27 May 2019

Report to the European Commission under Article 22 of Regulation (EU) No 1380/2013 on the balance between fishing capacity and fishing opportunities in the German fishing fleet in 2018

1.A: Fleet description and development

i. Fleet description

As at 31 December 2018 the German fishing fleet comprised 1,329 fishing vessels, which is 44 vessels fewer than in the previous year. Moreover, engine power decreased by 6,683 kW and tonnage by 4,468 GT. In the description below the vessels have been broken down into seven groups.

Static net vessels < 12 m (PG VL0010, PG VL1012)

With 1,026 small-scale coastal fishing vessels with a total overall length of less than 12 metres, this is the largest segment of the German fishing fleet in terms of numbers. These vessels mainly operate with static nets in the Baltic Sea. About one third of the vessels in this segment (379) are operated as a side business. The fact that so many vessels are operated in the context of a side business, sometimes involving the use of a second or third vessel, leads to a low technical indicator value. The species fished are primarily herring and cod, but also include flounder.

The segment has shrunk by 43 vessels compared to the previous year and accounts for nearly all vessels withdrawn over that period. Engine power fell by 558 kW and tonnage by 72 GT.

Fishing vessels using passive fishing gear ≥ 12 m (FPO VL1218, FPO VL2440, DFN VL1218, DFN VL1824, DFN VL2440)

This segment is made up of vessels with an overall length of at least 12 metres using passive fishing gear. As at 31 December 2018 it included 15 vessels. Some of these vessels operate only in western waters, where they mainly fish anglerfish and Atlantic deep-sea red crab (*Chaceon affinis*). Vessels in this segment also fish in the western Baltic Sea (herring and cod) and in the North Sea (cod, plaice and sole).

This segment was reduced by one vessel in the reporting year, and fishing capacity fell by 19 GT and 59 kW.

Trawlers < 40 m (DTS VL0010, DTS VL1012, DTS VL1218, DTS VL1824, DTS VL2440, TM VL1218, TM VL1824, TM VL2440)

As at 31 December 2018 there were a total of 54 vessels in the segment made up of trawlers with a total length of up to 40 metres. In the North Sea, these vessels mainly fished saithe, cod, haddock, herring, plaice and hake, while their main catches in the Baltic sea were of herring, cod and sprat.

The number of vessels remained unchanged compared to the previous year, but fishing capacity fell by 121 GT and 437 kW due to replacement measures.

Beam trawlers (TBB VL0010, TBB VL1218, TBB VL1824, TBB VL2440, TBB VL40XX)

Beam trawlers on lists 1 and 2 and larger beam trawlers of 24 metres or more play an important role in the German fishing industry. The listed vessels, whose engine power may not exceed 221 kW, operate in the flatfish protection zone. Common shrimp (CSH) is the main species targeted. Large beam trawlers fish across the entire North Sea, but mainly catch flatfish such as plaice and sole.

Moreover, ten vessels within this segment are equipped with electric pulse beam trawls (of these, two target shrimp and eight target flatfish). Germany therefore complies with Article 31a of Regulation (EC) No 850/1998, according to which a maximum of 5% of vessels in this segment may be equipped with a pulse trawl.

As at 31 December 2018 the German fishing fleet comprised 215 beam trawlers with a total capacity of 10,970 GT and 46,600 kW. This represents an increase in tonnage of 197 GT and in engine power of 476 kW. The number of vessels remained unchanged.

Deep-sea pelagic fisheries (TM VL40XX)

As at 31 December 2018 Germany had, as in the previous year, a total of five vessels in the deep-sea pelagic fisheries segment (total length of 40 metres or more). In assessing vessels in this segment it needs to be taken into account that it includes both large deep-sea vessels exceeding 100 metres in length and up to 9,000 GT and significantly smaller deep-seas cutters. These vessels operated in a great many different areas. In the North Sea and in western British waters (ICES IV, VIa, VII) they mainly caught herring, horse mackerel, blue whiting and mackerel. As in previous years, several trips were made to Mauritanian and Western Sahara waters (FAO areas 34-131 and 34-132). They were also engaged in fishing in the eastern Baltic Sea (SPR), Faeroe Island waters (WHB) and NEAFC areas (WHB, HER, MAC).

The number of vessels in this segment remained unchanged. As a result of the withdrawal of one deep-sea vessel and the entry into service of a smaller deep-sea cutter, fishing capacity in 2018 was reduced by 6,668 GT and 3,110 kW.

Deep-sea demersal fisheries (DTS VL40XX)

The deep-sea demersal fisheries segment was, as in the previous year, made up of seven deep-sea vessels operating almost exclusively in the North Atlantic (including Svalbard, the Barents Sea, Greenland; ICES I, II and XIV and NAFO 1). The main catches in the northern North Sea, Norwegian waters and off Svalbard were of cod and saithe. Fishing in Greenland waters and in NEAFC areas targeted Greenland halibut and redfish.

In 2018 there were no changes in fishing capacity or in the number of vessels.

Mussel dredgers (DRB VL1218, DRB VL1824, DRB VL40XX)

A total of seven vessels belong to the mussel dredger segment. While these vessels mainly manage their own mussel farms, they also have the right – unlike pure fish farm vessels – to catch wild mussels.

As at 31 December 2018 fishing capacity had increased by 730 kW, whereas tonnage remained unchanged.

ii. Fisheries by fleet segment

The presentation below is based on DCF segments (Table 5B of Commission Implementing Decision (EU) 2016/1251). **Annex 1** sets out the fish stocks and invertebrate stocks fished by each segment in 2018. The stocks mentioned are the ones of greatest importance to the segment concerned. In general, stocks have been taken into account if at least 100 tonnes were landed by vessels in the segment concerned in 2018, or at least 500 tonnes in the case of pelagic trawlers measuring more than 40 metres (TM VL40XX).

The stock assessments (**Annex 2**) relate to 2017 as regards fishing mortality (F) and to the beginning of 2018 for estimated reproductive capacity. It should be noted that in most cases, fishing mortality for a given stock is the result of the fishing activities of several fleets from all the countries involved, and is therefore not attributable to fishing by German vessels alone. Complete data for 2018 will only become available in the course of 2019 after the deadline for submitting this fleet report. More recent data (collected in 2018) may result in significantly different assessments for certain stocks, which will have to be taken into account in the next annual report.

Vessels using passive fishing gear < 10 m (PG VL0010)

In terms of sea fishing, vessels in this segment mainly fished three stocks in the Baltic Sea in 2018. The spawning biomass (SSB) of the western Baltic cod increased but still remained just below B_{lim} (reduced reproductive capacity). Fishing mortality F_C, albeit still above F_{MSY}, fell for the fourth consecutive year and reached a sustainable level for the first time since the precautionary approach was adopted. At 260 tonnes, catches in this segment were again lower than in the previous year (2017: 318 tonnes) due to withdrawals from the fleet. According to the latest ICES advice (June 2018), the western Baltic cod stock remains in a poor condition. Between 2015 and 2018 there was only one good year (2016), but as it was very good it currently supports virtually the entire fishery. If offspring production does not pick up again in the next few years, the medium to long-term prospects for this stock are poor. For western Baltic herring the spawning stock biomass (SSB) is below B_{lim} and F_C remained above F_{MSY} but below F_{pa}. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2019. Catches in this segment amounted to 1,395 tonnes. Due to weak offspring production the outlook for this stock remains poor. There were also considerable catches of flounder (157 tonnes) in this segment, from the stock west of Bornholm and in the central southwestern Baltic Sea. Given that there is no ICES-approved assessment for this stock, its status cannot be given in relation to reference points. In addition, 179 tonnes of plaice were caught (Kattegat, Belt Sea and Øresund). This stock has full reproductive capacity and was fished at F_C below F_{MSY}. Flatfish catches and stocks have been increasing for years in the Baltic Sea and, at least in ICES area 22, now account for a high share of overall catches. Apart from the main marine species, this segment also caught larger quantities of roach (562 tonnes), bream (409 tonnes), European perch (230 tonnes), and zander (158 tonnes) in the Baltic Sea.

Vessels using passive fishing gear 10-12 m (PG VL1012)

Vessels in this segment mainly fished four stocks in the Baltic Sea in 2018. The SSB of the western Baltic cod (157 tonnes) was below B_{lim} (reduced reproductive capacity), whereas fishing mortality remains above F_{MSY}. According to the latest ICES advice (June 2018), the western Baltic cod stock remains in a poor condition. Between 2015 and 2018 there was only one good year (2016), but as it was very good it currently supports virtually the entire fishery. If offspring production does not pick up again in the next few years, the prospects are poor. For western Baltic herring (1,429 tonnes) the SSB was below B_{lim} and F_C remained above F_{MSY}. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2019. In addition, 90 tonnes of flounder were caught in the southern Baltic Sea (as there is no ICES-approved assessment for this stock, its status cannot be given in relation to reference points), as well as 90 tonnes of plaice in Kattegat, the Belt Sea and Øresund. This stock has full reproductive capacity and was fished at F_C below F_{MSY}.

Drift or static netters 12-18 m (DFN VL1218)

Vessels in this segment mainly fished herring in the western Baltic Sea (276 tonnes) in 2018. For western Baltic herring the SSB was below B_{lim} and F_C remained above F_{MSY}. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2019.

Drift or static netters 24-40 m (DFN VL2440)

This segment mainly fished anglerfish in the northeast Atlantic in 2018 (a total of 466 tonnes, of which 323 tonnes in ICES SA4, 6 and Div. 3a). There are no reference points or targets for anglerfish; however, qualitative ICES data reveal a stable to growing trend.

Mussel dredgers (DRB)

Vessels in this segment engaged in mussels growing in the North Sea. No stock assessment is available for mussels.

Beam trawlers 0-10 m (TBB VL0010)

Beam trawlers in this segment caught almost exclusively common shrimp (*Crangon crangon*, 62 tonnes). There is no quota for this target species and no analytical stock calculation is made. Due to low catches (< 100 tonnes), this segment will not be further taken into account.

Beam trawlers 10-12 m (TBB VL1012)

Beam trawlers in this segment caught almost exclusively common shrimp (*Crangon crangon*, 84 tonnes). There is no quota for this target species and no analytical stock calculation is made. Due to low catches (< 100 tonnes), this segment will not be further taken into account.

Beam trawlers 12–18 m (TBB VL1218)

Beam trawlers in this segment caught almost exclusively common shrimp (7,742 tonnes). There is no quota for this target species and no analytical stock calculation is made.

Beam trawlers 18–24 m (TBB VL1824)

Beam trawlers in this segment caught almost exclusively common shrimp (6,656 tonnes). There is no quota for this target species and no analytical stock calculation is made.

Beam trawlers 24-40 m (TBB VL2440)

Beam trawlers in this segment mainly caught plaice (934 tonnes), mussels (652 tonnes), sole (493 tonnes), common shrimp (201 tonnes) and turbot (154 tonnes) in the North Sea. Both plaice and sole have full reproductive capacity. For plaice, fishing mortality was below F_{MSY} while for sole it was above F_{MSY}. For turbot the SSB was above MSY $B_{trigger\ proxy}$, whereas no stock assessment is made for mussels and common shrimp.

Beam trawlers > 40 m (TBB VL40XX)

Beam trawlers in this segment mainly caught mussels (281 tonnes) and plaice (207 tonnes) in the North Sea. Plaice has full reproductive capacity with fishing mortality below F_{MSY}, whereas no stock assessment is available for North Sea mussels.

Demersal trawlers 10-12 m (DTS VL1012)

Vessels in this segment mainly fished herring (210 tonnes) in the western Baltic Sea. For western Baltic herring the SSB was below B_{lim} and F_C remained above F_{MSY}. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2019.

