30 May 2022

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 2021

1.A: Fleet description and development

i. Fleet description

As at 31 December 2021 the German fishing fleet comprised 1 246 fishing vessels, which is 45 vessels fewer than in the previous year. Fishing capacity increased by 3 772 kW in engine power and 3 395 GT in tonnage. In the description below the vessels have been broken down into seven groups.

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

This segment comprises 968 small-scale coastal fishing vessels less than 12 metres in length, which makes it the largest of the German fleet in terms of numbers. The vessels mainly operate with static nets in the Baltic Sea. About a third of the vessels in this segment are managed as a side business, some of them only as a second or third vessel, with only a few days of fishing effort. The species fished are mainly herring and plaice, but also include cod, flounder, bream and roach.

The segment decreased by 30 vessels, and engine power fell by 594 kW and tonnage by 128 GT.

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

A further segment is made up of vessels with an overall length of more than 12 metres using passive fishing gear. As at 31 December 2021 it comprised 12 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 in the North Sea (anglerfish, cod and sole).

The number of vessels in this segment fell by three. Fishing capacity decreased by 293 GT and 711 kW.

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

In the segments made up of trawlers with a total length up to 40 metres there were a total of 47 vessels as at 31 December 2021. In the North Sea these vessels mainly fish saithe, cod, haddock, Norway lobster, plaice and hake, while their main catches in the Baltic sea were of herring, cod, plaice, dab, flounder and sprat.

The number of vessels in this segment decreased by seven, and fishing capacity fell by 813 GT and 1 170 kW.

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

Beam trawlers play a key role in the German fishing industry. For the majority of these vessels the main target species is common shrimp (CSH). Large beam trawlers fish across the entire North Sea, where they mainly catch mussels and flatfish such as plaice and sole.

Fishing with electric pulse trawls has been prohibited in all EU waters since 1 July 2021 under point 1 of Part D of Annex V to Regulation (EU) 2019/1241. Before the ban came into force, 11 vessels were equipped with electric pulse trawls, of which two fished shrimp and nine fished flatfish.

A total of 203 beam trawlers, with a total capacity of 10 810 GT and 45 487 kW, were registered in the German fishing fleet as at 31 December 2021. This means that tonnage has increased by 82 GT and engine power by 575 kW since the previous year. The number of vessels decreased by three.

Deep-sea pelagic fisheries (TM VL40XX)

A total of five vessels (total length 40 metres or more) were registered in the deep-sea pelagic fisheries segment of the German fishing fleet as at 31 December 2021. Vessels in this segment are very heterogeneous in terms of size and areas of operation. They include both large deep-sea vessels more than 100 metres in overall length and with a tonnage of up to 9 000 GT and significantly smaller deep-seas cutters of 700-1 000 GT. The vessels operated in a great many different fishing areas. In the North Sea and in western British waters (ICES 4, 6a, 7) they mainly caught herring, mackerel and blue whiting. In the Baltic they mainly caught sprat, but also herring in the eastern Baltic. One vessel made several trips to FAO area 34-131/ESH (Western Sahara), mainly catching sardine (PIL) and Atlantic chub mackerel (VMA).

There were five vessels in the reporting year, the same as in the previous year. Fishing capacity also remained unchanged in 2021 at 20 514 GT und 21 141 kW.

Deep-sea demersal fisheries (DTS VL40XX)

There were a total of five vessels in the deep-sea demersal fisheries segment as at 31 December 2021. These fished almost exclusively in the north Atlantic (including off Greenland, Norway and Svalbard and in ICES areas 1, 2 and 14). Catches in the northern North Sea, Norwegian waters and off Svalbard were mainly of cod and saithe. Fishing in Greenland waters and in NEAFC areas targeted Greenland halibut and redfish.

Five vessels, with a total capacity of 12 849 GT and 14 275 kW, were registered in the German fishing fleet as at 31 December 2021. This means a reduction of 1 621 GT in tonnage and of 600 kW in engine power compared to the previous year. The number of vessels remained unchanged.

One vessel was registered in the deep-sea pelagic fisheries segment (total length 40 metres or more) as well as in the deep-sea demersal fisheries segment.

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

There were six vessels in the mussel dredger segment as at 31 December 2021. These vessels mainly manage their own mussel farms but also have the right – unlike pure fish farm vessels – to catch wild mussels.

The segment decreased by two vessels, and fishing capacity fell by 622 GT and 1 272 kW.

ii. Fisheries by fleet segment

The presentation below is based on DCF segments (Table 5B in Commission Implementing Decision (EU) 2016/1251). **Annex 1** sets out the fish stocks and invertebrate stocks fished by each segment in 2021. The stocks mentioned are the ones of greatest importance to the segment concerned. In general stocks were taken into account only if vessels in a given segment landed at least 100 tonnes in 2021, or at least 500 tonnes in the case of pelagic trawlers of more than 40 metres (TM VL40XX). However, for some segments, such as DFN VL1218 and DTS VL1012, landings of less than 100 tonnes were included for the main stocks as these landings were considered important for those segments.

Stock assessments (**Annex 2**) relate to 2020 for fishing mortality (F) and to early 2021 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 2021 will only become available in the course of 2022, after the deadline for submitting this fleet report. More recent data (collected in 2021) may result in significantly different assessments for certain stocks, which can only 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 five stocks in the Baltic Sea and Kattegat in 2021, in particular western Baltic herring (178 tonnes) and Kattegat, Belt Sea and Øresund plaice (178 tonnes). The spawning stock biomass of western Baltic herring has been below B_{lim} for several years. Although fishing mortality F_C was below F_{MSY} in 2020, the condition of this stock is considered to be so poor that the ICES recommends zero catches in 2022, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production. The plaice stock (Kattegat, Belt Sea and Øresund) has full reproductive capacity and was fished at F_C below F_{MSY}. This segment also made considerable flounder catches, of the stock west of Bornholm and in the southwest central Baltic (90 tonnes) and the Belt Sea and Øresund stock (95 tonnes). There is no ICES-approved assessment for these stocks allowing their status to be given in relation to reference points, but F_C is below $F_{MSY\text{-}proxy}$ for the stock west of Bornholm and in the southwest central Baltic. Baltic flatfish catches and stocks have been developing favourably for years and currently account for a substantial share of catches, at least in ICES sub-division 22. The spawning stock biomass (SSB) for western Baltic cod is below B_{lim} according to the inter-benchmark process carried out in 2021. Fishing mortality F_C again fell marginally but was above F_{MSY} also in 2020. Owing to the poor condition of the stock, therefore, combined with very low recruitment since 2018, recommended yearly catches have been sharply reduced. Catches in this segment thus dropped again, from 178 tonnes in 2020 to 64 tonnes. If offspring production does not pick up again in the next few years, the medium to long-term prospects for this stock are poor. Apart from the main marine species, catches by this segment in the Baltic Sea and in bordering brackish waters also included larger quantities of bream (632 tonnes), roach (316 tonnes), zander (68 tonnes), European perch (91 tonnes) and eel (57 tonnes).

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

Vessels in this segment mainly fished six stocks in the Baltic in 2021, in particular western Baltic herring (142 tonnes) and Kattegat, Belt Sea and Øresund plaice (148 tonnes). The SSB of western Baltic herring has been below B_{lim} for several years. Although F_C was below F_{MSY} in 2020, the condition of this stock is considered to be so poor that the ICES recommends zero catches in 2022, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production. The plaice stock (Kattegat, Belt Sea and Øresund) has full reproductive capacity and was fished at F_C below F_{MSY}. This segment also made considerable catches of dab (Baltic stock, 63 tonnes) and flounder, both of the stock west of Bornholm / in the southwest central Baltic (51 tonnes) and of the Belt Sea and Øresund stock (56 tonnes). There is no ICES-approved assessment for these stocks allowing their status to be given in relation to reference points, but F_C is below $F_{MSY\text{-}proxy}$ for all three stocks. Baltic flatfish stocks and catches have been increasing for years and now account for a high share of overall catches, at least in ICES sub-area 22. The spawning stock biomass (SSB) for western Baltic

cod is below B_{lim} according to the inter-benchmark process carried out in 2021. Fishing mortality F_C again fell marginally but was above F_{MSY} also in 2020. Owing to the poor condition of the stock, therefore, combined with very low recruitment since 2018, recommended yearly catches have been sharply reduced. Catches by this segment thus dropped by 30 tonnes compared to 2020 (100 tonnes). If offspring production does not pick up again in the next few years, the medium to long-term prospects for this stock are poor.

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

In 2020 vessels in this segment mainly fished plaice (23 tonnes), cod (22 tonnes) and sole (18 tonnes) in the North Sea as well as sole (17 tonnes) in the western Baltic, Kattegat and Skagerrak. North Sea plaice and the two sole stocks have full reproductive capacity, and fishing mortality F_C for North Sea sole was above F_{MSY}, while the two other stocks mentioned are fished sustainably ($F_C < F_{MSY}$). The North Sea cod stock is currently in a poor condition. The SSB has been in decline since 2016 and below B_{lim} (reduced reproductive capacity) since 2019. Fishing mortality fell further to $F_C = 0.45$ in 2020, meaning that it remains above F_{MSY} (0.28).

