, CR/BER: current revenue over break-even revenue, NPM: net profit margin in %, Crew Costs/FTE: crew costs per full time equivalent in thousand euro and GVA: gross value added in million euro. Trend calculated over the last 6 years of data, '-' indicates a non-significant trend at 5%

Fleet	Indicators	2013	2014	2015	2016	2017	2018	2019	trend
Pelagic trawlers	**ROI**	**-26.70***	**-12.30***	**-15.80***	**1.60***	**2.20***	**6.5***	**4.40***	**increasing**
TM_VL40XX	ROI	-26.70*	-12.30*	-15.80*	1.60*	2.20*	6.5*	4.40*	increasing
Pelagic trawlers	**CR/BER**	**0.19**	**0.58**	**0.14**	**1.09**	**1.18**	**1.4**	**1.53**	**increasing**
TM_VL40XX	CR/BER	0.19	0.58	0.14	1.09	1.18	1.4	1.53	increasing
Pelagic trawlers	**NPM**	**-34.90**	**-11.60**	**-25.50**	**2.70**	**4.40**	**8.0**	**8.70**	**increasing**
TM_VL40XX	NPM	-34.90	-11.60	-25.50	2.70	4.40	8.0	8.70	increasing
Pelagic trawlers	**Crew Costs/FTE**	**68.60**	**84.30**	**89.40**	**81.80**	**84.60**	**88.3**	**92.10**	**-**
TM_VL40XX	Crew Costs/FTE	68.60	84.30	89.40	81.80	84.60	88.3	92.10	-
Pelagic trawlers	**GVA**	**31.30**	**44.10**	**23.00**	**49.80**	**51.20**	**53.8**	**44.00**	**-**
TM_VL40XX	GVA	31.30	44.10	23.00	49.80	51.20	53.8	44.00	-

Technical indicators

Inactive vessel indicator

Following the method used by STECF, the inactive vessel indicator is calculated for all vessel length categories as the ratio inactive over the total fleet. Three indicators of capacity utilization are calculated, using the number of vessels (TotVes), the engine power (TotkW) and the gross tonnage (TotGT). While the inactivity of the Dutch fleet lays below 10% in terms of gross tonnage and engine power, the large number of small inactive vessels brings the total inactive vessel percentage above the 20% threshold. This is mainly due to the relatively large amount to small inactive vessels (approx. 19% of the fleet total) which contribute less than 1% to the total tonnage of the fleet. The inactivity percentage of the categories <10m and 12-18m has been growing over time. Some of those small vessels are kept to store fishing rights but are not actually used to fish.

The larger vessel categories' contribution to the inactivity percentage is small due to the low number of large vessels in the fishery (Table 1). Over the whole period the inactivity for the large vessels has remained relatively stable. The large inactive vessels are cockle vessels included in this category. These vessels are used in the hand cockle fisheries or other activities where no landing registrations are required (and in this way registered as inactive).
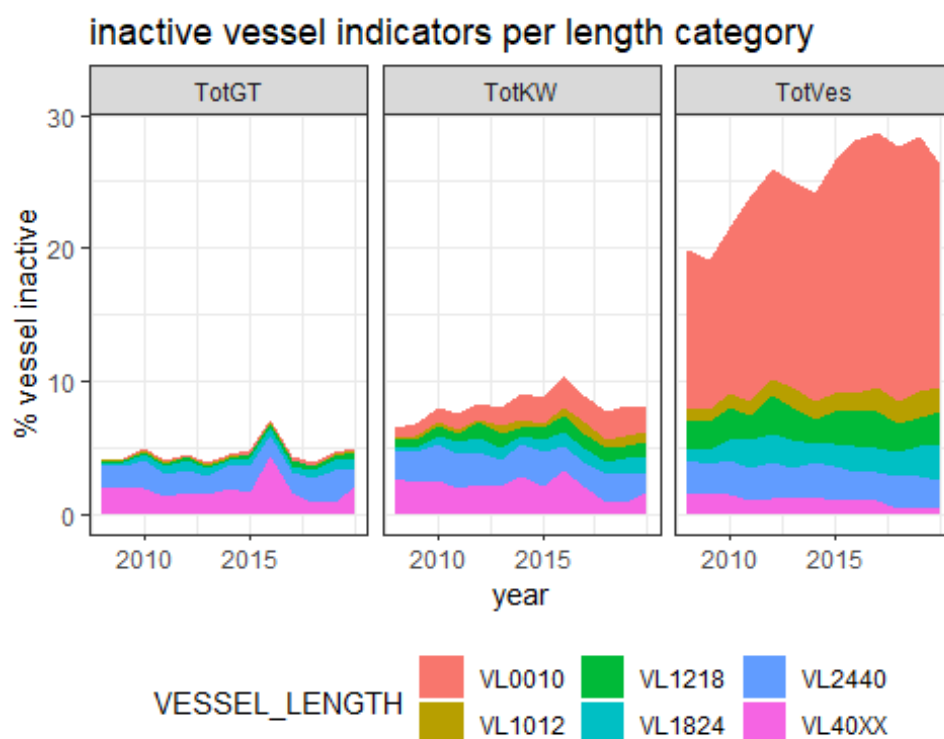
Table 10: Percentage inactive per vessel length category in terms of vessel number, KW and tonnage.