Demersal trawlers 12-18 m (DTS VL1218)

Vessels in this segment mainly fished herring (691 tonnes), cod (185 tonnes) and plaice (Kattegat, Belt Sea: 434 tonnes). They also caught sprat (1,075 t tonnes) and dab (215 tonnes) across the Baltic Sea and whiting (581 tonnes) in the Skagerrak and Kattegat. The spawning stock biomass (SSB) of the western Baltic cod was below B_{lim} (reduced reproductive capacity), and fishing mortality remained above F_{MSY}. According to the latest ICES advice (June 2018), the western Baltic cod stock remains in a poor condition. Between 2015 and 2018 there was only one good year (2016), but as it was very good it currently supports virtually the entire fishery. If offspring production does not pick up again in the next few years, the prospects are poor. For western Baltic herring the SSB was below B_{lim} and F_C remained above F_{MSY}. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2019. The sprat stock, on the other hand, has full reproductive capacity, although F_C was above F_{MSY}. For dab and whiting a stock status classification is currently not possible. The plaice stock has full reproductive capacity and F_C was below F_{MSY}.

Demersal trawlers 18-24 m (DTS VL1824)

Vessels in this segment mainly fished plaice (905 tonnes) and Norway lobster (378 tonnes) in the North Sea. In the western Baltic Sea the main catches were of cod (170 tonnes) and herring (439 tonnes). There were also catches of sprat (371 tonnes), dab (146 tonnes) and plaice (128 tonnes) across the Baltic Sea. In addition, these vessels caught flounder (west of Bornholm and central southwestern Baltic Sea: 313 tonnes), plaice in the Kattegat, Belt Sea and Øresund (239 tonnes) and whiting in the Skagerrak and Kattegat (189 tonnes). Of the main stocks fished, three have full reproductive capacity (North Sea plaice, Kattegat, Belt Sea and Øresund plaice and Baltic sprat). The western cod stock had reduced reproductive capacity, and for western Baltic herring the SSB is below B_{lim}. The condition of this herring stock is considered to be so poor that the ICES advised zero catches for 2019. For Norway lobster there are many sub-populations whose stock status varies. No ICES classification is available for the reproductive capacity of Baltic dab, flounder west of Bornholm and in the central southwestern Baltic Sea, Baltic plaice and Skagerrak and Kattegat whiting. For North Sea plaice and Kattegat, Belt Sea and Øresund plaice fishing mortality F_C was below or at

F_{MSY}, whereas F_C was above F_{MSY} for western Baltic cod and herring and sprat across the Baltic Sea.

Demersal trawlers 24-40 m (DTS VL2440)

Vessels in this segment mainly fished saithe (3,184 tonnes), cod (1,034 tonnes), hake (780 tonnes), plaice (357 tonnes), haddock (205 tonnes and Norway lobster (111 tonnes) in the North Sea. A further 115 tonnes of flounder were caught west of Bornholm and in the central southwestern Baltic Sea. Of the main stocks fished, four have full reproductive capacity (plaice, saithe, haddock and northern stock of hake).

For North Sea cod the SSB is below $MSY_{Btrigger}$, while no ICES classification is available regarding the reproductive capacity of the flounder stock. For Norway lobster there are many sub-populations whose stock status varies.

Fishing mortality for North Sea plaice and saithe and the northern hake stock was below F_{MSY}. For North Sea cod and haddock fishing mortality was above F_{MSY}.

Demersal trawlers > 40 m (DTS VL40XX)

The vessels in this segment mainly fished saithe (3,302 tonnes) and cod (145 tonnes) in the North Sea. In the Barents Sea and the Norwegian Sea, they mainly fished northeast Arctic cod (3,468 tonnes), saithe (702 tonnes), haddock (128 tonnes) and redfish (*S. mentella*, 102 tonnes). In West Greenland, catches of Greenland halibut in the NAFO area totalled 1,297 tonnes. The main catches in ICES sub-area 14 on the East Greenland shelf and west of Iceland were Greenland halibut (3,010 tonnes), redfish (*Sebastes mentella* and *S. norvegicus*, 1,092 tonnes) and cod (1,401 tonnes). Eight of the fished stocks have full reproductive capacity (northeast Arctic cod, saithe, haddock and *S. mentella* redfish, North Sea saithe, Greenland cod, Greenland halibut and *S. norvegicus* redfish off East Greenland/Iceland). No classification of reproductive capacity is available from the ICES for Greenland halibut off West Greenland and *S. mentella* redfish on the Greenland shelf, whereas for North Sea cod the SSB is below $MSY_{Btrigger}$.

Fishing mortality was below F_{MSY} for Greenland cod and North Sea saithe, at F_{MSY} for northeast Arctic cod and above F_{MSY} for *S. norvegicus* redfish off East Greenland/Iceland, North Sea cod, northeast Arctic haddock and Greenland halibut off East Greenland/Iceland.

Pelagic trawlers 12-24 m (TM VL1218)

Vessels in this segment mainly fished herring in the western Baltic Sea (1,444 tonnes). For western Baltic herring the SSB was below B_{lim} and F_C remained above F_{MSY}. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2019.

Pelagic trawlers 18-24 m (TM VL1824)

Vessels in this segment mainly fished herring in the western Baltic Sea (2,565 tonnes). For western Baltic herring the SSB was below B_{lim} and F_C remained above F_{MSY}. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2019.

Pelagic trawlers 24-40 m (TM VL2440)

Vessels in this segment mainly fished herring in the western Baltic Sea (3,017 tonnes) and the eastern Baltic Sea (866 tonnes) and sprat across the Baltic Sea (2,099 tonnes). Of these stocks, sprat and eastern Baltic herring have full reproductive capacity. For the western Baltic herring the SSB is below B_{lim}, and the condition of this stock is considered to be so poor that ICES advised zero catches for 2019. For all the three stocks mentioned, the fishing mortality F_C was above F_{MSY}.

Pelagic trawlers > 40 m (TM VL40XX)

The vessels in this segment mainly fished herring (49,397 tonnes), sandeel (5,938 tonnes), sprat (3,804 tonnes) and horse mackerel (2,805 tonnes) in the North Sea. They also caught 11,620 tonnes of sprat in the Baltic Sea and 2,990 tonnes of herring in the eastern Baltic Sea. The main catches in the northeast Atlantic were 46,532 tonnes of blue whiting, 19,189 tonnes of mackerel, 4,780 tonnes of horse mackerel and 1,001 tonnes of greater silver smelt. In addition, 4,558 tonnes of Atlanto-Scandian herring and 1,728 tonnes of *S. mentella* redfish were caught in the Norwegian Sea. Catches in the central eastern Atlantic (CECAF area) included 21,496 tonnes of sardine, 1,396 tonnes of sardinella and 529 tonnes of Japanese mackerel.

Of the 15 stocks mentioned, six have full reproductive capacity (North Sea herring, Eastern Baltic herring, Atlanto-Scandian herring, Baltic sprat, northeast Atlantic blue whiting and northeast Arctic *S. mentella* redfish), for six stocks a classification is not available or is outdated (the three stocks fished in the central eastern Atlantic, North Sea horse mackerel, greater silver smelt and sandeel, for which there are many subpopulations whose stock status varies). The spawning stock biomass of Atlantic mackerel and northeast Atlantic horse mackerel is below MSY $B_{trigger}$, while North Sea sprat has full reproductive capacity with a spawning stock biomass above MSY $B_{escapement}$. For short-lived species such as North Sea sprat, which are managed on the basis of an escapement strategy, F does not provide any useful information and F_{MSY} is therefore not defined. At any rate, F_C was above F_{CAP}, i.e. the fishing mortality derived from the escapement strategy that should not be exceeded. Fishing mortality F_C was below F_{MSY} for North Sea herring and northeast Atlantic horse mackerel, whereas it was above F_{MSY} for Atlanto-Scandian herring, eastern Baltic herring, Baltic sprat, Atlantic mackerel and blue whiting.

iii. Fleet development

The German fishing fleet was reduced by 44 vessels (-3.21%) in the 2018 reporting year. Due in particular to the withdrawal of one deep-sea fishing vessel, total capacity fell by 6,668 GT (-10.33%) and engine power by 4,468 kW (-3.30%).
Precise figures for changes in the German fishing fleet can be found in **Annex 3**, broken down by DCF segment.

1.B: Information on fishing effort restrictions and their impact on fishing capacity

i. Fishing effort restrictions

Fishing effort regulations were imposed on Germany by Regulation (EC) No 2016/2336 in respect of fishing for deep sea species and by Regulation (EC) No 1342/2008 in respect of demersal fisheries in the North Sea and adjacent areas. The system for regulating days of fishing effort and managing capacity ceilings in the North Sea and adjacent areas was largely repealed by Regulation (EU) 2018/973 of 4 July 2018.

The overall fishing capacity allocated to Germany for fisheries targeting deep-sea species was not exceeded in 2018. Regulation (EU) 2016/2336 defines deep-sea fishing as targeted when deep-sea species make up at least 8% of catches on any fishing trip and total catches in a calendar year are 10 tonnes or more. Under this definition of targeted deep-sea fishing, the only deep-sea species caught by German fishing vessels are greater silver smelt (ARU) and deep-sea red crab (KEF).

ii. Impact of fishing effort restrictions on fishing capacity

Since Regulations (EC) Nos 676/2007 and 1342/2008 were repealed by Regulation (EU) 2018/973 of 4 July 2018, German fishing vessels have no longer been subject to kW-day regulation in the North Sea and adjacent areas. There were just a few restrictions still in place at the beginning of the 2018 management period, where an allocation of kW-days was still required for beam trawlers. Moreover, Regulation (EC) No 1342/2008 set restrictions regarding the maximum capacity of vessels fishing with trawls, static nets and beam trawls with a mesh size of 80 mm or more in the North Sea, Kattegat, Skagerrak and the waters west of Scotland. Vessels unable to demonstrate relevant fishing activities in 2006 or 2007 were denied access to those areas. The vessels concerned were only permitted to engage in fishing on the basis of a transfer of available fishing capacity. This means that there were certain restrictions on fishing, in terms fishing effort regulation based on capacity, also in 2018.

1.C: Information on compliance with the entry/exit scheme

In Germany, compliance with the capacity ceilings laid down in Annex II to Regulation (EC) No 1380/2013 is ensured by means of ‘capacity assurance licences’ (‘Kapazitätssicherungslizenzen’) allowing a vessel to leave the fleet temporarily and be put back into operation at a later date.

Capacity ceilings for Germany under Annex II to Regulation (EC) No 1380/2013:	71,114 GT	167,078 kW
Status of fleet as at 1 January 2003:	66,844 GT	161,045 kW
Status of fleet as at 31 December 2018:	58,035 GT	130,753 kW

Capacity reductions (withdrawals from the fleet with public support) in 2018: **0 GT and 0 kW**.

1.D: Fleet management

<u>i. Assessment of the fleet management system (weaknesses, strengths)</u>

The fleet structure as it currently stands is virtually unchanged. The fleet has been reduced by 44 vessels mainly due to the withdrawal of static netters <12 m in length (segments PG VL0010 and PG VL1012).

Regulation (EU) 2017/218, the new Fleet Regulation, is seen as positive as it lays down new parameters for recording data on fleet structure. For example, the data bank now includes criteria such as the IMO identification number, whether there is an automatic identification system (AIS) on board, and several contact addresses. Transmission to the European Commission is now in the form of daily updates rather than 3-month snapshots. This means that the European fleet register is now far more up to date and that both the Commission and the Member States have better data at their disposal for administrative procedures (licences, checks) and for decisions to be taken at EU level.

There was no subsidised scrapping in Germany in 2018.

The overall fleet structure remains just as heterogeneous and diverse as before, as can be seen from the individual segments. Indeed, this has been expressly promoted through fleet management and is evident, for example, from the special emphasis put on maintaining traditional static net fishing when allocating fishing opportunities.

Another characteristic of the German fleet is its relatively high proportion of smaller vessels. In line with tradition these businesses often have several small-class vessels of various sizes that can be deployed as and when needed. For instance, a smaller vessel might be used to catch herring or fresh-water fish in a protected area near the coast (passive fishing), while a larger vessel is used to catch cod and flatfish further off the coast (passive or active fishing).