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

In 2021 this segment mainly fished anglerfish (*Lophius piscatorius* and *L. budegassa*) in the northeast Atlantic (total catches: 656 tonnes), of which 395 tonnes in ICES areas 4 und 6 and Division 3a (anf.27.3a46) and 261 tonnes in ICES area 7 (mon.27.78abd and ank.27.78abd). There are no reference points or targets for anglerfish (anf.27.3a46); however, qualitative ICES data shows a falling trend since 2017. There are two species of anglerfish in ICES areas 7 and 8 (*L. budegassa* and *L. piscatorius*), and both need to be considered as the species is not specified at landing (there is a combined TAC for both). *L. piscatorius* (mon.27.78abd) *L. budegassa* (ank.27.78abd) are both in a good condition, and the spawning stock biomass was above $MSY_{Btrigger}$ and fishing mortality F_C below F_{MSY} for both stocks in 2020.

Mussel dredgers (DRB)

Vessels in this segment carry out 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,* 23 tonnes). There is no quota for this target species and no analytical stock calculation is made. This segment will not be further taken into account due to low catches (< 100 tonnes).

Beam trawlers 10-12 m (TBB VL1012)

Beam trawlers in this segment caught almost exclusively common shrimp (45 tonnes). There is no quota for this target species and no analytical stock calculation is made. This segment will not be further taken into account due to low catches (< 100 tonnes).

Beam trawlers 12–18 m (TBB VL1218)

Beam trawlers in this segment caught almost exclusively common shrimp (4 385 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 (4 067 tonnes). There is no quota for this target species and no analytical stock calculation is made. Catches also included 159 tonnes of plaice and 111 tonnes of sole in the North Sea. Plaice and sole both have full reproductive capacity, and fishing mortality F_C was below F_{MSY} for plaice and above F_{MSY} for sole in 2020. There were also catches of Norway lobster (86 tonnes in Functional Unit (FU) 33), for which there is no classification of stock status.

Beam trawlers 24-40 m (TBB VL2440)

Beam trawlers in this segment mainly caught sole (347 tonnes), mussels (319 tonnes), plaice (252 tonnes) and common shrimp (129 tonnes) in the North Sea. Sole and plaice both have full reproductive capacity, and fishing mortality F_C was below F_{MSY} for plaice and above F_{MSY} for sole in 2020. There is no stock assessment for mussels and common shrimp.

Beam trawlers > 40 m (TBB VL40XX)

Beam trawlers in this segment mainly caught mussels (423 tonnes), plaice (185 tonnes) and sole (165 tonnes) in the North Sea. Plaice and sole both have full reproductive capacity, and fishing mortality F_C was below F_{MSY} for plaice and above F_{MSY} for sole in 2020. There is no stock assessment for North Sea mussels.

Demersal trawlers 10-12 m (DTS VL1012)

Vessels in this segment mainly fished flounder west of Bornholm and in the southwest central Baltic (73 tonnes), and *Belone belone* needlefish (69 tonnes) and herring (35 tonnes) in the western Baltic. For the flounder stock west of Bornholm and in the southwest central Baltic there is no ICES-approved assessment allowing its status to be given in relation to reference points. However, F_C for this stock is below $F_{MSY\text{-}proxy}$. As regards needlefish there is very little information available and there is no ICES stock status classification.

The SSB of western Baltic herring has been below B_{lim} for several years. Although F_C was below F_{MSY} in 2020, the condition of this stock is considered to be so poor that the ICES

recommends zero catches in 2022, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production.

Demersal trawlers 12-18 m (DTS VL1218)

Vessels in this segments mainly fished plaice (Kattegat, Belt Sea and Øresund: 245 tonnes), flounder (fle.27.2425: 109 tonnes) and herring (79 tonnes) in the western Baltic, and sprat (207 tonnes) and dab (152 tonnes) across the Baltic Sea. The plaice stock (Kattegat, Belt Sea and Øresund) has full reproductive capacity and was fished at F_C below F_{MSY}. There is no ICES-approved assessment for the flounder stock west of Bornholm and in the southwest central Baltic or for the dab stock, meaning that their status cannot be given in relation to reference points. However, fishing mortality F_C for these two stocks is below $F_{MSY\text{-}proxy}$. The SSB of western Baltic herring has been below B_{lim} for several years. Although F_C was below F_{MSY} in 2020, the condition of this stock is considered to be so poor that the ICES recommends zero catches in 2022, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production. Baltic sprat has full reproductive capacity, although fishing mortality F_C was above F_{MSY} in 2020.

Demersal trawlers 18-24 m (DTS VL1824)

Vessels in this segment mainly fished plaice (297 tonnes) and Norway lobster (66 tonnes, FU 33) in the North Sea, as well as plaice (Kattegat, Belt Sea and Øresund: 123 tonnes) and dab (79 tonnes) in the western Baltic. Both plaice stocks have full reproductive capacity and were fished at fishing mortality F_C below F_{MSY} in 2020. There is no stock status classification for either dab or Norway lobster in FU 33, but fishing mortality F_C was below $F_{MSY\text{-}proxy}$ for dab in 2020.

Demersal trawlers 24-40 m (DTS VL2440)

Vessels in this segment mainly fished saithe (4 245 tonnes), cod (746 tonnes), cod (746 tonnes), hake (678 tonnes), haddock (371 tonnes), plaice (343 tonnes), pollack (182 tonnes), common ling (112 tonnes) and Norway lobster (97 tonnes) in the North Sea. In the western Baltic they mainly caught herring (197 tonnes) and sprat (310 tonnes), in addition to flounder west of Bornholm and in the southwest central Baltic (144 tonnes) and dab (97 tonnes) across the Baltic Sea. Of the main stocks fished, four have full reproductive capacity (North Sea and Skagerrak plaice, North Sea haddock, Baltic sprat and northern stock of hake).

The spawning stock biomass (SSB) is below B_{lim} for western Baltic herring and North Sea cod, and below $MSY_{Btrigger}$ for North Sea saithe. There is no ICES classification available concerning the reproductive capacity of the eastern Baltic dab, common ling, North Sea pollack or Norway lobster in FU 33.

The North Sea cod stock is currently in a poor condition. The SSB has been in decline since 2016 and has been below B_{lim} (reduced reproductive capacity) since 2019. Fishing mortality fell further to F_C = 0.45 in 2020 and thus remains above F_{MSY} (0.28). The SSB of western Baltic herring has been below B_{lim} for several years. Although F_C was below F_{MSY} in 2020, the condition of this stock is considered to be so poor that the ICES recommends zero catches in 2022, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production.

Fishing mortality F_C was below F_{MSY} for North Sea plaice and haddock and for western Baltic herring, whereas the northern hake stock was fished at F_{MSY}. Fishing mortality F_C was below $F_{MSY\text{-}proxy}$ for the flounder stock and Baltic dab, and above F_{MSY} for North Sea cod and saithe and for Baltic sprat. There is no clear management status for North Sea pollack, North Atlantic common ling or Norway lobster in FU 33.

Demersal trawlers > 40 m (DTS VL40XX)

In the North Sea vessels in this segment mainly fished saithe (202 tonnes). In the Barents Sea and the Norwegian Sea they mainly fished northeast Arctic cod (6 193 tonnes), redfish (*S. mentella*, 652 tonnes), saithe (601 tonnes), haddock (365 tonnes) and Atlantic wolffish (*Anarhichas lupus*, 114 tonnes). In the west Greenland NAFO area, 1 673 tonnes of Greenland halibut were caught. The main catches in ICES sub-area 14 on the east Greenland shelf and west of Iceland were of Greenland halibut (4 053 tonnes), redfish (974 tonnes of *Sebastes mentella* and 875 tonnes of *S. norvegicus*) and cod (cod.21271f14: 1 969 tonnes). Seven of the stocks fished have full reproductive capacity (northeast Arctic cod, saithe, haddock, *S. mentella* redfish, Greenland halibut, cod and *S. norvegicus* redfish off east Greenland/Iceland). There is no ICES classification available concerning the reproductive capacity of Greenland halibut off west Greenland, *S. mentella* redfish on the Greenland shelf or Atlantic wolffish. The spawning stock biomass of North Sea saithe is below $MSY_{Btrigger}$.

Fishing mortality F_C was below F_{MSY} for Greenland halibut on the east Greenland shelf and west of Iceland, at F_{MSY} for northeast Arctic cod and above F_{MSY} for *S. norvegicus* redfish off east Greenland/Iceland, cod off east and southwest Greenland, northeast Arctic haddock and North Sea saithe. For northeast Arctic saithe and redfish (*S. mentella*) F_{MSY} is not defined, and for Greenland halibut off west Greenland, redfish (*S. mentella*) on the southeast Greenland shelf or Atlantic wolffish a classification is not possible.

Pelagic trawlers 12-18 m (TM VL1218)

There were no active vessels in this segment in 2021.

Pelagic trawlers 18-24 m (TM VL1824)

Vessels in this segment fished almost exclusively herring (202 tonnes) in the western Baltic Sea. The SSB of western Baltic herring has been below B_{lim} for several years. Although F_C was below F_{MSY} in 2020, the condition of this stock is considered to be so poor that the ICES recommends zero catches in 2022, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production.

Pelagic trawlers 24-40 m (TM VL2440)

There were no active vessels in this segment in 2021.

Pelagic trawlers > 40 m (TM VL40XX)

Vessels in this segment mainly fished herring (25 722 tonnes), sprat (3 670 tonnes) sand eel (area 4: 1 772 tonnes) and Norway pout (486 t) in the North Sea. In the Baltic they caught 11 439 tonnes of sprat and 608 tonnes of eastern Baltic herring. Of the main northeast Atlantic species they fished 34 558 tonnes of blue whiting, 11 392 tonnes of mackerel, 7 178 tonnes of horse mackerel and 439 tonnes of great silver smelt *(Argentina silus)*. Catches also included 3 186 tonnes of Atlanto-Scandian herring, 514 tonnes of pelagic *S. mentella* redfish in the Norwegian Sea and 466 tonnes of argentine (*Argentina sphyraena*), as well as 6 500 tonnes of Atlantic chub mackerel (*Scomber colias*), 5 016 tonnes of sardine and 528 tonnes of horse mackerel in the central eastern Atlantic (CECAF area). In the southeast Pacific (SPRFMO area) catches included 13 019 tonnes of Chilean jack mackerel (*Trachurus murphyi*), 3 116 tonnes of Pacific chub mackerel (*Scomber japonicus*) and 561 tonnes of Cape bonnetmouth (*Emmelichthys nitidus*).