Indicator	Vessel length	2013	2014	2015	2016	2017	2018	2019	2020
	VL0010	0.15	0.18	0.22	0.23	0.21	0.22	0.24	0.19
	VL1012	0.08	0.08	0.08	0.08	0.11	0.11	0.12	0.11
TotGT	VL1218	0.23	0.18	0.31	0.34	0.35	0.29	0.32	0.40
	VL1824	0.60	0.39	0.60	0.62	0.53	0.57	0.74	0.87
	VL2440	1.33	1.74	1.91	1.51	1.56	1.84	2.43	1.30
	VL40XX	1.58	2.04	1.73	4.43	1.63	0.91	0.95	2.17

Indicator	Vessel length	2013	2014	2015	2016	2017	2018	2019	2020
TotKW	VL0010	1.44	2.01	1.96	2.41	2.07	2.07	2.23	1.90
	VL1012	0.65	0.47	0.29	0.52	0.83	0.65	0.75	0.74
	VL1218	0.95	0.66	0.93	1.21	1.15	0.97	1.00	1.22
	VL1824	1.03	0.68	0.93	1.04	0.98	0.98	1.19	1.28
	VL2440	1.85	2.42	2.53	1.84	1.87	2.07	2.09	1.32
	VL40XX	2.21	2.87	2.22	3.41	2.12	0.97	0.98	1.68
TotVes	VL0010	15.37	15.72	17.57	18.96	19.16	19.00	19.20	16.67
	VL1012	1.63	1.39	1.26	1.36	1.77	1.66	1.93	1.81
	VL1218	2.31	1.81	2.51	2.59	2.72	2.22	2.07	2.64
	VL1824	2.18	1.25	1.67	1.91	1.77	1.80	2.35	2.50
	VL2440	2.31	2.64	2.51	2.05	2.17	2.36	2.35	1.94
	VL40XX	1.22	1.39	1.12	1.23	1.09	0.55	0.55	0.69

Vessel Utilization Ratio

Looking at the utilisation of the active fleet in terms of fishing effort:

- the small scale vessels are largely underutilised, about 25% of the days at sea over the maximum observed effort (max observed days in based on average days at sea of 10 most active vessels). Which comes from very heterogeneous levels of effort in the fishery (note that days at sea are real 24h days so for small scale fleets with day trips 3 x 8 hours trip would make a day). The maximum number of days at sea observed has also sharply declined since 2016 (from 143 down to 46 days at sea in 2019, this is partly due to the fact that the dredgers are now in the TBB 12-18 fleet).

- The smaller beam trawlers also have very heterogeneous levels of activity in the fleet and are utilised at lower than 55% of the KW-days. This is mainly due to the seasonality of the shrimping activity and the limitation of the effort.

- The large beam trawls are utilized at around 70% for all years. The slight decrease in utilisation in the most recent years is due to the increasing trend in the maximum number of days at sea observed for this fleet. From 222 in 2008 up to 309 days in 2018 and 291 in 2019, the most active vessels are now fishing continuously and are longer at sea than the pelagic trawlers.