Fleet management in Germany is further characterised by the wish to uphold the tradition of fishing as a family-run side business, also to help prevent ports being abandoned in order to encourage tourism. This type of fishing has also acquired historical fishing rights that have to be taken into account when fishing opportunities are allocated under the German Marine Fisheries Act. It should be noted in this regard that although fishing as a side business generally involves very low catches, maintaining them is a stated aim.

ii. Plans to improve the fleet management system

An analysis of the trends in the German fleet shows a largely linear descending curve for the number of vessels and an associated drop in fishing capacity from 2,315 vessels in 2000 to 1,329 vessels in 2018.

German policy has always stressed that there must be room for efficient resource management if important stocks develop favourably. The existing market mechanisms used to manage the fleet are currently regarded as sufficient.
From 2018 onwards, considerable effort will be put into developing and improving the new German fleet database.

In 2018 several closure periods of 10 days were imposed to protect cod (during the first half of the year) and herring (in August/September). The temporary ban on fishing these two species was also a precondition for the financial support granted to Baltic Sea fishing businesses severely affected by the quota reduction because fishing activities had to be suspended. Should drastic catch reductions again be required in the future, fishing businesses affected by a temporary closure will still be able to receive financial support.

iii. Information on the general status of compliance with fleet policy instruments

Firstly, it should be noted that with around 5% of overall catches and 2% of overall fleet capacity in the European Union, Germany has a well-balanced fishing capacity to fishing opportunities ratio compared with other EU Member States. Before the upper reference limits were set in 2003, Germany always managed to meet the MAP targets in place at the time. In turn, this was reflected in the level set for the upper capacity limit.

2. Analysis of balance indicators and balance assessment

The balance indicators have been analysed by DCF segment (Table 5B in Commission Implementing Decision (EU) 2016/1251). The various indicators are set out in detail for each segment below. The technical and the biological indicators were established by Germany, whereas STECF values were used for the economic indicators. With respect to the biological indicators, the Sustainable Harvest Indicator (SHI) and Stocks-at-Risk (SAR) indicator relate to 2017, since the 2018 values for fishing mortality F were not available at the time of calculating the indicators and drawing up this report. The catches reported in this context also relate to 2017, unless otherwise indicated.

Vessels using passive fishing gear < 10 m (PG VL0010)

PG0010	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.26	0.31	0.26	0.35	0.33	0.25	0.36	0.36	0.42	0.46
SAR	1	2	4	3	3	3	1	1	1	
SHI	2.39	2.43	2.43	2.43	2.42	2.41	2.38	2.41	1.31	
CR/BER	0.16	1.01	0.72	0.82	0.44	1.36	1.00	1.23	1.14	
RoFTA	-36.1	2.0	-14.6	-11.4	-27.8	18.9	0.26	12.4	7.3	
Number of vessels	172	161	155	144	132	130	129	135	116	107
GT	846	814	798	721	659	656	672	721	616	560
kW	8,135	7,824	7,894	7,263	6,818	6,722	6,779	7,407	6,420	5,893

(a) Technical indicator

Within this passive fishing gear segment (PG VL0010), all active vessels that are required to keep a fishing logbook are included in the calculation. This applies to all vessels of 8 metres or more in the Baltic Sea (and all vessels of 10 metres or more in other fishing areas). The reasoning behind this is that sea days can only be calculated with confidence if there is a logbook. While values remain very low for this group of vessels, a very positive trend has emerged in recent years. The negative value is primarily down to the traditional and highly regionalised nature of this segment. Most of the vessels are used in the context of a side business, mostly just for a few of days, such as on weekends, or seasonally for just a few weeks. The segment is maintained on account of the political objective of keeping the German fisheries industry as diverse as possible, including fishing as a side business.

Vessels in this segment operated as a main business have a significantly higher number of sea days. As a result, rather poor technical indicator values are calculated for the majority of side business vessels, whereas the values for fishing businesses operating as a main business (i.e. those that make a living from fishing) are significantly higher.

The indicator has improved slightly, by 0.04 points.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Vessels in this segment mainly fished herring, cod and place in the western Baltic Sea, for which a stock assessment is available. For both of these stocks fishing mortality F_C was above F_{MSY} in 2017. For herring F_C was above F_{MSY} in 2017, as was also the case in 2016. However, at 0.332 fishing mortality F_C was only marginally above F_{MSY} (= 0.31) in 2017. Cod in the western Baltic Sea continued to be fished at a fishing mortality well above F_{MSY} in 2017. Based on the most recent stock calculation, F_C fell in 2017 (0.6) compared to 2016 (0.76). Catches of plaice in the Kattegat, Belt Sea and Øresund also had an impact, albeit very small due to their low overall value, on the lower SHI indicator, as for this stock F_C (0.25) was well below F_{MSY} (0.37). This, and the fact that F_C for herring was just above F_{MSY}, resulted in a markedly lower SHI value of 1.31. An SHI value > 1 indicates that the fleet segment concerned is, on average, economically dependent on stocks with a fishing mortality that is currently higher than the maximum sustainable yield ($F_C > F_{MSY}$). However, the fleet report only indicates SHI values for segments for which the portion of the landings value that can be used to calculate the indicator exceeds 40% of the total value of landings by that segment. In this case the value calculated by Germany is 31%, i.e. < 40%, and is therefore not taken into account in the assessment.

Stocks at risk (SAR) indicator

For this segment one stock was considered at risk in 2017, as in the two previous years, whereas in 2014 three stocks had been considered at risk by the STECF. The stock in question is the western Baltic herring, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock. Western Baltic cod is not considered as a stock at risk in 2017. Although the spawning biomass remains below B_{lim}, less than 10% of the total landings in 2017 were of this stock.

(c) Economic indicators

In 2017 the CR/BER fell from 1.23 to 1.14 and the RoFTA fell to 7.3. As before, therefore, the economic indicators for this fleet segment do not point to any overcapacity. Many vessels in this segment are not primarily operated for commercial reasons, but are used for amateur fishing or in the context of a side business. Different cost structures not related to the balance between fishing opportunities and capacity are at play here.

(d) Overall assessment

Overall this segment is **in imbalance** according to the indicators analysed. Reference is made to what has already been said about this segment and to the reasons for considering the indicators to be of limited relevance outlined in Sections 3 and 5. This segment is severely affected by the currently poor state of the cod and herring stocks in the western Baltic Sea (see Section 1.A.ii).

Vessels using passive fishing gear 10-12 m (PG VL1012)

PG1012	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.53	0.51	0.48	0.56	0.51	0.41	0.44	0.43	0.56	0.54
SAR	0	1	2	1	0	1	1	1	1	
SHI	2.35	2.36	2.29	2.31	2.12	2.13	2.24	2.28	1.29	
CR/BER	0.38	0.48	0.38	0.56	0.48	0.12	0.42	0.61	0.04	
RoFTA	-30.9	-26.4	-29.6	-20.8	-24.0	-42.8	-28.4	-23.5	-79.2	
Number of vessels	76	72	66	68	66	67	64	58	58	50
GT	840	790	719	750	717	723	695	646	668	579
kW	6,357	6,122	5,494	5,948	5,692	5,847	5,570	5,199	5,301	4,751

(a) Technical indicator

In the 10-12 m static netters segment, the indicator value is virtually unchanged compared to the previous year. This is seen as positive, as many vessels in the segment of small-scale coastal and static net fishing also fish as a side business and log far fewer sea days than vessels engaged in fishing as a main business.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Vessels in this segment mainly fished herring and cod in the western Baltic Sea, for which a stock assessment is available, as well as plaice (Kattegat, Belt Sea, Øresund). At 0.332 fishing mortality F_C for herring was just above F_{MSY} (0.31). Fishing mortality F_C for cod remained above F_{MSY} in 2017, but at 0.6 was lower than in 2016 (0.76), while fishing mortality for plaice was well below F_{MSY} (0.37). This resulted in an SHI value of 0.25, which is significantly lower than in 2016 (2.28). According to the latest ICES advice (May 2018), the state of the western Baltic cod stock remains poor although biomass is growing, with a spawning stock biomass (SSB) below the B_{lim} biomass reference value. The SSB was also below B_{lim} for herring, and the ICES advice for 2019 was that this stock should not be commercially fished in 2019 as it is considered to be in a critical condition. The condition of the plaice stock, which has full reproductive capacity, is favourable.

Stocks at risk (SAR) indicator

In this segment one stock was considered at risk in 2017, as was also the case in previous years. The stock in question is the western Baltic herring, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock. Western Baltic cod is not considered as a stock at risk in 2017. Although the spawning biomass remains below B_{lim}, less than 10% of the total landings in 2017 were of this stock.

(c) Economic indicators

Both the CR/BER and the RoFTA deteriorated for this fleet segment in 2017, their values remaining below 1 (CR/BER) or negative (RoFTA). The economic indicators for this fleet segment thus seem to point to a possible overcapacity. However, it needs to be taken into account that many vessels in this segment are not primarily operated for commercial reasons but are used for amateur fishing or in the context of a side business. Different cost structures not related to the balance between fishing opportunities and capacity are at play here. Moreover, it should be borne in mind that these vessels account for a very small share of German catches and that the quantities fished are in any case limited by technical constraints.

(d) Overall assessment

Overall this segment is **in imbalance** according to the indicators analysed. Reference is made to what has already been said about this segment and to the reasons for considering the indicators to be of limited relevance outlined in Sections 3 and 5. This segment is severely affected by the poor state of the cod and herring stocks in the western Baltic Sea (see Section 1.A.ii).

Drift or static netters 12-18 m (DFN VL1218)

DFN1218	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.48	0.46	0.51	0.72	0.44	0.57	0.48	0.58	0.40	0.47
SAR	1	1	2	2	1	1	0	0	1	
SHI	2.17	1.84	1.57	1.62	1.55	1.19	1.21	1.15	1.19	
CR/BER	1.47	2.42	0.50	7.54	3.85	1.85	-1.51	6.65	4.46	
RoFTA	18.7	58.5	-18.5	178.9	98.4	36.8	-96.9	176.3	107.9	
Number of vessels	16	12	10	7	11	9	5	5	7	5
GT	365	273	237	147	272	220	121	132	193	150
kW	2,216	1,666	1,309	842	1,592	1,182	1,182	821	969	690

(a) Technical indicator

In segment DFN VL1218 only five fishing vessels could be taken into account to establish the technical indicators for the reporting year. However, the value of 0.47 is a clear improvement on the previous year.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Vessels in this segment mainly fished sole and cod in the North Sea and herring in the western Baltic Sea. As F_C is just above F_{MSY} for cod and sole and also just above F_{MSY} for herring, the SHI remains low overall at 1.19.

Stocks at risk (SAR) indicator

For this segment one stock was considered at risk in 2017. The stock in question is the western Baltic herring, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock.

(c) Economic indicators

In 2017 the CR/BER remained well above 1 and the RoFTA above 100. Both indicators have for two consecutive years showed values that point to a stable economic situation, thus indicating that there is no overcapacity. These values should be assessed with caution as they have varied significantly over the years.

(d) Overall assessment

Overall this segment is **in balance** according to the indicators analysed. The main reason for this assessment is the positive SHI trend. For the above reasons, and in view of the reservations discussed in points 3 and 5, the technical indicator values could not be taken into account for the overall assessment. One stock at risk is fished. The number of vessels in this segment dropped significantly (from 16 to 5) between 2009 and 2018.

Drift or static netters 24-40 m (DFN VL2440)

DFN2440	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.50	0.71	0.64	0.66	0.85	0.64	0.81	0.75	0.83	0.88
SAR	0	0	0	1	0	0	0	0	0	
SHI	2.06	1.91	1.67	1.50	1.25	1.20	1.21	1.10	1.24	
CR/BER	-0.82	1.63	0.73	-0.22	0.37	0.13	0.77	0.70	1.85	
RoFTA	-59.5	45.9	-42.2	-91.7	-50.8	-53.2	-12.6	-19.8	23.9	
Number of vessels	5	5	4	5	5	5	4	4	5	5
GT	877	877	729	877	877	877	729	729	877	877
kW	1,897	1,897	1,475	1,897	1,897	1,897	1,475	1,475	1,897	1,897

(a) Technical indicator

In this segment five vessels were again taken into account to calculate the technical indicator. These achieved a very good value of 0.88, which is yet another improvement on previous years, thus continuing the positive trend of recent years. Moreover, at 0.90 a high value was also achieved for the theoretical indicator, pointing to a high level of homogeneity.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Fishing vessels in this segment mainly fished anglerfish in the northeast Atlantic, for which there is no assessment. The share of the value of landings in this segment that can be used to calculate the indicator was calculated at 25%, and the resulting SHI value of 1.24 cannot therefore be taken into account to assess the segment.