Of the 19 stocks mentioned, nine have full reproductive capacity (Atlanto-Scandian herring, Baltic sprat, North Sea sprat, North Sea herring, northeast Atlantic blue whiting and mackerel, northeast Arctic (*S. mentella*) redfish, North Sea sand eel FU 4 and Chilean jack mackerel (SSB > B_{MSY})), whereas for seven stocks a classification is not available or is outdated (sardine, chub mackerel and horse mackerel in the central eastern Atlantic, argentine, great silver smelt, Pacific chub mackerel and Cape bonnetmouth in the southeast Pacific). For northeast Atlantic horse mackerel and eastern Baltic herring, the spawning stock biomass (SSB) is below MSY $B_{trigger}$, whereas MSY $B_{trigger}$ has not been determined for Norway pout. SSB was above MSY $B_{escapement}$ for North Sea sprat and sand eel FU 4, meaning that these stocks have full reproductive capacity. For short-lived species such as North Sea sprat and sand eel, which are managed by way of an escapement strategy, F is not relevant and F_{MSY} is therefore not determined. For North Sea herring, northeast Atlantic mackerel, great silver smelt and Chilean jack mackerel, fishing mortality F_C was below F_{MSY} (below $F_{MSY\ proxy}$ for great silver smelt), whereas F_C was above F_{MSY} for Atlanto-Scandian herring, eastern Baltic herring, Baltic sprat, blue whiting and northeast Arctic redfish.

iii. Fleet development

The German fleet was reduced by 45 vessels (-3.49%) in the 2021 reporting year. Total capacity fell by 3 395 GT (-5.82%) in tonnage and 3 772 kW (-2.88%) in engine power.

Accurate 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

Regulation (EC) No 2016/2336 lays down fishing effort regulations for Germany as regards the fishing of deep-sea species.

The overall fishing capacity allocated to Germany for fisheries targeting deep-sea species was not exceeded in 2021. Deep-sea fishing is defined 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. In 2021 only catches of great silver smelt (ARU) and deep-sea red crab (KEF) fell into this category.

ii. Impact of fishing effort restrictions on fishing capacity

German fishing vessels are no longer subject to kW-day regulation in the North Sea and adjacent areas, since Regulations (EC) Nos 676/2007 and 1342/2008 were repealed by Regulation (EU) 2018/973 of 4 July 2018.

The aggregate fishing capacity, measured in gross tonnage and in kilowatts, of all EU fishing vessels to which a Member State has issued a targeted fishing authorisation may not at any time exceed the aggregate fishing capacity of the vessels of that Member State in the period from 2009 to 2011, whichever year provides the higher figure.

The total fishing capacity for Germany calculated on this basis has not lead to any major restrictions on the German fleet in terms of capacity management.

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:	70 624 GT	166 048 kW
Status of the fleet as at 1 January 2003:	66 844 GT	161 045 kW
Status of the fleet as at 31 December 2021:	54 981 GT	127 275 kW

Capacity reductions (withdrawals from the fleet with public support) in 2021: **490 GT / 1 030 kW.**

1.D: Fleet management

i. Assessment of the fleet management system (weaknesses, strengths)

The fleet structure as it currently stands has remained virtually unchanged. In 2021 the fleet was reduced by 45 vessels mainly due to the withdrawal of static netters <12 m in length (segments PG VL0010 and PG VL1012).
The Fleet Regulation (Regulation (EU) 2017/218) is viewed favourably as it lays down some new parameters for recording fleet structure data. For example, the data bank now includes information 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. As a result the European fleet register is now far more up to date, and 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.

Eight fishing vessels with a fishing capacity of 490 GT and 1 030 kW were scrapped with public funding in Germany in 2021.

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, including in the allocation of fishing opportunities where special emphasis is put on maintaining traditional static net fishing.

A relatively high proportion of smaller vessels is another characteristic of the German fleet. Traditional fishing 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 and prevent harbours being abandoned, also with the aim of encouraging 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 Sea Fisheries Act (*Seefischereigesetz*). It should be noted in this regard that although fishing as a side business involves very low catches in nominal terms, maintaining them is a stated aim.

In 2021 the fishing industry was hard hit by the coronavirus pandemic as markets contracted or collapsed altogether. Support was made available to German fishing businesses.

ii. Plans to improve the fleet management system

Trends in the German fleet show a largely linear descending curve for the number of vessels, and an associated drop in fishing capacity, from 2 315 vessels in 2000 to 1 246 vessels in 2021. German policy has always stressed that there must be room for efficient resource management if important stocks develop favourably. The market mechanisms currently in place to manage the fleet are regarded as sufficient.
Germany will continue to put considerable effort into developing and improving its fleet database.

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

First 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 indicators were established by Germany, while input provided by the STECF was used for the economic and biological indicators (some biological indicator

values were, however, calculated by Germany in segments where no STECF data was available). The biological indicators – sustainable harvest indicator (SHI) and stocks at risk (SAR) – both relate to 2020 since the 2021 data for fishing mortality F was not yet available at the time of establishing the indicators and drawing up this report. Catches reported in this context also relate to 2020, unless otherwise stated.

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

PG0010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.26	0.35	0.33	0.25	0.36	0.36	0.42	0.46	0.45	0.42	0.36
SAR	2	1	2	1	1	2	1	1	2	3	
SHI	2.58	2.65	2.53	2.65	2.55	2.58	2.06	2.24	2.18	1.83	
CR/BER	0.72	0.82	0.44	1.36	1.00	1.23	1.14	0.45	0.13	0.06	
RoFTA	-14.6	-11.4	-27.8	18.9	0.26	12.4	7.3	-32.2	-60.0	-59.3	
Number of vessels	838	809	783	768	743	729	691	666	650	631	617
GT	1 702	1 615	1 544	1 521	1 516	1 527	1 398	1 317	1 311	1 271	1 238
kW	17 809	17 175	16 832	17 000	16 993	17 202	16 268	15 361	15 477	15 227	15 143
Number of log vessels*	155	144	132	130	129	135	116	107	106	100	98
GT log*	798	721	659	656	672	721	616	560	565	541	527
kW log*	7 894	7 263	6 818	6 722	6 779	7 407	6 420	5 893	5 854	5 346	5 471

Log vessels* = vessels required to keep a logbook

(a) Technical indicator

The calculation of the technical indicator is based on all active vessels in this passive fishing gear segment (PG VL0010) that are required to keep a fishing logbook. 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. The table shows capacity figures both for the whole segment and for vessels required to keep a logbook. As in previous years this group of vessels invariably had low values. The low value is primarily due to the traditional and highly regionalised nature of this segment. Most of the vessels are operated as a side business, often for just a couple of days on weekends or for a few weeks per season.

As a result, the calculation of the technical indicator produces a rather low value for the majority of vessels operated as a side business, whereas the value for fishing businesses operating as a main business (i.e. those that make a living from fishing) is significantly higher. The indicator has deteriorated slightly, by 0.06 points.

Inactivity indicator:
In segment PG VL0010 a total of 358 vessels were inactive (as per their fleet status on 31 December 2021) and therefore had no landings. These account for a capacity of 743 GT and engine power of 6 795 kW.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished western Baltic herring, cod and plaice, for which a stock assessment is available. In 2020 fishing mortality F_C was below F_{MSY} for herring and plaice, but well above F_{MSY} for western Baltic cod. The overall SHI value fell from 2.18 in 2019 to 1.83 in 2020 due to reduced fishing mortality for two of the most important stocks. An SHI value >1 generally indicates that, on average, the fleet segment concerned is economically dependent on stocks with a fishing mortality that is currently higher than the maximum sustainable yield ($F_C > F_{MSY}$). Note, however, that the fleet report only indicates SHI values for segments for which the share of the landings value that can be used to calculate the indicator exceeds 40% of the total value of landings by that segment. Here this value is calculated at 27%, i.e. < 40%, and is therefore not taken into account in the assessment.

Stocks at risk (SAR)
For this segment three stocks were considered at risk in 2020. The stocks in question include western Baltic herring and cod, for which the spawning stock biomass is below B_{lim}, with each stock accounting for more than 10% of the segment's total landings. This is correct with regard to herring, but is not the case for cod, as cod accounts for less than 10% of the segment's overall landings. Its classification as a stock at risk should therefore be viewed critically. The third stock listed as a stock at risk is the European eel, classified as critically endangered by the IUCN (International Union for Conservation of Nature). However, the 57 tonnes of eel caught by this segment account for less than 10% of the total EU catches of this stock, so classifying it as a stock at risk also appears questionable with regard to this segment.

(c) Economic indicators

In 2020 the CR/BER fell from 0.13 to 0.06 and the RoFTA remained stable at -59.3. The economic indicators thus remained very low in 2020, pointing to overcapacity in the short term in this fleet segment. Many vessels in this segment are not primarily operated for commercial reasons, but are used for amateur fishing or as a side business. Different cost structures are at play here which are not linked to the balance between fishing opportunities and fleet capacity.