- The utilisation for the segments using demersal trawls remains high at 70% of the max seadays while the max number of seadays also increased.

- The average number of seadays of the pelagic fleet has decreased over the last four years (see max seadays). In 2019 6 (down from 7) pelagic vessels were fishing under Dutch flag utilising resp. 96 and 97% of the KW-days and GT-days.

Table 11: Vessel utilization ratio as a proportion of seadays, gtdays and kWdays over maximum observed sea days. Trend calculated over the last 6 years of data, '-' indicates a non-significant trend at 5%

Indicator	Fleet	2013	2014	2015	2016	2017	2018	2019	trend
observeddays	Small scale and coastal	0.18	0.17	0.18	0.15	0.16	0.18	**0.26**	-
	DFN_VL1218	0.78	0.79	1.00	1.00	-	-	-	-
	DFN_VL1824	1.12	1.00	1.14	1.29	0.79	0.62	**0.66**	-
	DRB_VL2440	0.65	0.52	1.06	0.57	-	-	-	-
	DTS_VL0010	0.70	0.78	1.02	0.84	-	-	-	-
	PG_VL0010	0.17	0.15	0.16	0.15	0.17	0.18	**0.24**	-
	PG_VL1012	0.86	0.66	0.67	0.60	0.63	0.62	**0.67**	-
	TBB_VL0010	0.63	0.59	0.69	0.83	0.41	0.59	0.73	-
	Small beamtrawlers	0.60	0.61	0.62	0.63	0.59	0.58	**0.47**	-
	TBB_VL1218	0.77	0.62	0.65	0.59	0.57	0.54	**0.55**	no trend
	TBB_VL1824	0.64	0.65	0.66	0.68	0.63	0.61	**0.50**	-
	Large beamtrawlers	0.75	0.76	0.76	0.73	0.70	0.65	**0.66**	no trend
	TBB_VL2440	0.81	0.82	0.85	0.84	0.82	0.79	0.72	-
	TBB_VL40XX	0.81	0.81	0.80	0.77	0.74	0.71	0.73	no trend
	Demersal trawlers	0.90	0.89	0.84	0.78	0.83	0.83	0.71	no trend
	DTS_VL1824	1.00	1.02	0.93	1.00	1.12	1.00	0.90	-
	DTS_VL2440	0.91	0.89	0.85	0.78	0.83	0.84	0.76	no trend
	Pelagic trawlers	0.80	1.00	1.14	1.00	1.00	1.14	1.17	-
	TM_VL40XX	0.80	1.00	1.14	1.00	1.00	1.14	1.17	-
observedgt	Small scale and coastal	1.13	0.86	1.17	0.65	0.47	0.75	0.85	-
	DFN_VL1218	0.94	0.97	0.95	0.90	-	-	-	-
	DFN_VL1824	1.20	0.93	1.14	1.36	0.75	0.60	**0.61**	-
	DRB_VL2440	0.67	0.61	0.96	0.57	-	-	-	-
	DTS_VL0010	1.34	1.29	1.12	1.15	-	-	-	-
	PG_VL0010	0.17	0.13	0.14	0.14	0.16	0.16	**0.23**	-
	PG_VL1012	0.81	0.58	0.58	0.52	0.62	0.56	**0.63**	-
	TBB_VL0010	0.42	0.43	0.39	0.53	0.50	0.56	0.93	increasing
	Small beamtrawlers	0.64	0.65	0.65	0.67	0.70	0.70	**0.59**	-
	TBB_VL1218	0.81	0.67	0.67	0.61	0.77	0.81	0.79	-
	TBB_VL1824	0.63	0.64	0.64	0.66	0.62	0.61	**0.50**	-
	Large beamtrawlers	0.85	0.83	0.81	0.79	0.75	0.71	0.71	no trend