Stocks at risk (SAR) indicator

For this segment no stock was considered at risk by the STECF in 2017, as has been the case since 2013.

(c) Economic indicators

The CR/BER increased to above 1 in 2017, while the RoFTA continues to show unfavourable values. However, there is a moderately positive trend.

(d) Overall assessment

Overall this segment is **in balance** according to the indicators analysed. The indicators are on a positive trend. The technical indicator is fairly good, the SHI biological indicator cannot be taken into account and no stock at risk is fished. The economic indicators are negative but have improved over the past few years.

Fishing vessels using pots and/or traps 12–18 m (FPO VL1218)
Over the past few years this segment has consisted of only one fishing vessel with sporadic activity and is therefore not taken into account in the analysis of balance indicators.

Fishing vessels using pots and/or traps 24–40 m (FPO VL2440)
Over the past few years this segment has consisted of only one fishing vessel with sporadic activity and is therefore not taken into account in the analysis of balance indicators.

Beam trawlers 10-12 m (TBB VL1012)

TBB1012	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.33	0.45	0.31	0.48	0.64	0.48	0.76	0.79	0.54	0.88
SAR	0	0	0	0	0	0	0	0	0	
SHI	2.06	2.04	1.75	1.40	1.85	1.05	1.01	0.96	n/a	
CR/BER	2.27	1.11	-0.35	3.19	3.31	1.08	0.13	1.28	0.98	
RoFTA	46.7	8.2	-75.0	124.0	133.1	6.6	-67.5	9.26	-3.8	
Number of vessels	5	7	6	5	5	5	5	5	7	5
GT	61	85	74	63	63	63	63	63	78	63
kW	457	624	564	515	515	515	515	515	676	515

(a) Technical indicator

A very good value of 0.88 has been calculated for 2018, which is again a considerable improvement on the previous year. The five vessels in the 10-12 m beam trawler segment were nearly in balance with respect to the maximum days at sea.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Fishing vessels in this segment fished almost exclusively for common shrimp, for which there is no stock assessment. Germany has therefore not calculated any SHI value for 2017.

Stocks at risk (SAR) indicator

In this segment no stock was considered at risk by the STECF in 2017, as was also the case in previous years.

(c) Economic indicators

In 2017 the CR/BER fell to just under 1, and the RoFTA turned negative. Due to the small number of vessels in this segment, figures are be subject to significant fluctuations and therefore associated with considerable uncertainty. Overall, it can be deduced from the time series that the segment is in balance from an economic point of view.

(d) Overall assessment

Overall this segment is **in balance** according to the indicators analysed. The technical indicator is very good and has improved considerably on the previous year. The SHI biological indicator is on a positive trend but cannot be taken into account for the reasons set out above. No stock at risk is fished. The economic indicators fluctuate considerably but do not point to overcapacity overall.

Beam trawlers 12–18 m (TBB VL1218)

TBB1218	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.64	0.65	0.60	0.60	0.56	0.60	0.60	0.58	0.54	0.67
SAR	0	0	0	0	0	0	0	0	0	
SHI	2.62	2.92	2.64	3.28	3.32	2.99	1.99	2.61	n/a	
CR/BER	1.23	1.42	0.97	2.74	2.57	1.79	1.50	1.91	1.45	
RoFTA	15.1	22.7	-1.3	87.7	92.9	45.1	35.0	56.2	45.5	
Number of vessels	140	134	127	118	120	117	112	111	108	109
GT	4,268	4,075	3,876	3,597	3,663	3,627	3,457	3,479	3,451	3,472
kW	26,791	25,650	24,308	22,678	22,962	22,651	21,597	21,671	21,234	21,510

(a) Technical indicator

The indicator value for 2018 was calculated on the basis of 109 fishing vessels. The value of 0.67 is a clear improvement on the previous year and therefore a good sign. This segment continued to see stark differences between vessels logging a high number of sea days (200+) and vessels with very few sea days in 2018. Seven vessels had a capacity utilisation rate of 20 days or less, something which is reflected in the indicator value.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Fishing vessels in this segment fished almost exclusively for common shrimp, for which there is no stock assessment. Germany has therefore not calculated any SHI value for 2017.

Stocks at risk (SAR) indicator
In this segment no stock was considered at risk by the STECF in 2017, as was also the case in previous years.

(c) Economic indicators

Both the CR/BER and the RoFTA indicate that this fleet segment is in balance, as has been the case for several years.

(d) Overall assessment

Overall this segment is **in balance** according to the indicators analysed. The technical indicator is 0.7, the SHI biological indicator cannot be taken into account, no stock at risk is fished, and the economic indicators are positive.

Beam trawlers 18–24 m (TBB VL1824)

TBB1824	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.56	0.60	0.58	0.63	0.65	0.62	0.69	0.57	0.67	0.70
SAR	0	0	0	0	0	0	0	0	0	
SHI	2.42	2.48	2.28	2.53	3.30	1.85	1.15	1.1	n/a	
CR/BER	0.84	1.11	0.59	1.91	1.98	1.43	1.20	2.06	1.17	
RoFTA	-4.2	6.3	-16.2	36.2	39.4	19.5	10.1	60.7	13.7	
Number of vessels	63	61	62	63	67	63	63	65	67	70
GT	3,892	3,521	3,679	3,756	4,104	3,850	3,706	3,976	4,045	4,403
kW	13,652	13,175	13,394	13,616	14,537	13,653	13,477	14,278	14,619	15,428

(a) Technical indicator

The indicator value for 2018 was calculated on the basis of 70 active fishing vessels. There was again an improvement (0.03 points) on the result of the previous year, suggesting a positive trend.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Fishing vessels in this segment fished almost exclusively for common shrimp, for which there is no stock assessment. Germany has therefore not calculated any SHI value for 2017.

Stocks at risk (SAR) indicator
In this segment no stock was considered at risk by the STECF in 2017, as was also the case in previous years.

(c) Economic indicators

Both the CR/BER and the RoFTA indicate that this fleet segment is in balance, as has been the case for several years.

(d) Overall assessment

Overall this segment is **in balance** according to the indicators analysed. The technical indicator and the economic indicators are positive or on a positive trend. The SHI biological indicator cannot be taken into account for the reasons set out above. No stock at risk is fished.

Beam trawlers 24-40 m (TBB VL2440)

TBB2440	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.77	0.83	0.54	0.78	0.85	0.82	0.68	0.91	0.80	0.85
SAR	0	0	0	0	0	0	1	0	0	
SHI	1.89	1.81	1.51	1.48	1.26	1.12	1.08	1.04	1.02	
CR/BER	1.98	1.04	0.69	1.00	2.03	1.33	2.02	1.74	1.52	
RoFTA	39.4	3.5	-12.2	-0.6	41.7	12.2	35.1	44.5	22.3	
Number of vessels	7	8	8	9	8	10	10	9	10	10
GT	1,424	1,693	1,693	1,752	1,559	2,021	2,021	1,828	2,021	2,201
kW	4,874	5,867	5,867	5,971	5,411	6,721	6,721	6,161	5,788	5,788

(a) Technical indicator

The 10 vessels in this segment achieved a very good value of 0.85, which is 0.05 points above the result of the previous year. The theoretical value of 0.93 is also very good. This again confirms the homogeneity of the 24-40 m beam trawler segment.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Fishing vessels in this segment mainly caught plaice, mussels, sole, turbot and common shrimp in the North Sea. According to the available stock assessment for plaice, sole and turbot, fishing mortality F_C for plaice and turbot was below F_{MSY} or $F_{MSY\ proxy}$ and just above F_{MSY} for sole, resulting in a SHI value close to 1 (1.02). The time series shows that the SHI is steadily improving.

Stocks at risk (SAR) indicator
For this segment no stock was considered at risk in 2017.

(c) Economic indicators

Both the CR/BER and the RoFTA indicate that this fleet segment is in balance.

(d) Overall assessment

Overall this segment is **in balance** according to the indicators analysed. All indicators are positive, and no stock at risk was fished in 2017.

Beam trawlers > 40 m (TBB VL40XX)

TBB40XX	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.61	1.00	0.63	0.54	0.53	0.62	1.00	0.94	0.95	0.84
SAR						0	0	0	0	
SHI						1.18	0.97	1.01	1.00	
CR/BER										
RoFTA										
Number of vessels	1	2	1	2	2	2	2	2	2	2
GT	446	791	446	791	791	791	791	791	791	791
kW	1,471	2,221	1,471	2,221	2,221	2,221	2,221	1,853	1,853	1,853

(a) Technical indicator

The calculated indicator value of 0.84 is not pertinent as it is based on just two vessels.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished mussels in the North Sea, for which there is no stock assessment, in addition to plaice, sole and turbot in the North Sea. For plaice and turbot, fishing mortality F_C was below F_{MSY} or F_{MSY} proxy, whereas for sole it was just above F_{MSY}, resulting in a SHI value of 1.

Stocks at risk (SAR) indicator
For this segment no stock was considered at risk in 2017.

(c) Economic indicators

For reasons of data protection, economic data from this segment are grouped together with data for segment TBB VL2440.

(d) Overall assessment

No clear assessment can be made for this segment. The indicators are not pertinent because they are based on just two vessels. No stock at risk is fished.

Demersal trawlers 10-12 m (DTS VL1012)

DTS1012	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.54	0.56	0.58	0.59	0.42	0.48	0.45	0.34	0.31	0.71
SAR	0	1	2	1	1	1	1	1	1	
SHI	2.59	2.78	3.05	2.50	2.77	2.62	2.29	2.06	1.27	
CR/BER	-0.08	1.18	0.67	0.56	0.66	0.39	0.41	0.29	0.81	
RoFTA	-70.8	12.3	-19.5	-29.0	-23.6	-47.6	-57.7	-4.7	-21.7	
Number of vessels	13	15	15	10	12	11	10	10	6	8
GT	213	244	233	146	183	169	154	156	94	112
kW	2,055	2,202	2,202	1,441	1,803	1,608	1,425	1,433	744	853

(a) Technical indicator

At 0.71 the result achieved is very positive and a significant improvement on previous years (+ 0.4 points compared to 2017). This is because fisheries in the 10-12 m demersal fisheries segment were much more balanced in 2018. The eight vessels in this segment logged between 35 and 100 days at sea, resulting in a good indicator value.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished cod and herring in the western Baltic Sea, plaice in the Belt Sea and dab across the Baltic Sea. Fishing mortality F_C remained above F_{MSY} for western cod, but was lower in 2017 than in 2016. At 0.332, fishing mortality F_C was just above F_{MSY} for western Baltic herring. For Belt Sea plaice F_C was well below F_{MSY}, resulting in a an SHI value of 1.27, which is considerably lower than in 2016 (SHI = 2.06).

Stocks at risk (SAR) indicator
Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2017, as was already the case in previous years. The stock in question is the western Baltic herring, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock. Western Baltic cod is not considered as a stock at risk in 2017. Although the spawning biomass remains below B_{lim}, less than 10% of the total landings in 2017 were of this stock.

(c) Economic indicators

In 2017 the CR/BER increased substantially to 0.81, but remains below 1. The RoFTA, on the other hand, has dropped significantly to -21.7. Both indicators have been unfavourable in this segment for years. However, the 2017 increase in the CR/BER, to the highest level since 2010, is a positive sign.

(d) Overall assessment

Overall this segment is **in imbalance** according to the indicators analysed. However, it needs to be taken into account, as argued in Sections 3 and 5 above, that the indicators are of limited relevance for this segment. The segment is affected by the poor state of the herring stock in the western Baltic Sea. The number of vessels has been halved since 2011.