(d) Overall assessment

Overall, this segment is **in imbalance** according to the indicators analysed. We refer to what has already been said about this segment and to Sections 3 and 5, where we explain why we consider the indicators to be of little relevance. This segment is severely affected by the currently poor condition 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	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.48	0.56	0.51	0.41	0.44	0.43	0.56	0.54	0.55	0.53	0.54
SAR	2	1	2	1	1	2	1	2	2	2	
SHI	2.43	2.52	2.27	2.38	2.42	2.46	2.08	2.04	2.05	1.75	
CR/BER	0.38	0.56	0.48	0.12	0.42	0.61	0.04	-0.15	0.16	-0.12	
RoFTA	-29.6	-20.8	-24.0	-42.8	-28.4	-23.5	-79.2	-70.3	-51.1	-67.5	
Number of vessels	66	68	66	67	64	58	58	50	49	45	45
GT	719	750	717	723	695	646	668	579	577	549	532
kW	5 494	5 948	5 692	5 847	5 570	5 199	5 301	4 751	4 722	4 369	4 323

(a) Technical indicator

The 10-12 m static netters segment achieved a value is similar to that of previous years (+0.01 points compared to 2020). Although the value of 0.54 is in the red area, it can nevertheless be seen as positive as many of the small-scale coastal and static net vessels in this segment fish as a side business. They sometimes log considerably fewer days at sea than vessels operated by commercial fishing businesses.

Inactivity indicator:
In segment PG VL1012 a total of 19 vessels, with a fishing capacity of 182 GT and engine power of 1 192 kW, were inactive (as per their fleet status on 31 December 2021) and therefore had no landings.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished western Baltic herring and cod, for which a stock assessment is available, as well as plaice (Kattegat, Belt Sea and Øresund). In 2020 fishing mortality F_C was below F_{MSY} for herring and plaice, but well above F_{MSY} for western Baltic

cod. The overall SHI value fell from 2.05 in 2019 to 1.75 in 2020 due to reduced fishing mortality for two of the most important stocks.

Stocks at risk (SAR)

For this segment two stocks were considered at risk in 2020. The stocks in question are western Baltic herring and cod, for which the spawning stock biomass is below B_{lim}, with each stock accounting for more than 10% of the segment's total landings.

(c) Economic indicators

Both the CR/BER and the RoFTA deteriorated considerably for this fleet segment in 2020, with values falling below 0 (CR/BER) or remaining negative (RoFTA). The economic indicators for this fleet segment thus point to overcapacity.

(d) Overall assessment

Overall, this segment is **in imbalance** according to the indicators analysed. We refer to what has already been said about this segment and to Sections 3 and 5, where we explain why we consider the indicators to be of little relevance. This segment is severely affected by the poor condition 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	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.51	0.72	0.44	0.57	0.48	0.58	0.40	0.47	0.43	0.34	0.29
SAR	2	3	3	1	1	1	1	2	3	2	
SHI	1.84	1.97	1.83	1.62	1.68	1.74	1.76	1.77	1.49	1.09	
CR/BER	0.50	7.54	3.85	1.85	-1.51	6.65	4.46	0.36	9.19	2.31	
RoFTA	-18.5	178.9	98.4	36.8	-96.9	176.3	107.9	-18.4	197.2	57.1	
Number of vessels	10	7	11	9	5	5	7	5	4	5	5
GT	237	147	272	220	121	132	193	150	124	152	131
kW	1 309	842	1 592	1 182	1 182	821	969	690	590	809	854

(a) Technical indicator

Again, only five fishing vessels could be taken into account to establish the technical indicators for segment DFN VL1218 in 2021. At 0.29 the value has again deteriorated from the previous year. This is due to the fact that one vessel had a relatively high number of sea days compared to all other vessels in this segment.

Inactivity indicator:
One vessel in segment DFN VL1218 was inactive (as per its fleet status on 31 December 2021) and therefore had no landings in 2021.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished cod, sole and plaice in the North Sea, herring in the western Baltic and sole in the western Baltic, Skagerrak and Kattegat. Of these species, fishing mortality F_C was below F_{MSY} for herring, plaice and sole (Skagerrak, Kattegat and western Baltic). Also, fishing mortality F_C for North Sea cod fell from 0.54 in 2019 to 0.45 in 2020, with the result that the overall SHI value dropped from 1.49 in 2019 to 1.09 in 2020.

Stocks at risk (SAR)
For this segment two stocks were considered at risk in 2020. The stocks in question are North Sea cod and sole, for which the spawning stock biomass was below B_{lim}, with each stock accounting for more than 10% of the segment's total landings. According to the latest stock assessment carried out in early 2021, North Sea sole now has a spawning stock biomass above B_{lim}.

(c) Economic indicators

In 2020 the CR/BER dropped significantly from almost 10 to 2.3 and the RoFTA from nearly 200 to 57.1. Both values therefore remain positive. These values should be viewed with caution, however, as they have varied significantly over the years.

(d) Overall assessment

Overall, this segment is **in imbalance** according to the indicators analysed. For the reasons set out above and in view of the reservations discussed in points 3 and 5, the technical indicator values cannot be taken into account for the overall assessment. Two stocks at risk are fished. The economic indicators appear to point to a balanced segment. The number of vessels in this segment has decreased by half (from 11 to 5) since 2013.

Drift or static netters 18-24 m (DFN VL1824)
For the past few years this segment has consisted of only one vessel with sporadic activity, and is therefore not taken into account in the analysis of balance indicators.

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

DFN2440	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.64	0.66	0.85	0.64	0.81	0.75	0.83	0.88	0.77	0.54	0.92
SAR	0	1	0	0	0	0	0	1	0	0	
SHI	1.7	1.73	1.46	1.47	1.37	1.39	1.47	1.54	1.15	0.86	
CR/BER	0.73	-0.22	0.37	0.13	0.77	0.70	1.85	6.78	-0.28	0.24	
RoFTA	-42.2	-91.7	-50.8	-53.2	-12.6	-19.8	23.9	168.0	-83.7	48.1	
Number of vessels	4	5	5	5	4	4	5	5	5	5	2
GT	729	877	877	877	729	729	877	877	877	877	461
kW	1 475	1 897	1 897	1 897	1 475	1 475	1 897	1 897	1 897	1 897	853

(a) Technical indicator

The value of 0.92 is not pertinent as only two vessels in this segment had any fishing activity.

Inactivity indicator:
Four vessels in segment DFN VL2440 were inactive (as per their fleet status on 31 December 2021) and therefore had no landings in 2021. These account for a total fishing capacity of 484 GT and engine power of 1 176 kW.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mostly fished two stocks of anglerfish in the northeast Atlantic (anf.27.3a46, mon.27.78abd) and North Sea cod and sole. For North Sea cod and sole, fishing mortality F_C was above F_{MSY}. However, as F_C was below F_{MSY} for one of the anglerfish stocks (mon.27.78abd) according to an ICES stock assessment, and F_C also decreased slightly in 2020 compared to 2019, the SHI value fell to 0.86.

Note, however, that the fleet report only indicates SHI values for segments for which the share 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 is calculated at around 29%, i.e. < 40%, and is therefore not taken into account in the assessment.

Stocks at risk (SAR)
For this segment no stock was considered at risk in 2020.

(c) Economic indicators

While both economic indicators have improved, the CR/BER still has a negative value in terms of profitability, which could be a sign of overcapacity in the short term.

(d) Overall assessment

No clear assessment can be made for this segment. The technical indicator is not pertinent, the SHI shows a positive trend and no stock at risk is fished. The economic indicators have improved considerably in recent years but with a negative value in terms of profitability in 2020, as was also the case in the previous year.

Fishing vessels using pots and/or traps 12–18 m (FPO VL1218)

For the past few years this segment has consisted of only one vessel with sporadic activity, and is therefore not taken into account in the analysis of balance indicators. As this vessel is almost fully dependent on western Baltic herring, which is in a poor condition (see TM VL1218), this segment is currently **in imbalance**.

Fishing vessels using pots and/or traps 18–24 m (FPO VL1824)

For the past few years this segment has consisted of only one 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)

For the past few years this segment has consisted of only one 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	2011	2012	2013	2014	2015	2016	2017		2018	2019	2020	2021
Technical indicator	0.31	0.48	0.64	0.48	0.76	0.79	0.54		0.88	0.85	0.92	0.88
SAR	0	0	0	0	0	0	0		0	0	0	
SHI	1.61	1.37	1.46	1.06	1.12	1.04	1.03		n/a	n/a	1.60	
CR/BER	-0.35	3.19	3.31	1.08	0.13	1.28	0.98		1.43	-0.07	1.15	
RoFTA	-75.0	124.0	133.1	6.6	-67.5	9.26	-3.8		32.1	-67.7	5.47	
Number of vessels	6	5	5	5	5	5	7		5	4	4	4
GT	74	63	63	63	63	63	78		63	53	53	53
kW	564	515	515	515	515	515	676		515	424	424	424

(a) Technical indicator

The value calculated for 2021 is 0.88, which is slightly down from the previous year but still very good. However, the result is not very pertinent as the 10-12 m beam trawler segment consists of only four vessels.

Inactivity indicator:
Eleven vessels in segment TBB VL1012 were inactive (as per its fleet status on 31 December 2021) and therefore had no landings. These account for a fishing capacity of 42 GT and 498 kW.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment fished almost exclusively North Sea common shrimp, for which there is no stock assessment. Nevertheless, the STECF has calculated a SHI value of 1.6 for 2020. Note, however, that the fleet report only indicates SHI values for segments for which the share 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 is calculated at around 1%, i.e. significantly < 40%, and is therefore not taken into account in the assessment.

Stocks at risk (SAR)
In this segment no stock was considered at risk in 2020, as was also the case in previous years.