Indicator	Fleet	2013	2014	2015	2016	2017	2018	2019	trend
	TBB_VL2440	0.75	0.74	0.82	0.78	0.79	0.77	0.73	-
	TBB_VL40XX	0.69	0.69	0.68	0.66	0.63	0.61	**0.62**	no trend
	Demersal trawlers	1.02	0.99	0.96	0.81	0.81	0.80	0.78	no trend
	DTS_VL1824	0.92	0.92	0.77	0.90	0.99	0.89	0.81	-
	DTS_VL2440	0.81	0.79	0.75	0.68	0.71	0.74	**0.65**	no trend
	Pelagic trawlers	0.75	0.87	0.93	0.78	0.80	1.05	0.97	-
	TM_VL40XX	0.75	0.87	0.93	0.78	0.80	1.05	0.97	-
	Small scale and coastal	0.51	0.35	0.36	0.40	0.19	0.25	**0.37**	-
	DFN_VL1218	0.66	0.59	0.63	0.96	-	-	-	-
	DFN_VL1824	1.04	0.81	0.95	1.10	0.64	0.51	**0.55**	decreasing
	DRB_VL2440	0.68	0.64	1.07	0.52	-	-	-	-
	DTS_VL0010	1.51	1.17	1.08	0.74	-	-	-	decreasing
	PG_VL0010	0.18	0.14	0.14	0.14	0.14	0.18	**0.26**	-
	PG_VL1012	0.62	0.41	0.40	0.41	0.44	0.42	**0.46**	-
	TBB_VL0010	0.81	0.71	0.67	1.11	0.66	0.71	1.07	-
	Small beamtrawlers	0.60	0.62	0.62	0.64	0.64	0.64	**0.53**	-
observedkw	TBB_VL1218	0.83	0.64	0.63	0.59	0.70	0.67	**0.65**	-
	TBB_VL1824	0.58	0.60	0.60	0.62	0.57	0.56	**0.45**	-
	Large beamtrawlers	0.87	0.85	0.83	0.81	0.77	0.73	0.73	no trend
	TBB_VL2440	0.75	0.72	0.83	0.80	0.79	0.77	0.74	-
	TBB_VL40XX	0.69	0.69	0.67	0.66	0.63	0.60	**0.61**	no trend
	Demersal trawlers	0.96	0.95	0.91	0.79	0.79	0.78	0.78	no trend
	DTS_VL1824	0.89	0.91	0.73	0.88	0.99	0.89	0.81	-
	DTS_VL2440	0.80	0.78	0.73	0.67	0.69	0.72	**0.64**	no trend
	Pelagic trawlers	0.73	0.87	0.94	0.78	0.80	1.06	0.96	-
	TM_VL40XX	0.73	0.87	0.94	0.78	0.80	1.06	0.96	-

Table 12: Maximum observed sea days per fleet.

Indicator	Fleet	2013	2014	2015	2016	2017	2018	2019	trend
MAX_DAYS	Small scale and coastal	106	108	101	143	115	75	46	-
	DFN_VL1218	53	45	22	14	-	-	-	decreasing
	DFN_VL1824	67	28	35	26	27	32	35	-
	DRB_VL2440	106	108	61	143	-	-	-	-
	DTS_VL0010	5	7	1	7	-	-	-	-
	PG_VL0010	84	107	101	133	115	75	46	-
	PG_VL1012	27	30	35	41	34	25	19	-
	TBB_VL0010	16	19	22	16	24	13	7	-
	Small beamtrawlers	219	198	203	217	210	204	191	-
	TBB_VL1218	65	84	85	89	119	115	92	-
	TBB_VL1824	219	198	203	217	210	204	191	-
	Large beamtrawlers	253	242	252	269	286	309	291	increasing
	TBB_VL2440	204	199	201	211	211	205	198	-
	TBB_VL40XX	253	242	252	269	286	309	291	increasing
	Demersal trawlers	208	214	206	225	213	223	246	increasing
	DTS_VL1824	179	189	180	174	156	165	174	-
	DTS_VL2440	208	214	206	225	213	223	246	increasing
	Pelagic trawlers	199	221	223	261	257	235	230	-
	TM_VL40XX	199	221	223	261	257	235	230	-

References

Beukhof, E., and K. G. Hamon. 2020. "Indicators of the Balance Between Fleet Capacity and Fishing Opportunities: Discrepancies Between the Dutch National Fleet Report and Stecf." IJmuiden: Wageningen Marine Research. *https://doi.org/10.18174/521470*.