Demersal trawlers 12-18 m (DTS VL1218)

DTS1218	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.49	0.47	0.60	0.71	0.53	0.53	0.52	0.53	0.57	0.68
SAR	1	1	2	1	2	1	1	1	2	
SHI	2.67	2.53	2.67	2.54	2.52	2.51	2.67	2.32	1.33	
CR/BER	0.68	0.81	0.60	1.00	0.82	0.80	0.74	0.57	0.81	
RoFTA	-9.4	-7.6	-16.7	-0.7	-7.5	-8.1	-10.7	-18.9	-18.9	
Number of vessels	39	37	33	27	30	29	28	27	20	17
GT	1,310	1,239	1,129	923	1,024	1,008	826	866	655	548
kW	7,283	6,767	6,088	4,960	5,514	5,414	4,694	4,918	3,765	3,109

(a) Technical indicator

The sea days of 17 vessels were taken into account to calculate the indicator for 2018. The value of 0.68 is again an improvement (+ 0.11) compared to the previous year, confirming the positive trend in this segment over the past four years.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished cod and herring in the western Baltic Sea and sprat across the Baltic Sea. In addition, they made considerable catches of plaice in the Belt Sea. The SHI value has fallen significantly from 2.32 in 2016 to 1.33 in 2017. The reasons for this are, firstly, that fishing mortality F_C fell from 0.76 in 2016 to 0.6 in 2017 for the economically important western cod, while for western Baltic herring and sprat across the Baltic Sea fishing mortality was slightly above F_{MSY}. In addition, F_C was well under F_{MSY} for Belt Sea plaice, the stock which generated the highest revenues in 2017, resulting in a significantly lower SHI value.

Stocks at risk (SAR) indicator
Our analysis shows that, based on the relevant criteria, two stocks must be considered at risk in this segment for 2017, as was already the case in previous years. The stocks in question are cod and herring in the western Baltic Sea, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of these stocks.

(c) Economic indicators

The CR/BER increased to 0.81 in 2017, but remains below 1. The RoFTA remains negative at -18.9. Both indicators have been unfavourable in this segment for years. However, the 2017 increase in the CR/BER is a positive sign.

(d) Overall assessment

Overall this segment is **in imbalance** according to the indicators analysed. This segment is severely affected by the currently poor state of the cod and herring stocks in the western Baltic Sea. Germany has acted on this state of affairs by scrapping vessels with the use of public funds (see the action plan). The number of vessels has more than halved, having dropped from 39 (in 2009) to 17 (in 2018).

Demersal trawlers 18-24 m (DTS VL1824)

DTS1824	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.64	0.58	0.60	0.62	0.60	0.59	0.60	0.65	0.68	0.66
SAR	1	0	2	1	1	1	1	1	1	
SHI	2.14	1.65	1.79	1.92	1.62	1.54	1.50	1.47	1.12	
CR/BER	0.90	1.19	0.91	0.51	2.84	2.22	1.32	2.91	1.59	
RoFTA	-0.5	9.0	-3.0	-15.9	50.9	37.6	12.3	66.2	33.6	
Number of vessels	28	30	29	20	18	17	16	13	13	11
GT	3,045	3,215	3,169	2,231	2,064	1,847	1,724	1,444	1,544	1,293
kW	6,122	6,525	6,347	4,330	3,925	3,704	3,485	2,824	3,118	2,529

(a) Technical indicator

The sea days of 11 fishing vessels were taken into account to calculate the indicator. While the value of 0.66 is somewhat lower than in 2017, it is in line with the results for the years between 2009 and 2016. Again, it should be noted that one vessel in this segment logged a relatively high number of sea days (296) whereas for other vessels the number was lower, in some cases far lower. For example, one vessel that started fishing only in October 2018 (new construction) managed to clock up only 44 sea days. This resulted in a slight imbalance in the ‘registered’ indicator value presented here. However, if the theoretical approach is taken to assess this segment (based on a maximum of 220 days), a good value of 0.80 is achieved, which would seem to indicate overall homogeneity in the segment.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Vessels in this segment fished a number of different stocks in the North Sea and the Baltic Sea. North Sea plaice, the most important stock in terms of tonnes caught, is fished sustainably and fishing mortality F_C is just under F_{MSY}. The resulting SHI for this segment is 1.12, which is much lower than in the previous year (1.47). However, the fleet report only indicates SHI values for segments for which the portion of the landings value that can be used to calculate the indicator exceeds 40% of the total value of landings by that segment. In this case the value calculated by Germany is 39 %, i.e. < 40%, and is therefore not taken into account in the assessment. This is because for Norway lobster in the North Sea, the most important stock by far in terms of value, no stock calculations area available for the 'functional units' fished by the segment, meaning that they cannot be taken into account to calculate the indicator.

Stocks at risk (SAR) indicator

Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2017, as was already the case in previous years. The stock in question is the western Baltic herring, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock. Western Baltic cod is not considered as a stock at risk in 2017. Although the spawning biomass remains below B_{lim}, less than 10% of the total landings in 2017 were of this stock.

(c) Economic indicators

Both the CR/BER and the RoFTA have fallen compared to the strong values of the previous year, but remain at a level that does not point to overcapacity.

(d) Overall assessment

No clear assessment can be made for this segment. The technical indicator and the SHI are on a positive trend although one stock at risk is fished. The economic indicators are positive. In 2018 the number of vessels had dropped to only about a third of the vessels still active in this segment as recently as in 2010.

Demersal trawlers 24-40 m (DTS VL2440)

DTS2440	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.62	0.50	0.57	0.65	0.68	0.59	0.66	0.70	0.70	0.51
SAR	1	1	0	1	0	0	1	0	0	
SHI	1.58	1.40	1.27	1.17	1.07	1.08	1.17	1.09	1.12	
CR/BER	1.02	1.51	1.87	1.05	1.36	1.30	2.02	2.24	1.25	
RoFTA	4.1	20.4	32.5	3.2	12.6	8.8	31.1	31.2	23.6	
Number of vessels	16	16	13	10	11	12	10	9	8	11
GT	3,439	3,431	3,033	2,523	2,660	2,981	2,768	2,343	2,172	2,992
kW	7,409	6,821	5,994	4,683	4,830	5,361	5,295	4,275	3,835	5,505

(a) Technical indicator

The calculation takes into account the sea days of 11 fishing vessels. The value of 0.51 is a clear deterioration on previous years. This is because one vessel in this segment logged a very high number of sea days (360) as compared to just five sea days for another vessel. According to the relevant producers' cooperative, the vessel in question had difficulties finding qualified crew. Some vessels in this segment were also replaced, so that one vessel stopped fishing as early as March, while another newly built vessel only started fishing in October. These vessels therefore also had very few days at sea. These issues then led to an imbalance in the 'registered' indicator. However, the theoretical technical indicator in segment DTS VL2440 has a good value of 0.83.

(b) Biological indicators

Sustainable harvest indicator (SHI)
The main stocks fished by this segment were North Sea saithe, cod, haddock, plaice and hake. Fishing mortality F_C remained below F_{MSY} for saithe, plaice and hake, but increased slightly for North Sea cod, the economically most important stock in this segment, resulting in a slightly increased, but still low SHI value of 1.12.

Stocks at risk (SAR) indicator
Our analysis shows that, based on the relevant criteria, there was no stock at risk in this segment in 2017.

(c) Economic indicators

Both the CR/BER and the RoFTA indicate that this fleet segment is in balance.

(d) Overall assessment

Overall this segment is **in balance** according to the indicators analysed. The theoretical technical indicator is >0.8 and the SHI is close to 1. No stock at risk is fished. The economic indicators are positive.

Demersal trawlers > 40 m (DTS VL40XX)

DTS40XX	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.82	0.84	0.92	0.83	0.78	0.73	0.70	0.80	0.78	0.85
SAR	1	1	2	2	1	1	2	0	0	
SHI	1.05	1.02	1.10	1.02	1.00	0.93	1.16	1.17	0.99	
CR/BER	0.47	0.81	0.68	0.75	0.62	0.86	0.98	1.50	0.44	
RoFTA	-17.6	-4.7	-9.1	-8.5	-13.5	-4.4	-0.2	11.0	-12.9	
Number of vessels	8	8	8	8	7	6	7	7	7	7
GT	13,215	13,215	13,215	13,215	10,247	8,650	12,898	12,898	15,417	15,417
kW	18,651	18,651	18,651	18,651	14,151	11,724	15,724	15,724	16,394	16,394

(a) Technical indicator

The calculation is based, as in the previous year, on the sea days of seven fishing vessels. The indicator value of 0.85 is a clear improvement on recent years. Large deep-sea fishing vessels continue to be lumped together with the larger cutters in the calculation. This is unfortunate, as the activities of these vessels differ quite considerably. For example, deep-sea trawlers have far more days at sea than cutters. The result improved in the order of 0.07 compared to 2017. A theoretical value well over 1.00 points to a well-balanced vessel segment.

(b) Biological indicators

Sustainable harvest indicator (SHI)
For many of the main stocks fished in this segment, fishing mortality F_C was either below or at F_{MSY} (North Sea saithe, northeast Arctic cod, Greenland halibut off East Greenland/Iceland, Greenland cod), or just above it (North Sea cod), resulting in an SHI value below 1 (0.99).

Stocks at risk (SAR) indicator
Our analysis shows that, based on the relevant criteria, there was no stock at risk in this segment in 2017.

(c) Economic indicators

In this segment both the CR/BER and the RoFTA have been on a positive trend for years. The values fell significantly in 2017 compared to the previous year, but only appear to indicate an overcapacity. The figures are the result of the one-off effect of two deep-sea trawlers being replaced by new vessels in 2017. This led to high depreciation and transaction costs that affected operating results unfavourably. The fact that the industry has made substantial replacement investments shows that this segment is economically stable. Savings and efficiency gains can be expected in the coming years.

Moreover, these vessels mostly belong to vertically integrated businesses that further process the catches themselves, which is where most of the value added is created. According to the operators, the vessels' fishing activities are profitable when account is taken of the processing activity.

(d) Overall assessment

Overall this segment is **in balance** according to the indicators analysed. The technical indicator is good and the SHI value is 1. No stock at risk is fished. The economic indicators are either positive or have fallen through the one-off effect of investments. The vessels concerned belong to vertically integrated businesses making their profit not so much from fishing as from fish processing.

Pelagic trawlers 12-24 m (TM VL1218)

TM1218	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator							0.88	0.89	0.85	1.00
SAR							0	0	1	
SHI							1.16	1.52	1.13	
CR/BER										
RoFTA										
Number of vessels	0	0	0	0	0	0	2	2	3	1
GT	–	–	–	–	–	–	122	122	163	75
kW	–	–	–	–	–	–	439	439	659	219

(a) Technical indicator

The result is not pertinent as there was just one active vessel in this segment.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment fish practically only herring in addition to some cod in the eastern and western Baltic Sea. As fishing mortality F_C fell compared to the previous year for western Baltic cod and, at 0.332, was just above F_{MSY} (0.31) for western Baltic herring, the most important stock in this segment, SHI dropped to 1.13 from 1.52 in 2016.

Stocks at risk (SAR) indicator
Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2017. The stock in question is the western Baltic herring, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock.

(c) Economic indicators

For reasons of data protection, no economic data can be published with respect to this segment.

(d) Overall assessment

No clear assessment can be made for this segment. The indicators are not pertinent because they are based on just one to three vessels and a short time series. One stock at risk is fished.

Pelagic trawlers 18-24 m (TM VL1824)

TM1824	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	–	0.85	1.00	1.00	1.00	0.88	0.67	0.70	0.59	0.65
SAR						0	0	0	1	
SHI						1.19	0.86	1.31	1.09	
CR/BER										
RoFTA										
Number of vessels	0	2	1	1	1	2	2	4	4	3
GT	–	239	107	107	107	239	207	354	354	279
kW	–	442	221	221	221	442	441	882	882	662

(a) Technical indicator

In 2018 the three vessels in this segment achieved a value of 0.65, which is an improvement on the previous year. However, the number of vessels is too small for this value to be relevant in terms of assessing balance.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished herring in the western Baltic Sea, sprat across the Baltic Sea and cod in the eastern Baltic Sea. For western Baltic herring, the most important stock in terms of quantity, fishing mortality F_C was slightly above F_{MSY} in 2017, resulting in an SHI value of 1.09, which is lower than SHI_{2016} = 1.31.