(c) Economic indicators

In 2020 both economic indicators improved considerably compared to the previous year and gave no indication of overcapacity. In this type of fishery such variations are not unusual, however. Due to the small number of vessels in this segment, figures are 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 value is very good. The SHI biological indicator cannot be taken into account for the reasons set out above. No stock at risk is fished. Based on the economic indicators there is no overcapacity.

Beam trawlers 12–18 m (TBB VL1218)

TBB1218	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.60	0.60	0.56	0.60	0.60	0.58	0.54	0.67	0.67	0.57	0.60
SAR	0	0	0	0	0	0	0	0	0	0	
SHI	2.76	3.50	3.22	3.07	2.21	2.75	n/a	1.25	1.29	1.00	
CR/BER	0.97	2.74	2.57	1.79	1.50	1.91	1.45	2.25	0.14	0.89	
RoFTA	-1.3	87.7	92.9	45.1	35.0	56.2	45.5	75.4	-46.7	-6.7	
Number of vessels	127	118	120	117	112	111	108	109	105	100	97
GT	3 876	3 597	3 663	3 627	3 457	3 479	3 451	3 472	3 346	3 227	3 160
kW	24 308	22 678	22 962	22 651	21 597	21 671	21 234	21 510	20 770	19 946	19 487

(a) Technical indicator

The value for 2021 was calculated on the basis of 97 fishing vessels. The value of 0.60 is a slight improvement on the previous year (+0.03 points).

Inactivity indicator:
Eight vessels in segment TBB VL1218 were inactive (as per their fleet status on 31 December 2021) and therefore had no landings in 2021. These account for a fishing capacity of 214 GT and 1 436 kW.

(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. The calculated SHI score of 1.0 for 2020 is therefore not very pertinent.

Stocks at risk (SAR)
In this segment no stock was considered at risk in 2020, 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. The figures deteriorated sharply in 2019, but improved again in 2020. In this type of fishery such variations are not unusual, however.

(d) Overall assessment

Overall, this segment is **in balance** according to the indicators analysed. The technical indicator is 0.6, the SHI biological indicator cannot be taken into account and no stock at risk is fished.

The poor economic indicators are strongly affected by adverse market influences in the short term and should not be given too much weight in the overall assessment.

Beam trawlers 18–24 m (TBB VL1824)

TBB1824	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.58	0.63	0.65	0.62	0.69	0.57	0.67	0.70	0.65	0.66	0.68
SAR	0	0	0	0	0	0	0	0	0	0	
SHI	2.35	2.55	3.26	2.16	1.67	1.55	1.28	1.48	1.33	1.08	
CR/BER	0.59	1.91	1.98	1.43	1.20	2.06	1.17	2.41	0.14	1.29	
RoFTA	-16.2	36.2	39.4	19.5	10.1	60.7	13.7	64.7	-36.5	12.2	
Number of vessels	62	63	67	63	63	65	67	70	69	70	70
GT	3 679	3 756	4 104	3 850	3 706	3 976	4 045	4 403	4 314	4 504	4 523
kW	13 394	13 616	14 537	13 653	13 477	14 278	14 619	15 428	15 242	15 462	15 464

(a) Technical indicator

The value for 2021 was calculated on the basis of 70 active fishing vessels in total. Again, a better result was achieved than in the previous year (+0.02 points). The value of 0.68 can be considered as stable compared to the past 10 years.

Inactivity indicator:
Three vessels in segment TBB VL1824 were inactive (as per their fleet status on 31 December 2021) and therefore had no landings in 2021. These account for a fishing capacity of 183 GT and 617 kW.

(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. The calculated SHI value of 1.08 for 2020 is therefore not very pertinent.

Stocks at risk (SAR)
In this segment no stock was considered at risk in 2020, 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. In 2020 the values improved considerably compared to a weak 2019, and can be seen as a sign that fishing is profitable. In this type of fishery such variations are not unusual, however.

(d) Overall assessment

Overall, this segment is **in balance** according to the indicators analysed. The technical indicator is on a positive trend. The economic indicators point to a balanced segment. 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	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.54	0.78	0.85	0.82	0.68	0.91	0.80	0.85	0.89	0.82	0.87
SAR	0	1	0	1	1	1	1	1	1	1	
SHI	1.55	1.56	1.49	1.53	1.52	1.71	1.86	1.71	1.42	1.06	
CR/BER	0.69	1.00	2.03	1.33	2.02	1.74	1.52	4.95	1.56	1.20	
RoFTA	-12.2	-0.6	41.7	12.2	35.1	44.5	22.3	130.0	15.2	6.1	
Number of vessels	8	9	8	10	10	9	10	10	6	6	7
GT	1 693	1 752	1 559	2 021	2 021	1 828	2 021	2 201	1 448	1 448	1 389
kW	5 867	5 971	5 411	6 721	6 721	6 161	5 788	5 788	3 765	3 765	4 278

(a) Technical indicator

The seven vessels in this segment achieved a value of 0.87, which marginally better than in the previous year (+0.05 points). One mussel dredger (aquaculture) was not taken into account in the overall calculation.

Inactivity indicator:

No vessels in segment TBB VL2440 were inactive (as per their fleet status on 31 December 2021).

(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. Fishing mortality F_C was below F_{MSY} for plaice and turbot and above F_{MSY} for sole according to the available stock assessments. Since fishing mortality F_C for sole, the economically most important stock in this segment, decreased from 0.34 in 2019 to 0.23 in 2020, the SHI also fell from 1.42 in 2019 to 1.06 in 2020.

Stocks at risk (SAR)

For this segment one stock was considered at risk in 2020. The stock in question is North Sea sole, which had a spawning stock biomass below B_{lim} in early 2020 and accounted for more

than 10% of the segment's total landings. According to the latest stock assessment carried out in early 2021, North Sea sole now has a spawning stock biomass above B_{lim}.

(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 the only stock at risk fished has recovered somewhat.

Beam trawlers > 40 m (TBB VL40XX)

TBB40XX	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.63	0.54	0.53	0.62	1.00	0.94	0.95	0.84	0.74	0.78	0.76
SAR				0	0	0	0	0	0	0	
SHI				1.18	0.97	1.01	1.79	1.62	1.38	1.04	
CR/BER											
RoFTA											
Number of vessels	1	2	2	2	2	2	2	2	3	3	3
GT	446	791	791	791	791	791	791	791	1 219	1 219	1 219
kW	1 471	2 221	2 221	2 221	2 221	1 853	1 853	1 853	3 293	3 293	3 293

(a) Technical indicator

The calculated value of 0.76 is not pertinent as it is based on just three vessels.

Inactivity indicator:
No vessels in segment TBB VL40XX were inactive (as per their fleet status on 31 December 2021).

(b) Biological indicators

Sustainable harvest indicator (SHI)
Fishing vessels in this segment mainly fished mussels, plaice, sole and turbot in the North Sea. Fishing mortality F_C was below F_{MSY} for plaice and turbot and above F_{MSY} for sole. Since fishing mortality F_C for sole, the economically most important stock in this segment, decreased from 0.34 in 2019 to 0.23 in 2020, the SHI also fell from 1.38 in 2019 to 1.04 in 2020.

Stocks at risk (SAR)
For this segment no stock was considered at risk in 2020.

(c) Economic indicators

For reasons of data protection, economic data from this segment is 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 to three vessels. No stock at risk is fished.

Demersal trawlers < 10 m (DTS VL0010)
For the past few years this segment has consisted of only one vessel with sporadic activity, and is therefore not taken into account in the analysis of balance indicators. As that vessel is dependent on western Baltic cod, which is in a poor condition, the segment is currently **in imbalance**.

Demersal trawlers 10-12 m (DTS VL1012)

DTS1012	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.58	0.59	0.42	0.48	0.45	0.34	0.31	0.71	0.80	0.51	0.53
SAR	3	2	2	1	1	2	1	2	2	2	
SHI	3.23	2.73	2.83	2.86	2.52	2.31	1.99	2.19	2.39	2.94	
CR/BER	0.67	0.56	0.66	0.39	0.41	0.29	0.81	0.97	0.41	-0.14	
RoFTA	-19.5	-29.0	-23.6	-47.6	-57.7	-4.7	-21.7	-2.1	-31.1	-54.9	
Number of vessels	15	10	12	11	10	10	6	8	4	7	7
GT	233	146	183	169	154	156	94	112	52	96	107
kW	2202	1 441	1 803	1 608	1 425	1 433	744	853	358	686	706

(a) Technical indicator

A result of 0.53 was achieved, which is a slight improvement on the previous year (-0.02 points). The calculated value for this segment is not very pertinent as it is based on just seven vessels.

Inactivity indicator:
No vessels in segment DTS VL1012 were inactive (as per their fleet status on 31 December 2021).

(b) Biological indicators

Sustainable harvest indicator (SHI)

Vessels in this segment mainly fished cod and herring as well as plaice and dab in the western Baltic. As fishing mortality F_C decreased from 2019 to 2020 for both western Baltic herring (F_C 2019 = 0.29 / F_C 2020 = 0.19) and for Kattegat, Belt Sea and Øresund plaice (F_C 2019 = 0.32 / F_C 2020 = 0.29), both species were fished below F_{MSY}. The impact of catches on the SHI result was greater due to the lower catches in 2020 compared to 2019, with herring catches dropping from 53 tonnes to 6 tonnes and catches of western Baltic cod falling, less drastically, from 58 tonnes to 44 tonnes. The fact that cod was fished at F_C 0.88 also in 2020, which is well above F_{MSY} (0.26), also contributed to an increased SHI value of 2.94 in 2020 compared to 2.39 in 2019.