Stocks at risk (SAR) indicator
Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2017. The stock in question is the western Baltic herring, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock.

(c) Economic indicators

For reasons of data protection, no economic data can be published with respect to this segment.

(d) Overall assessment

No clear assessment can be made for this segment. The indicators are not pertinent because they are based on just three to four vessels. One stock at risk is fished.

Pelagic trawlers 24-40 m (TM VL2440)

TM2440	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.52	0.98	0.71	0.99	1.00	1.00	0.69	0.89	0.84	0.83
SAR						0	0	0	1	
SHI						1.31	1.05	1.24	1.25	
CR/BER										
RoFTA										
Number of vessels	2	2	4	2	1	1	3	3	3	2
GT	495	873	1,149	529	374	374	655	655	655	281
kW	884	1,435	1,840	921	700	700	1,105	1,105	1,105	405

(a) Technical indicator

The indicator value is not pertinent due to the low number of vessels in this segment.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished sprat in the North Sea and the Baltic Sea and herring in the North Sea and the western and eastern Baltic Sea. For most of these stocks, fishing mortality F_C was below F_{MSY}. Only North Sea herring was fished at F_C below F_{MSY}, resulting in an SHI value of 1.25, almost the same as that of the previous year (1.24).

Stocks at risk (SAR) indicator
Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2017. The stock in question is the western Baltic herring, for which the spawning biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock.

(c) Economic indicators

For reasons of data protection, no economic data can be published with respect to this segment.

(d) Overall assessment

No clear assessment can be made for this segment. The indicators are not pertinent because they are based on just two to three vessels. One stock at risk is fished.

Pelagic trawlers > 40 m (TM VL40XX)

TM40XX	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Technical indicator	0.82	0.81	0.86	0.86	0.80	0.85	0.94	0.88	0.87	0.77
SAR	0	0	0	0	0	0	2	1	0	
SHI						1.09	1.1	1.01	1.35	
CR/BER										
RoFTA										
Number of vessels	5	5	5	5	5	5	5	5	5	5
GT	27,565	26,801	26,801	26,922	26,922	26,922	26,922	26,922	27,136	20,622
kW	23,274	23,537	23,537	23,537	23,537	23,537	23,537	23,537	24,397	21,128

(a) Technical indicator

In the segment of pelagic trawlers with an overall length of 40 m or more, German vessels again had a high overall level of activity in 2018. However, the technical indicator fell compared to previous years (0.77). This is because one deep-sea vessel was sold in September 2018 and one large deep-sea cutter was registered in April 2018. Both vessels therefore logged significantly fewer sea days than in previous years, which then had a negative impact on the indicator value. However, a high theoretical value of 1.10 points to a very homogeneous segment. Again, it should be noted that the calculation involves comparing vessels engaged in cutter fisheries to vessels engaged in large-scale deep-sea fisheries.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment fished a wide range of pelagic stocks (including herring, sprat, horse mackerel, mackerel, blue whiting and sardine) in the North Sea, the Baltic Sea and the North Atlantic. For seven of the stocks used to calculate the SHI, fishing mortality F_C was above F_{MSY}. Moreover, F_C increased compared to the previous year for the Atlantic mackerel, the economically most important stock in this segment, resulting in an SHI value which, at 1.35, was significantly higher than in the previous three years (1.01-1.10).

Stocks at risk (SAR) indicator
Our analysis shows that, based on the relevant criteria, there was no stock at risk in this segment in 2017.

(c) Economic indicators

For reasons of data protection, no economic data can be published with respect to this segment.

(d) Overall assessment

No clear assessment can be made for this segment. However, the technical indicator and SHI values are good, and no stock at risk is fished.

General comments on the indicators

1. Technical indicator

The technical indicator has been indicated for all segments except mussel dredging.

The calculated values are not very relevant for the individual size categories as there are often just one to four vessels registered in each segment. Mussel dredging nevertheless achieved balanced and good values. The relative exploitation of sea days is explained in more detail above.

2. Biological indicators

Two biological indicators were calculated to assess the extent to which the various fleet segments are dependent on overfished stocks, and the degree to which their fishing activities affect stocks beyond biologically safe limits. These indicators are the ‘sustainable harvest indicator’ (SHI) and the ‘stocks-at-risk indicator’ (SAR). The indicators relate to catches and fishing mortality in 2017 and the state of stocks as at the beginning of 2018, since the results of the 2018 stock assessments were not yet available when this fleet report was submitted.
For 2017 the SHI and SAR indicators were both calculated by Germany, as no calculations were available from the STECF at the time of drawing up the fleet report. The biological indicator results are summarised in **Annex 4**.

2.1 Sustainable harvest indicator (SHI)

The SHI values for the various segments are only included in the fleet report if the share of the landings value for a given segment that can be used to calculate the indicator exceeds 40%.

The indicator values for the various segments range between 1.35 and 0.99. An SHI value >1 indicates that the fleet segment concerned is, on average, economically dependent on stocks with a fishing mortality that is currently higher than the maximum sustainable yield ($F_C > F_{MSY}$). The indicator values of some segments (e.g. DTS VL1218, PG VL1012, DTS VL1012) have fallen sharply compared to the previous year, which is a positive development.

This is due to reduced fishing mortality (F_C) for some stocks that are important for these segments, such as western Baltic herring and cod. These stocks will thus continue to be fished above F_{MSY} and are therefore considered to be overfished, but the lower F_C gives a lower SHI value. Regrettably, in 2017 the SHI rose from 1.01 to 1.35 in the most important segment in both volume and value terms (TM VL40XX).

The values for smaller vessels are also a reason for concern, but their landings in 2017 were relatively small. The main problem identified can also be narrowed down geographically to the western Baltic Sea, and more specifically to fleet segments fishing western Baltic cod or western Baltic herring.

<u>Generally speaking, however, this indicator should be viewed critically</u> as the calculation relies on biological data (exploitation level) and economic data (prices fetched for individual fish species), collated with information on the composition of landings by individual fleet segments. This makes it complicated to interpret the results in terms of the biological status of the resources fished. The indicator is thus neither purely economic, nor purely biological. However, since the indicator is presented as a biological indicator, it might seem as if some German fleet segments were putting the fished stocks at risk. Current fishing pressure (fishing mortality F_C) is considered in relation to what is regarded as optimal fishing pressure (fishing mortality F_{MSY}), which appears to be a reasonable approach. This ratio is then offset against the value (€) of the landings of stocks and fleets, not against the weight of the landings. If account were taken of landed weight, together with fishing pressure, it would be possible to draw conclusions about the impact of individual fleet segments on various stocks. By contrast, the highly dynamic prices of certain fish species make it more difficult to interpret the biological impact.

The STECF has also repeatedly criticised this indicator. In its assessment of the indicators used (STECF-15-02), it drew attention to various problems and shortcomings regarding the calculation and interpretation of the SHI. Below is a selection of key points quoted directly from the assessment:

- *The SHI, used in isolation, merely provides the average ratio of F/FMSY for those stocks caught by a specific fleet segment, weighted by the value of the landed catch from each of those stocks by that fleet segment. The resulting value simply indicates whether a particular fleet segment may be economically dependent on stocks that are estimated to be fished at a rate not consistent with fishing at FMSY.* ***To use this indicator to assess whether a particular fleet segment is in balance with its fishing opportunities could be wholly misleading.***
- *The SHI and its utility for assessing the balance between fishing capacity and fishing opportunities is not well understood;*

- *The SHI integrates information on the harvest rate of the stocks, the landings composition, and the prices of the various fish species, which makes it difficult to draw clear conclusions.*
- *The SHI may deliver a value of less than 1 for fleet segments which partly rely on individual stocks harvested at rates above F_{MSY}, hence masking instances of unsustainable fishing;*
- *The SHI may deliver a value of more than 1 for fleet segments which are not over-capacity with regards to their permitted harvest opportunities;*
- *The SHI may flag problems with a certain fleet segment despite the fact that the main problem lies with another fleet segment, which in turn may not necessarily be flagged;*
- *The limited number of fleet segments for which a representative indicator coverage can be achieved severely limits the usefulness of the SHI indicator.*

Germany supports the STECF's criticism of the SHI and would encourage the Commission to arrange for this indicator to be reviewed or adjusted as soon as possible.

2.2 Stocks at risk (SAR) indicator

The SAR indicator is a measure of the extent to which the activities of individual fleet segments impact on stocks in a poor condition (i.e. with a low spawning stock biomass). A stock must meet the following conditions to be classed as a stock at risk:

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

AND for which either:

1 - the stocks make up to 10% or more of the catches by the fleet segment; or
2 - the fleet segment takes 10% or more of the total catches from that stock.

An analysis of recent years shows that between 2009 and 2011 the number of stocks at risk fished on a large scale by German fleet segments increased from five to twelve. However, a positive trend has since become apparent, with the number of stocks at risk falling constantly to six in 2014. While there were six stocks at risk in both 2015 and 2016, this figure increased to ten in 2017. For nine segments the stock in question was the western Baltic herring, which is currently in a poor state.

Although the STECF (STECF-15-02) also criticises the SAR indicator on several points and provides suggestions for improvement, its use as a biological indicator seems more appropriate as it does not take account of economic data.

3. Economic indicators

The economic indicators were calculated by the Joint Research Centre (JRC) on the basis of figures provided by Germany under the Data Collection Framework (DCF). The pelagic trawler segment is dominated by a single business owner, which means that the associated figures cannot be published for data protection reasons.

The CR/BER indicator (current revenue to break-even revenue ratio) was calculated taking account of the opportunity costs of capital. In Germany's case leaving out the opportunity cost would not make any notable difference due to the low interest rate. This indicator includes depreciation values that are significantly higher than the figures actually applied by businesses. This is due to the method laid down for determining the value of the vessels ('perpetual inventory method', PIM), which results in considerable overestimation. A rising trend can be observed for most fleet segments.

The way the vessels are valued also strongly affects the return on investment (RoFTA) indicator. The actual value of the vessels and the costs actually incurred by the businesses are usually lower than the mathematical depreciation levels and opportunity costs embedded in the indicators. Therefore, the indicator is not well suited to comprehensively assessing the balance between fleet capacity and fishing opportunities.

Unfortunately, the guidelines make no provision for assessing this on the basis of an indicator which is not linked to the value of the vessels.

Apart from the fact that the absolute indicator values are not very relevant for the reasons outlined above, it should be noted that smaller vessels using mainly passive fishing gear (PG<12 m) often fail to break even. However, it needs to be taken into account that many vessels in these segments are not primarily operated for commercial reasons but are used for amateur fishing or in the context of a side business. Different cost structures not related to the balance between fishing opportunities and capacity are at play here. Moreover, it should be borne in mind that these vessels account for a very small share of German catches and that the quantities fished are in any case limited by technical constraints. Also, a notable portion of their catches consists of fresh water species for which there is no quota and that are not subject to EU quota management. Any form of overfishing by these vessels can thus be technically ruled out.

4. Overall assessment of the balance

Overall, in Germany's view, fishing capacity and fishing opportunities are well balanced in the main fleet segments with the biggest share of catches. This is also reflected, in particular, by the fact that fishing opportunities allocated to German fisheries under EU law are generally not exceeded.

5. Action plan to redress structural imbalances in the German fishing fleet based on the indicator results

Problems were identified in relation to small-scale coastal fishing in particular. However, such fishing typically involves part-time fishermen whose catches account for a very small portion of total catches. The economic indicators are not very relevant for this segment, as many of those involved do not engage in fishing with a view to maximising profit.

Furthermore, this segment has been constantly shrinking in recent years.
The indicator values for the larger vessels were more positive. The economic situation has fluctuated considerably in recent years, but this is nothing out of the ordinary. This cannot be taken as a sign of permanent overcapacity in an economic sense. Moreover, there are some issues with the methods used that lead to an overly negative assessment of the economic situation. An action plan has been in place for segments PG VL1012, DFN VL1218, DTS VL1012, DTS VL1218, DTS VL1824 and DTS VL2440 since the 2014 reporting period. Segment PG VL0010 was included in the action plan in 2016 due to its dependence on cod stocks in the western Baltic Sea, the condition of which remains critical (see Section 1.A.ii). Due to the positive indicators for segments DFN VL1218 and DTS VL2440, these were removed from the action plan as from the 2016 report. Segment DTS VL1824 is on a positive trend and is included in the action plan only on account of the biological indicators. For segments PG VL0010, PG VL1012, DTS VL1012 and DTS VL1218, further measures have been launched, including a scrapping campaign in 2017 aimed at reducing fleet capacity. This resulted in six vessels being scrapped in segment DTS VL1218, with an overall fishing capacity of 198 GT and 1,178 kW. Baltic Sea fishing businesses in need of support for their activities were able to receive this in the 2018 and 2019 fishing years. For 2019 the quotas have been set at 54.8 tonnes for western Baltic cod, 91.8 tonnes for eastern Baltic cod, 52.2 tonnes for western Baltic herring and 6.7 tonnes for Baltic sprat. Any impact of this measure on the specified indicator values and on future support for young fishermen will only become apparent once fishing quotas have stabilised at pre-2016 levels.

An updated action plan is enclosed with this report.

Annex 1: Overview of stocks fished in 2018 by vessels in individual fleet segments. The figures in the table correspond to landings in tonnes. Stocks are only listed if catches were ≥ 100 tonnes (≥ 500 tonnes in the case of TM VL40XX). + = Catches in DRB segments not shown for data protection reasons

Fished stock			**Segment**									
Code	**ICES/NAFO area**	**Stock**	**PG VL0010**	**PG VL1012**	**DFN VL1218**	**DFN VL2440**	**DRB VL2440**	**DRB VL 40XX**	**TBB VL1218**	**TBB VL1824**	**TBB VL2440**	**TBB VL40XX**
ANF	SA 4, 6, Div. 3a	Anglerfish				323						
ARU	Div. 5b, 6a	Greater silver smelt										
COD	SA 1, 2	Northeast Arctic cod										
COD	SD 22-24	Western Baltic cod	260	157								
COD	SA 4, Div. 7d, SD 20	North Sea cod										
COD	SA 14, NAFO Div. 1F	Cod, east and south Greenland										
CSH	Div. 4b, c	North Sea Crangon							7,742	6,656	210	
DAB	SD 22-32	Baltic Sea dab										
FLE	SD 24-25	Flounder west of Bornholm and in the central southwestern Baltic Sea	157									
GHL	SA 5, 6, 12, 14	Greenland halibut off Iceland, the Faeroe Islands, western Scotland and East Greenland										
GHL	NAFO Div. 1A-1F	West Greenland halibut										
HAD	SA 4, Div. 6a, SD 20	North Sea haddock										
HAD	SA 1, 2	Northeast Arctic haddock										
HER	SD 20-24	Western Baltic herring	1,395	1,429	276							
HER	SD 25-29, 32	Eastern Baltic herring										
HER	SA 4, Div. 3a, 7d	North Sea herring (incl. Eastern Channel)										
HER	SA 1, 2, 5, Div. 4a, 14a	Atlanto-Scandian herring										
HKE	SA 4, 6, 7, Div. 3a, 8a-b, 8d	Hake (northern stock)										
HOM	SA 8, Div. 2a, 4a, 5b, 6a, 7a-c,e-k	Northeast Atlantic horse mackerel										
HOM	Div. 3a, 4b,c, 7d	North Sea horse mackerel										
MAC	SA 1-8, 14, Div. 9a	Northeast Atlantic mackerel										

MAS	FAO area 34	Japanese mackerel, eastern central Atlantic										
MUS	Div. 4b	North Sea mussels					+	+			652	281
NEP	SA 4, Div. 3a	North Sea *Nephrops*										
PIL	FAO area 34	Eastern central Atlantic sardine										
PLE	SA 4, SD 20	North Sea plaice									934	207
PLE	SD 21-23	Plaice (Kattegat, Belt Sea and Øresund)	179									
PLE	SD 24-32	Baltic Sea plaice										
POK	SA 1, 2	Northeast Arctic saithe										
POK	SA 4, 6, Div. 3a	North Sea saithe										
REB	SA 14, Div. 5 a	Redfish (*S. mentella*) East Greenland and Iceland shelf + Irminger Sea										
REB	SA 1, 2	Northeast Arctic redfish (*S. mentella*)										
REG	SA 5, 6, 12, 14	Redfish (*S. norvegicus*) off Iceland, Faeroe Islands, western Scotland, East Greenland										
SAA	FAO area 34	Eastern central Atlantic round sardinella										
SAN	SA 4	North Sea sandeel										
SOL	SA 4	North Sea sole									493	
SPR	SA 4	North Sea sprat										
SPR	SD 22-32	Baltic sprat										
TUR	SA 4	North Sea turbot									154	
WHB	SA 1-9, 12, 14	North-east Atlantic Blue whiting										
WHG	Div. 3a	Whiting (Skagerrak, Kattegat)										

Annex 1 (cont.)

Fished stock			Segment									
Code	**ICES/NAFO area**	**Stock**	**DTS VL1012**	**DTS VL1218**	**DTS VL1824**	**DTS VL2440**	**DTS VL40XX**	**TM VL1218**	**TM VL1824**	**TM VL2440**	**TM VL40XX**	**Number Segments**
ANF	SA 4, 6, Div. 3a	Anglerfish										1
ARU	Div. 5b, 6a	Greater silver smelt									1 001	1
COD	SA 1, 2	Northeast Arctic cod					3,468					1
COD	SD 22-24	Western Baltic cod		185	170							4
COD	SA 4, Div. 7d, SD 20	North Sea cod				1,034	145					2
COD	SA 14, NAFO Div. 1F	Cod, east and south Greenland					1,401					1
CSH	Div. 4b, c	North Sea Crangon										3
DAB	SD 22-32	Baltic Sea dab		215	146							2
FLE	SD 24-25	Flounder west of Bornholm and in the central southwestern Baltic Sea			313	115						3
GHL	SA 5, 6, 12, 14	Iceland, Faeroe Islands, western Scotland, East Greenland					3,010					1
GHL	NAFO Div. 1A-1F	West Greenland halibut					1,297					1
HAD	SA 4, Div. 6a, SD 20	North Sea haddock				205						1
HAD	SA 1, 2	Northeast Arctic haddock					128					1
HER	SD 20-24	Western Baltic herring	210	691	439			1,144	2,565	3,017		9
HER	SD 25-29, 32	Eastern Baltic herring								866	2,990	2
HER	SA 4, Div. 3a, 7d	North Sea herring (incl. Eastern Channel)									49,397	1
HER	SA 1, 2, 5, Div. 4a, 14a	Atlanto-Scandian herring									4,558,	1
HKE	SA 4, 6, 7, Div. 3a, 8a-b, 8d	Hake (northern stock)				780						1
HOM	SA 8, Div. 2a, 4a, 5b, 6a, 7a-c,e-k	Northeast Atlantic horse mackerel									4,780	1
HOM	Div. 3a, 4b,c, 7d	North Sea horse mackerel									2,805	1
MAC	SA 1-8, 14, Div. 9a	Northeast Atlantic mackerel									19,189	1
MAS	FAO area 34	Japanese mackerel, eastern central Atlantic									529	1
MUS	Div. 4b	North Sea mussels										4
NEP	SA 4, Div. 3a	North Sea *Nephrops*			378	111						2

PIL	FAO area 34	Eastern central Atlantic sardine									21,496	1
PLE	SA 4, SD 20	North Sea plaice			905	357						4
PLE	SD 21-23	Plaice (Kattegat, Belt Sea and Øresund)		434	239							3
PLE	SD 24-32	Baltic Sea plaice			128							1
POK	SA 1, 2	Northeast Arctic saithe					702					1
POK	SA 4, 6, Div. 3a	North Sea saithe				3,184	3,302					2
REB	SA 14, Div. 5 a	Redfish (*S. mentella*) East Greenland and Iceland shelf + Irminger Sea					748					1
REB	SA 1, 2	Northeast Arctic redfish (*S. mentella*)					102				1,728	2
REG	SA 5, 6, 12, 14	Redfish (*S. norvegicus*) off Iceland, Faeroe Islands, western Scotland, East Greenland					344					1
SAA	FAO area 34	Eastern central Atlantic round sardinella									1,396	1
SAN	SA 4	North Sea sandeel									5,938	1
SOL	SA 4	North Sea sole										1
SPR	SA 4	North Sea sprat									3,804	1
SPR	SD 22-32	Baltic sprat		1,075	371					2,099	11,620	4
TUR	SA 4	North Sea turbot										1
WHB	SA 1-9, 12, 14	North-east Atlantic Blue whiting									46,523	1
WHG	Div. 3a	Whiting (Skagerrak, Kattegat)		581	189							2

Annex 2: Development of stocks fished by vessels from the various fleet segments in 2018. Stocks are only listed if catches were ≥ 100 tonnes (≥ 500 tonnes in the case of TM VL40XX)

Segment	Fished stock	Stock status at start of 2018
PG VL0010	Western Baltic cod Flounder west of Bornholm and in the central southwestern Baltic Sea Western Baltic herring Kattegat, Belt Sea and Øresund plaice	SSB < B_{lim}, F_{curr} > F_{MSY} No classification possible SSB < B_{lim}, F_{curr} > F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY}
PG VL1012	Western Baltic cod Western Baltic herring	SSB < B_{lim}, F_{curr} > F_{MSY} SSB < B_{lim}, F_{curr} > F_{MSY}
DFN VL1218	Western Baltic herring	SSB < B_{lim}, F_{curr} > F_{MSY}
DFN VL2440	North Sea, Celtic Sea and Western Scotland anglerfish	No classification possible
DRB VL2440	North Sea mussels	No ICES stock assessment
DRB VL40XX	North Sea mussels	No ICES stock assessment
TBB VL1218	North Sea *Crangon*	No ICES stock assessment
TBB VL1824	North Sea *Crangon*	No ICES stock assessment
TBB VL2440	North Sea *Crangon* North Sea plaice North Sea sole North Sea turbot North Sea mussels	No ICES stock assessment Full reproductive capacity, F_{curr} < F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY} SSB > MSY $B_{trigger\ proxy}$, $F_{curr\ rel}$ < $F_{MSY\ proxy}$ No ICES stock assessment
TBB VL40XX	North Sea plaice North Sea mussels	Full reproductive capacity, F_{curr} < F_{MSY} No ICES stock assessment
DTS VL1012	Western Baltic herring	SSB < B_{lim}, F_{curr} > F_{MSY}
DTS VL1218	Baltic Sea dab Baltic sprat Western Baltic cod Western Baltic herring Kattegat, Belt Sea and Øresund plaice Skagerrak and Kattegat whiting	No classification possible Full reproductive capacity, F_{curr} < F_{MSY} SSB < B_{lim}, F_{curr} > F_{MSY} SSB < B_{lim}, F_{curr} > F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY} No classification possible
DTS VL1824	Baltic Sea dab Baltic sprat North Sea Norway lobster Flounder west of Bornholm and in the central southwestern Baltic Sea Western Baltic cod Western Baltic herring North Sea plaice Kattegat, Belt Sea and Øresund plaice Baltic Sea plaice Skagerrak and Kattegat whiting	No classification possible Full reproductive capacity, F_{curr} < F_{MSY} Many sub-populations with varying stock status No classification possible SSB < B_{lim}, F_{curr} > F_{MSY} SSB < B_{lim}, F_{curr} > F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY} No classification possible No classification possible
DTS VL2440	North Sea cod North Sea haddock North Sea saithe North Sea plaice North Sea hake (northern stock) North Sea Norway lobster Flounder west of Bornholm and in the central southwestern Baltic Sea	SSB < MSY $B_{trigger}$, F_{curr} > F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY} Full reproductive capacity, F_{curr} < F_{MSY} Many sub-populations with varying stock status No classification possible