Stocks at risk (SAR)

For this segment two stocks were considered at risk in 2020. The stocks in question are the western Baltic and eastern Baltic cod stocks, for which the spawning biomass was below B_{lim}, with each stock said to account for more than 10% of the segment's total landings. While this is true for western Baltic cod, which accounted for > 10% of total catches in this segment, it is not the case for eastern Baltic cod, and its classification as a stock at risk in this segment should therefore be viewed critically.

(c) Economic indicators

The CR/BER fell further to -0.14 and thus turned negative in 2020. The RoFTA again fell sharply and remains negative with a value of -54.9. In this segment both indicators have been unfavourable for years.

(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 little relevance. The segment is affected by the poor condition of the western Baltic herring stock. The number of vessels has dropped sharply since 2011.

Demersal trawlers 12-18 m (DTS VL1218)

DTS1218	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.60	0.71	0.53	0.53	0.52	0.53	0.57	0.68	0.66	0.62	0.59
SAR	3	2	2	1	1	2	1	1	2	2	
SHI	2.81	2.73	2.6	2.72	2.84	2.55	2.14	1.79	1.67	1.74	
CR/BER	0.60	1.00	0.82	0.80	0.74	0.57	0.81	1.37	1.54	0.25	
RoFTA	-16.7	-0.7	-7.5	-8.1	-10.7	-18.9	-18.9	17.7	24.0	-41.2	
Number of vessels	33	27	30	29	28	27	20	17	18	19	19
GT	1 129	923	1 024	1 008	826	866	655	548	623	649	649
kW	6 088	4 960	5 514	5 414	4 694	4 918	3 765	3 109	3 328	3 428	3 378

(a) Technical indicator

The fishing activity of 19 fishing vessels were taken into account in 2021 to calculate the value for 12-18 m trawlers. At 0.59 the value again deteriorated slightly. Many smaller vessels in this segment are operated only as a side business or as a second vessel. This results in a low number of sea days in the reporting year and to a poor indicator value.

Inactivity indicator:
One vessel in segment DTS VL1218 had no fishing activity (as per its fleet status on 31 December 2021) and therefore no landings in 2021.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished western Baltic herring, cod and flounder. In addition, they made considerable catches of plaice in the Belt Sea and of dab across the Baltic Sea. The SHI value increased slightly from 1.67 in 2019 to 1.74 in 2020, due to the relatively higher share of western Baltic cod of overall catches. This stock continues to be fished at F_C = 0.88, i.e. well above the F_{MSY} of 0.26, resulting in a slightly higher SHI in 2020.

Stocks at risk (SAR)
For this segment two stocks were considered at risk in 2020. The stocks in question are western Baltic herring and cod, for which the spawning biomass was below B_{lim}, with each stock accounting for more than 10% of the segment's total landings.

(c) Economic indicators

The CR/BER fell below 1 in 2020, and the RoFTA also dropped considerably to -41.3. 2018 and 2019 were very weak years, but both economic indicators have since developed positively in this segment. There is currently no clear trend for these indicators.

(d) Overall assessment

Overall, this segment is **in imbalance** according to the indicators analysed. The segment is severely affected by the currently poor condition of the cod and herring stocks in the western Baltic Sea. In the past Germany therefore provided funds to scrap vessels in this segment. Since 2011 the number of vessels has dropped significantly (from 33 to 19).

Demersal trawlers 18-24 m (DTS VL1824)

DTS1824	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.60	0.62	0.60	0.59	0.60	0.65	0.68	0.66	0.60	0.60	0.59
SAR	3	2	1	0	0	1	2	1	3	2	
SHI	1.73	1.76	1.55	1.57	1.48	1.51	1.45	1.31	1.57	1.57	
CR/BER	0.91	0.51	2.84	2.22	1.32	2.91	1.59	3.49	2.93	0.57	
RoFTA	-3.0	-15.9	50.9	37.6	12.3	66.2	33.6	82.4	60.7	-19.5	
Number of vessels	29	20	18	17	16	13	13	11	14	11	10
GT	3 169	2 231	2 064	1 847	1 724	1 444	1 544	1 293	1 621	1 276	1 144
kW	6 347	4 330	3 925	3 704	3 485	2 824	3 118	2 529	3 192	2 529	2 308

(a) Technical indicator

The sea days of 10 fishing vessels were taken into account to calculate the indicator. The value of 0.59 is at the same level as in previous years. In this segment, too, the vessels saw their fishing activity decline compared to 2017 and 2019. Even so, a few cutters continued to be considerably more active and put in a greater fishing effort than the majority of vessels belonging to this segment. This again led to an imbalance in the 2021 reporting year.

Inactivity indicator:
In segment DTS VL1824 there were no vessels with no fishing activity (as per their fleet status on 31 December 2021).

(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 (western Baltic cod and herring, plaice in the North Sea, Kattegat, Belt Sea and Øresund and Norway lobster and turbot in the North Sea). The most important stocks, in terms of tonnes caught, were North Sea and Skagerrak plaice and western Baltic herring. Although the various stocks saw their fishing mortality to species-specific F_{MSY} ratio change slightly, the SHI remained stable at 1.57, the same value as in 2019.

Stocks at risk (SAR)

For this segment two stocks were considered at risk in 2020. The stocks in question are western Baltic herring and cod, for which the spawning biomass was below B_{lim}, with each stock accounting for more than 10% of the segment's total landings.

(c) Economic indicators

Both the CR/BER and the RoFTA fell in comparison to the good results of the previous years. Based on the overall positive time series there is currently no assumption of overcapacity.

(d) Overall assessment

No clear assessment can be made for this segment. The technical indicator fluctuates in the mid-range. Although the SHI has improved considerably, two stock at risk are fished. The economic indicators are positive. Since 2011 the number of vessels has dropped from 29 to 10. If Baltic Sea vessels are considered separately, these are **in imbalance** due to the poor outlook for the western Baltic cod and herring stocks. If North Sea vessels are considered separately, these are **in balance** due to the good condition of the main stocks fished.

Demersal trawlers 24-40 m (DTS VL2440)

DTS2440	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.57	0.65	0.68	0.59	0.66	0.70	0.70	0.51	0.57	0.76	0.75
SAR	1	1	1	1	1	0	1	0	1	1	
SHI	1.36	1.27	1.21	1.29	1.28	1.27	1.37	1.42	1.37	1.26	
CR/BER	1.87	1.05	1.36	1.30	2.02	2.24	1.25	1.18	1.06	0.87	
RoFTA	32.5	3.2	12.6	8.8	31.1	31.2	23.6	5.5	0.7	-6.2	
Number of vessels	13	10	11	12	10	9	8	11	14	12	11
GT	3 033	2 523	2 660	2 981	2 768	2 343	2 172	2 992	4 410	3 947	3 685
kW	5 994	4 683	4 830	5 361	5 295	4 275	3 835	5 505	7 822	8 048	8 075

(a) Technical indicator

The indicator was calculated taking into account the sea days of 11 fishing vessels. The value of 0.75 is only marginally lower than in 2010 (-0.01), confirming the positive trend of the previous year. The fact that large deep-sea cutters with engine power sometimes exceeding 1 300 kW and smaller cutters with at most 221 kW are grouped together continues to have a negative impact on this segment. Some of the larger vessels spend well above 200 days at sea, whereas some of the smaller cutters log less than 100 days, with the result that segment DTS2440 again appears to be in imbalance in 2021.

Inactivity indicator:
Two vessels in segment DTS VL2440 were inactive (as per their fleet status on 31 December 2021) and therefore had no landings in 2021. These have a capacity of 251 GT and 524 kW.

(b) Biological indicators

Sustainable harvest indicator (SHI)
North Sea saithe, cod, plaice and hake were the main stocks fished by this segment. Fishing mortality F_C was above F_{MSY} for saithe and cod, below F_{MSY} for plaice and exactly at F_{MSY} for hake. Fishing mortality fell slightly from the previous year for North Sea saithe, the financially most important stock by far, so that the SHI also decreased slightly from 1.37 in 2019 to 1.26 in 2020.

Stocks at risk (SAR)
One stock was considered by the STEFC to be at risk in this segment. The stock in question is North Sea pollack, for which there is no analytical stock assessment available from the ICES. However, the stock was classified as a stock at risk as the segment's catches of North Sea and

Skagerrak pollack accounted for more than 10% of total catches and pollack is included in the IUCN Red List as a 'least-concern species'.

(c) Economic indicators

Both the CR/BER and the RoFTA dropped sharply in 2020. However, in principle this fleet segment would appear to be in balance based on the time series for both indicators.

(d) Overall assessment

No clear assessment can be made for this segment. The technical indicator is in the middle to good range and the SHI has hardly changed but remains positive. One stock at risk is fished. Although there was a decrease in 2020, the economic indicators have been positive over the years. If Baltic Sea vessels are considered separately, these are **in imbalance** due to the poor outlook for the western Baltic cod stock. If North Sea vessels are considered separately, these are **in balance** due to the good condition of the main stocks fished.

Demersal trawlers > 40 m (DTS VL40XX)

DTS40XX	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.92	0.83	0.78	0.73	0.70	0.80	0.78	0.85	0.83	0.84	0.74
SAR	7	6	4	4	5	5	6	6	7	5	
SHI	1.03	1	0.98	0.86	0.98	1.03	1.02	1.1	1.0	0.91	
CR/BER	0.68	0.75	0.62	0.86	0.98	1.50	0.44	0.91	1.10	1.16	
RoFTA	-9.1	-8.5	-13.5	-4.4	-0.2	11.0	-12.9	-2.2	0.5	2.1	
Number of vessels	8	8	7	6	7	7	7	7	6	5	6
GT	13 215	13 215	10 247	8 650	12 898	12 898	15 417	15 417	14 962	14 470	16 818
kW	18 651	18 651	14 151	11 724	15 724	15 724	16 394	16 394	15 610	14 875	17 875

(a) Technical indicator

The calculation is based on the sea days of six fishing vessels. The indicator value of 0.74 deteriorated considerably from the previous year (-0.10). Large deep-sea fishing vessels continue to be grouped 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. One vessel in this segment that was registered only in the last quarter of 2021 was still fully taken into account in the calculation of the indicator value, which also had an adverse effect on the overall result. On the other hand, the theoretical indicator value of 0.90, calculated on the basis of a ceiling of 220 days, is a very positive result.

Inactivity indicator:
In segment DTS VL40XX there were no vessels with no fishing activity (as per their fleet status on 31 December 2021).

(b) Biological indicators

Sustainable harvest indicator (SHI)
The most important stocks fished by this segment were northeast Arctic cod and saithe, halibut off Iceland and east Greenland and North sea saithe. As northeast Arctic cod and halibut off Iceland and east Greenland, the two financially most important stocks, are fished at a fishing mortality at and below F_{MSY}, respectively, a remarkably good SHI value of 0.91 is achieved. The SHI has been fluctuating between 0.91 and 1.08, i.e. very positive values, since 2008.

Stocks at risk (SAR)
The STECF analysis shows that, based on the relevant criteria, there were five stocks at risk in this segment in 2020. These are the roughhead grenadier *(Macrourus berglax)* across the northeast Atlantic, Norwegian coastal cod, the shallow and deep stocks of *S. mentella* redfish in the Irminger Sea and northeast Arctic golden redfish. All five should be viewed critically. The two *S. mentella* stocks should not even appear in this segment as they are fished with pelagic trawls only. Moreover, for the shallow *S. mentella* stock (zero catches recommended by the ICES) no official catches were reported in 2020. In the first quarter some Norwegian coastal cod was caught together with northeast Arctic cod in the Lofoten area. The two stocks cannot be distinguished by external appearance (this is only possible by comparing their otoliths), and German catches are not broken down by northeast Arctic and Norwegian coastal cod. It appears questionable, therefore, to list coastal cod as a stock at risk. Vessels in this segment caught just under 9 tonnes of northeast Atlantic roughhead grenadier in 2020, which accounts for less than 4% of the total landings of 247 tonnes. Although the ICES recommends that this stock should not be directly targeted, it should therefore not be considered a stock at risk for this segment. The same applies to the northeast Arctic golden redfish (*S. norvegicus)*. Catches of golden redfish by this segment came to 88 tonnes, which is less than 1% of the overall catches of 9 033 tonnes. Although the ICES recommends zero catches of this stock, it should therefore not be listed as a stock at risk for this segment either.

(c) Economic indicators

In this segment both the CR/BER and the RoFTA have been on a positive trend for years. The 2020 values have improved further compared to 2019, with the CR/BER above 1 and the RoFTA above zero.

(d) Overall assessment

No clear assessment can be made for this segment. Both the technical indicator and the SHI have good values. Five stocks at risk are fished according to the STECF estimate. The economic indicators are good and point to a balance between capacity and fishing opportunities.

Pelagic trawlers 10-12 m (TM VL1012)

For the past few years this segment has consisted of only one vessel with sporadic activity, and is therefore not taken into account in the analysis of balance indicators.

Pelagic trawlers 12-18 m (TM VL1218)

TM1218	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator					0.88	0.89	0.85	1.00	1.00	0	0
SAR					0	0	1	2	1	n/a	
SHI					1.16	1.52	1.71	1.67	0.99	n/a	
CR/BER											
RoFTA											
Number of vessels	0	0	0	0	2	2	3	1	1	0	0
GT	–	–	–	–	122	122	163	75	26	0	0
kW	–	–	–	–	439	439	659	219	100	0	0

(a) Technical indicator

There were no vessels in 2021.

(b) Biological indicators

No biological indicators could be calculated for this segment as there were no active vessels, and therefore no landings, in 2020.

(c) Economic indicators

No economic data can be published with respect to this segment.

(d) Overall assessment

No clear assessment can be made for this segment on the basis of the indicators. The indicators are not pertinent because they are based on no more than three vessels and a short time series. This segment is **in imbalance** due to the poor outlook for western Baltic herring.

Pelagic trawlers 18-24 m (TM VL1824)

TM1824	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	1.00	1.00	1.00	0.88	0.67	0.70	0.59	0.65	1.00	0.51	0.78
SAR				0	0	0	1	1	1	1	
SHI				1.19	0.86	1.31	1.63	1.60	1.04	0.92	
CR/BER											
RoFTA											
Number of vessels	1	1	1	2	2	4	4	3	1	2	2
GT	107	107	107	239	207	354	354	279	40	147	172
kW	221	221	221	442	441	882	882	662	220	441	441

(a) Technical indicator

The value of 0.78 is not pertinent as there were only two vessels in segment TM VL1824 in the reporting year.

Inactivity indicator:
No vessels in segment TM VL1824 were inactive (as per their fleet status on 31 December 2021).

(b)Biological indicators

Sustainable harvest indicator (SHI)
The two vessels in this segment fished mainly western Baltic sprat and herring. Fishing mortality F_C was only slightly above F_{MSY} for sprat and well below F_{MSY} for herring, resulting in a very good SHI value of 0.92, which was even lower therefore than the 2019 value of 1.04.

Stocks at risk (SAR)
Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2020. The stock in question is western Baltic herring, which had a spawning stock biomass below B_{lim} and accounted for more than 10% of the segment's total landings.

(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 four vessels. One stock at risk is fished. This segment is **in imbalance** due to the poor outlook for western Baltic herring.

Pelagic trawlers 24-40 m (TM VL2440)

TM2440	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.71	0.99	1.00	1.00	0.69	0.89	0.84	0.83	1.00	1	0
SAR				0	0	0	1	1	1	1	
SHI				1.31	1.05	1.24	1.41	1.52	0.99	0.92	
CR/BER											
RoFTA											
Number of vessels	4	2	1	1	3	3	3	2	1	1	0
GT	1 149	529	374	374	655	655	655	281	126	126	0
kW	1 840	921	700	700	1 105	1 105	1 105	405	184	184	0

(a)Technical indicator

There were no vessels in 2021.

(b) Biological indicators

Sustainable harvest indicator (SHI)
The only vessel in this segment fished mainly western Baltic sprat and herring. Fishing mortality F_C was only slightly above F_{MSY} for sprat and well below F_{MSY} for herring, resulting in a very good SHI value of 0.92, which was even lower therefore than the 2019 value of 0.99.

Stocks at risk (SAR)
Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2020. The stock in question is western Baltic herring, which had a spawning stock biomass below B_{lim} and accounted for more than 10% of the segment's total landings.

(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. One stock at risk is fished. This segment is **in imbalance** due to the poor outlook for western Baltic herring.

Pelagic trawlers > 40 m (TM VL40XX)

TM40XX	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Technical indicator	0.86	0.86	0.80	0.85	0.94	0.88	0.87	0.77	0.89	0.88	0.84
SAR	2	3	3	4	5	4	2	2	1	2	
SHI	1.16	0.97	1.02	1.0	0.94	0.9	0.98	0.94	0.96	1.01	
CR/BER											
RoFTA											
Number of vessels	5	5	5	5	5	5	5	5	5	5	5
GT	26 801	26 922	26 922	26 922	26 922	26 922	27 136	20 622	20 254	20 514	20 514
kW	23 537	23 537	23 537	23 537	23 537	23 537	24 397	21 128	20 427	21 141	21 141

(a) Technical indicator

In the segment of pelagic trawlers of an overall length of 40 metres or more, German vessels recorded a slight deterioration compared to the previous year (-0.04). However, a high theoretical value of 1.20 points to a balanced segment. Again, it should be noted that the calculation involves comparing sea-going cutters to large deep-sea fishing vessels. There is a difference of sometimes 100 days or more in the number of sea days logged by the vessels being compared. This is the reason the segment appears not fully balanced.

Inactivity indicator:
No vessels in segment TM VL40XX were inactive (as per their fleet status on 31 December 2021).

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment fished many different pelagic stocks (including herring, sprat, horse mackerel, mackerel, blue whiting and sardine) in the Baltic Sea, the North Sea and across the North Atlantic. As fishing mortality F_C was below F_{MSY} for the two most important stocks, North Sea herring and northeast Atlantic mackerel, and above F_{MSY} for blue whiting, a very good SHI value of 0.01 was achieved which, while slightly higher than that of the previous year, remains close to 1.

Stocks at risk (SAR)
According to the STECF analysis, two stocks at risk were fished in 2020. The stocks in question are two sand eel management units in areas 1 and 2 (san.sa.1r and san.sa.2r). However, classifying these as stocks at risk appears questionable for this segment. While the spawning stock biomass for sand eel in management areas 1 and 2 was below B_{lim} in 2020, the segment landed a total of 2 041 tonnes of san.sa.1r and 586 tonnes of san.sa.2r, which is far below 10% of the total landings of 105 928 tonnes and 73 921 tonnes, respectively. Sand eel should therefore not be considered a stock at risk.

(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 technical indicator and SHI values are good; however, the STECF estimates that two stocks at risk are fished.

General comments on the indicators

An overview of all indicator values is given in Annex 5.