DTS VL40XX	North Sea cod Northeast Arctic cod Greenland cod North Sea saithe Northeast Arctic saithe Northeast Arctic haddock East Greenland/Iceland halibut West Greenland halibut (NAFO) Redfish (*S. mentella*) East Greenland and Iceland shelf Northeast Arctic redfish (*S. mentella*) Redfish (*S. norvegicus*) off Iceland, Faeroe Islands, western Scotland, East Greenland	SSB < MSY $B_{trigger}$, $F_{curr} > F_{MSY}$ Full reproductive capacity, $F_{curr} = F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MP}$ (F_{MSY} not defined) Full reproductive capacity, $F_{curr} < F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MSY}$ No classification possible No classification possible in East Greenland Full reproductive capacity F_{MSY} not defined Full reproductive capacity, $F_{curr} < F_{MSY}$
TM VL1218	Western Baltic herring	SSB < B_{lim}, $F_{curr} > F_{MSY}$
TM VL1824	Western Baltic herring	SSB < B_{lim}, $F_{curr} > F_{MSY}$
TM VL2440	Eastern Baltic herring Western Baltic herring Baltic sprat	Full reproductive capacity, $F_{curr} < F_{MSY}$ SSB < B_{lim} , $F_{curr} > F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MSY}$
TM VL40XX	Atlanto-Scandian herring North Sea herring (incl. Eastern Channel) Eastern Baltic herring Baltic sprat North Sea sprat Northeast Atlantic mackerel Blue whiting Northeast Atlantic greater silver smelt North Sea horse mackerel Northeast Atlantic horse mackerel Northeast Arctic redfish (*S. mentella*) North Sea sandeel Japanese mackerel, eastern central Atlantic Eastern central Atlantic sardine Eastern central Atlantic round sardinella	Full reproductive capacity, $F_{curr} < F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MSY}$ SSB > MSY $B_{escapement}$, $F_{curr} > F_{CAP}$ SSB < MSY $B_{Trigger}$, $F_{curr} > F_{MSY}$ Full reproductive capacity, $F_{curr} < F_{MSY}$ No classification possible No classification possible SSB < MSY $B_{trigger}$, $F_{curr} < F_{MSY}$ Full reproductive capacity F_{MSY} not defined Many sub-populations with varying stock status No classification possible No classification possible No classification possible

Annex 3: Overview of capacity changes in 2017

Status of the German fishing fleet as at 31.12.2017

Description	Number	GT	kW
Small-scale coastal fishing vessels < 12 m	**1,069**	**2,634**	**26,707**
VL0010 PG	1,002	1,887	20,778
VL1012 PG	67	747	5,929
Passive > 12 m	**16**	**1,380**	**3,717**
VL1218 FPO	0	0	0
VL2440 FPO	0	0	0
VL1218 DFN	9	236	1,247
VL1824 DFN	1	68	132
VL2440 DFN	6	1,076	2,338
Trawlers up to 40 m	**54**	**5,756**	**14,096**
VL0010 DTS	0	0	0
VL1012 DTS	6	94	744
VL1218 DTS	17	516	2,954
VL1824 DTS	12	1,377	2,897
VL2440 DTS	9	2,597	4,855
VL1218 TM	3	163	659
VL1824 TM	4	354	882
VL2440 TM	3	655	1,105
Beam trawlers	**215**	**10,773**	**46,124**
VL0010 TBB	13	38	487
VL1012 TBB	7	78	676
VL1218 TBB	113	3,565	22,083
VL1824 TBB	69	4,173	15,016
VL2440 TBB	11	2,128	6,009
VL40XX TBB	2	791	1,853
Deep-sea pelagic trawlers > 40 m	**5**	**26,922**	**23,537**
VL40XX TM	5	27,136	24,397
Deep-sea demersal trawlers > 40 m	**7**	**15,417**	**16,394**
VL40XX DTS	7	15,417	16,394
Mussel dredgers	**7**	**1,836**	**4,646**
VL1218 DRB	1	53	252
VL2440 DRB	3	581	1,381
VL40XX DRB	3	1,202	3,013
Total	**1,373**	**64,718**	**135,221**

Status of the German fishing fleet as at 31.12.2018

Description	Number	GT	kW
Small-scale coastal fishing vessels < 12 m	**1,026**	**2,562**	**26,149**
VL0010 PG	961	1,843	20,414
VL1012 PG	65	719	5,735
Passive > 12 m	**15**	**1,361**	**3,658**
VL1218 FPO	1	24	220
VL2440 FPO	1	199	441
VL1218 DFN	7	193	968
VL1824 DFN	1	68	132
VL2440 DFN	5	877	1,897
Trawlers up to 40 m	**54**	**5,635**	**13,659**
VL0010 DTS	1	4	57
VL1012 DTS	8	112	853
VL1218 DTS	17	548	3,109
VL1824 DTS	11	1,293	2,529
VL2440 DTS	11	3,043	5,825
VL1218 TM	1	75	219
VL1824 TM	3	279	662
VL2440 TM	2	281	405
Beam trawlers	**215**	**10,970**	**46,600**
VL0010 TBB	14	41	536
VL1012 TBB	4	53	424
VL1218 TBB	113	3,575	22,174
VL1824 TBB	72	4,489	15,825
VL2440 TBB	10	2,021	5,788
VL40XX TBB	2	791	1,853
Deep-sea pelagic trawlers > 40 m	**5**	**20,254**	**20,427**
VL40XX TM	5	20,254	20,427
Deep-sea demersal trawlers > 40 m	**7**	**15,417**	**16,394**
VL40XX DTS	7	15,417	16,394
Mussel dredgers	**7**	**1,836**	**3,866**
VL1218 DRB	1	53	252
VL2440 DRB	3	581	1,381
VL40XX DRB	3	1,202	2,233
Total	**1,329**	**58,035**	**130,753**

Absolute changes in 2018 on previous year

Description	Number	GT	kW
Small-scale coastal fishing vessels < 12 m	**-43**	**-72**	**-558**
VL0010 PG	-41	-44	-364
VL1012 PG	-2	-28	-194
Passive > 12 m	**-1**	**-19**	**-59**
VL1218 FPO	1	24	220
VL2440 FPO	1	199	441
VL1218 DFN	-2	-43	-279
VL1824 DFN	0	0	0
VL2440 DFN	-1	-199	-441
Trawlers up to 40 m	**0**	**-121**	**-437**
VL0010 DTS	1	4	57
VL1012 DTS	2	18	109
VL1218 DTS	0	32	155
VL1824 DTS	-1	-84	-368
VL2440 DTS	2	446	970
VL1218 TM	-2	-88	-440
VL1824 TM	-1	-75	-220
VL2440 TM	-1	-374	-700
Beam trawlers	**0**	**197**	**476**
VL0010 TBB	1	3	49
VL1012 TBB	-3	-25	-252
VL1218 TBB	0	10	91
VL1824 TBB	3	316	809
VL2440 TBB	-1	-107	-221
VL40XX TBB	0	0	0
Deep-sea pelagic trawlers > 40 m	**0**	**-6,668**	**-3,110**
VL40XX TM	0	-6,882	-3,970
Deep-sea demersal trawlers > 40 m	**0**	**0**	**0**
VL40XX DTS	0	0	0
Mussel dredgers	**0**	**0**	**-780**
VL1218 DRB	0	0	0
VL2440 DRB	0	0	0
VL40XX DRB	0	0	-780
Total	**-44**	**-6,683**	**-4,468**

Annex 4: Sustainable harvest indicator (SHI) for 2017 The rows highlighted in grey were not included in SHI because less than 40% of the fleet's landing value was used when calculating the indicator. The total SHI values are based on the German calculation, as no SHI calculations for 2017 were available at the time of drawing up this report.

Fleet segment	**Value of landings by a fleet segment with available F_c/F_{MSY}**	**Stocks used to calculate SHI**	**Number of stocks used to calculate SHI**	**Number of overfished stocks in indicator (marked with *)**	**SHI**	**Percentage of a fleet's landing value included in the indicator**	**Value of total landings by fleet**
TM VL40XX	65,253,089	*her.27.1-24a514a, *her.27.25-2932, her.27.3a47d, *her.27.irls, *spr.27.22-32, *spr.27.4, *mac.27.nea, *whb.27.1-91214,hom.27.2a4a5b6a7a-ce-k8	9	7	**1.35**	85	77,212,769
DTS VL1218	1,664,089	*cod.27.22-24, *her.27.20-24, ple.27.21-23, *spr.27.22-32	4	3	**1.33**	69	2,421,272
PG VL1012	1,082,131	*cod.27.22-24, *her.27.20-24, ple.27.21-23, *mac.27.nea	4	3	**1.29**	73	1,489,777
DTS VL1012	309,216	*cod.27.22-24, *her.27.20-24, ple.27.21-23, *spr.27.22-32	4	3	**1.27**	63	493,269
TM VL2440	2,901,482	*cod.27.24-32, *her.27.20-24, *her.27.25-2932, her.27.3a47d,*spr.27.22-32, *spr.27.4, *whg.27.47d	7	6	**1.25**	94	3,086,996
DFN VL1218	984,382	*cod.27.47d20, *sol.27.4, *sol.27.20-24, ple.27.420, ple.27.21-23, *had.27.46a20,*mac.27.nea, *cod.27.22-24, *her.27.20-24	9	7	**1.18**	82	1,200,717
TM VL1218	703,495	*cod.27.22-24, *cod.27.24-32, *her.27.20-24, *spr.27.22-32	4	4	**1.13**	85	824,372
DTS VL2440	14,685,084	*cod.27.22-24, *cod.27.24-32, *cod.27.47d20, *had.27.46a20, pok.27.3a46, ple.27.420, hke.27.3a46-8abd, *whg.27.47d, ple.27.21-23, tur.27.4	10	5	**1.12**	84	17,446,368

TM VL1824	1,289,773	*cod.27.22-24, *her.27.20-24, *her.27.25-2932, *spr.27.22-32, *cod.27.24-32	5	5	**1.09**	76	1,695,258
TBB VL2440	8706982	*cod.27.47d20, *whg.27.47d, ple.27.420, tur.27.4, *sol.27.4	5	3	**1.02**	65	13,355,761
TBB VL40XX	1,595,613	ple.27.420, tur.27.4, *sol.27.4	3	1	**1.00**	55	2,901,408
DTS VL40XX	34,075,574	cod.27.1-2, cod.2127..1f14, *cod.27.47d20, pok.27.3a46, *had.27.46a20, *had.27.1-2, hke.27.3a46-8abd, ghl.27.561214, *reg.27.561214	9	4	**0.99**	79	43,256,682
PG VL0010	1,994,494	*cod.27.22-24, *her.27.20-24, ple.27.21-23, *mac.27.nea	4	3	**1.31**	31	6,484,063
DFN VL2440	893,455	*cod.27.47d20, *sol.27.4, ple.27.420, pok.27.3a46, hke.27.3a46-8abd,*had.27.46a20, tur.27.4	7	3	**1.24**	25	3,523,713
DTS VL1824	4,048,232	*cod.27.22-24, *cod.27.24-32, *cod.27.47d20, ple.27.420, ple.27.21-23, *her.27.20-24, *spr.27.22-32, *sol.27.4, tur.27.4, hke.27.3a46-8abd, *had.27.46a20, * whg.27.47d	11	8	**1.12**	39	10,257,782
TBB VL1824	16,344	*cod.27.47d20, ple.27.420, tur.27.4	3	1	**0.86**	0	24,868,034
TBB VL1218	0	ple.27.420, *sol.27.4	2	1	**n/a**	0	28,921,219
TBB VL1012	0	*cod.27.47d20, ple.27.420, ple.27.21-23, her.27.3a47d, hke.27.3a46-8abd	5	1	**n/a**	0	262,449