1. Technical indicator

The technical indicator has been indicated for all segments except mussel dredging.
The values calculated for the individual size categories are not very pertinent as there are often just one to four vessels in each segment. Mussel dredging nevertheless achieved good and balanced results. 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 ‘stock-at-risk indicator’ (SAR). The indicators relate to catches and fishing mortality in 2020 and the state of stocks in early 2021, since the results of the 2021 stock assessments were not yet available when this fleet report was submitted.

The SHI and SAR indicator results for 2020 were mainly provided by the STECF but were calculated by Germany for some segments. The biological indicator results are summarised in **Annex 4**.

2.1 Sustainable harvest indicator (SHI)

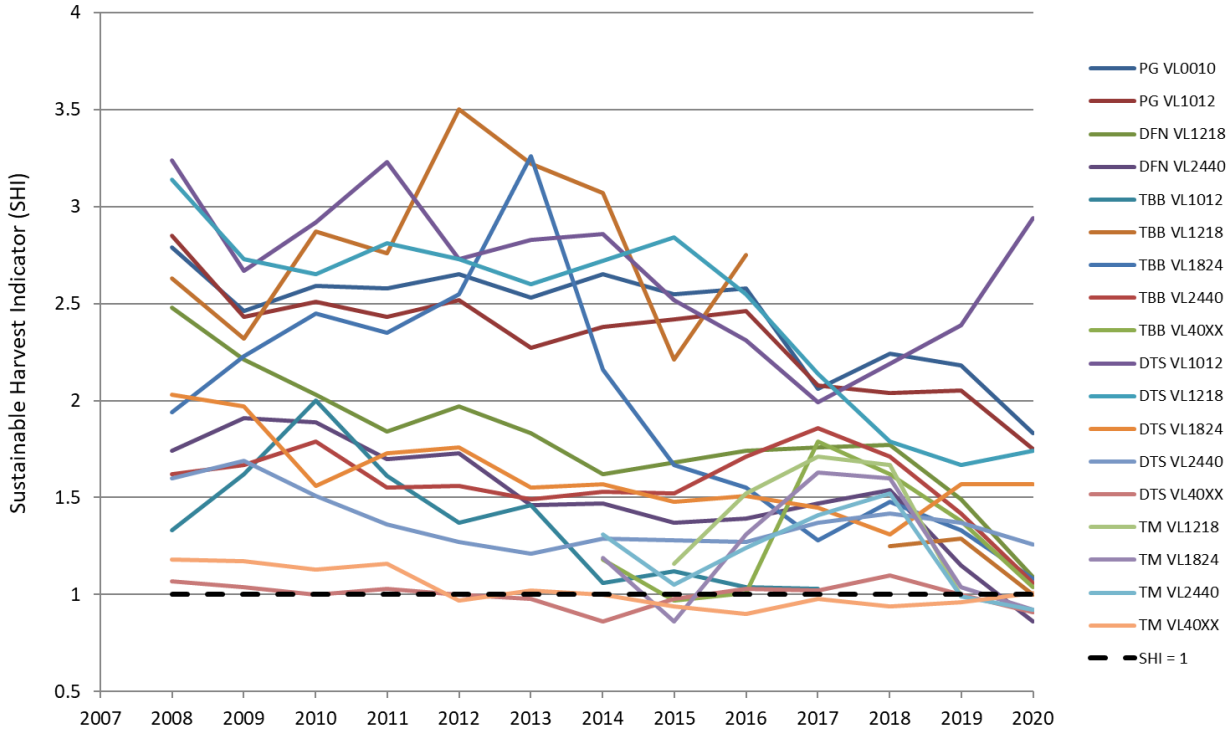
The SHI values for the various segments are only taken into account in the fleet report if, in a given segment, the share of the landings value that can be used to calculate the indicator exceeds 40%.

The indicator values for the various segments range between 0.91 and 2.94. An SHI value >1 indicates that, on average, the fleet segment concerned is economically dependent on stocks with a fishing mortality that is currently higher than the maximum sustainable yield ($F_c > F_{MSY}$). With a few exceptions (e.g. DTS VL1012, DTS VL1218) the indicator values have fallen further for most segments compared to the previous year. One reason for this is reduced fishing mortality (F_C) for western Baltic herring, a very important stock for several segments operating in the Baltic Sea, as well as for some important North Sea species such as sole and plaice. For the most important segment in terms of volume and revenue (TM VL40XX), the SHI increased slightly from 0.96 in 2019 to 1.01 in 2020 but remains at a very good value close to 1.

The values for smaller vessels are a reason for concern, but their landings in 2020 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 herring.

A positive picture emerges if SHI values are considered over the period from 2008 to 2020, as calculated by the STECFA and to some extent by the Thünen Institute (see Graph 1). The SHI has fallen over that period and the curves are therefore close to a value of 1 for most segments. All SHI values are below 1.9, with the exception of DTS VL1012, which has seen a constant increase since 2017, reaching a SHI value just below 3 in 2020.

Graph 1: SHI trends in the various fleet segments, 2008-2020. The target value of 1 is shown as a dotted line.



Generally speaking, however, this indicator should be viewed critically 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. It is therefore neither a purely economic, nor a purely biological indicator. Yet, as it is presented as a biological indicator, it might give the impression that some German fleet segments are 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 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, highly dynamic prices of certain fish species make it 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 FMSY, 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 see to it that this indicator is reviewed or adjusted as soon as possible.

2.2 Stock-at-risk (SAR) indicator

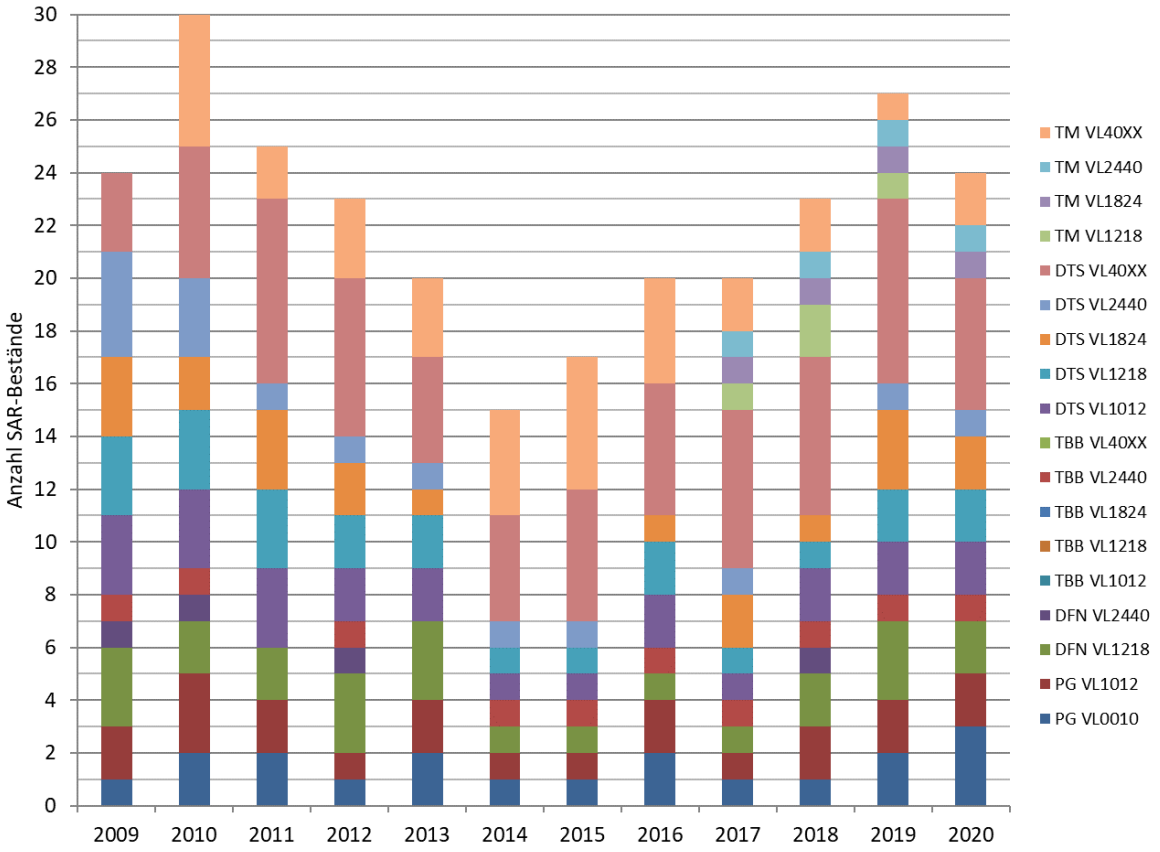
The SAR indicator is a measure of the extent to which the activities of individual fleet segments affect stocks in a poor condition (i.e. with a low spawning stock biomass). A stock must meet the following criteria to be classed as a stock at risk:

(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.

A trend can be observed by looking at stocks identified as stocks at risk by the STECF (and in some cases by the Thünen Institute) and fished on a large scale by German fleet segments from 2009 to 2020 (see Graph 2). The total number of stocks at risk initially fell from 30 in 2010 to 15 in 2014, before increasing to 27 in 2019 and falling again to 24 stocks in 2020. However, as already mentioned above with regard to segments TM VL40XX and DTS VL40XX, for some stocks classified as SARs by the STECF this assessment appears questionable.



Graph 2: Number of stocks at risk in the various fleet segments, trend from 2009 to 2020.

Although the STECF (STECF-15-02) also criticises the SAR indicator in several respects, 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 on the basis of figures provided by Germany under the data collection framework (DCF). For the pelagic trawler segment, which is dominated by a single business owner, the relevant 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 vessels ('perpetual inventory method', PIM), which results in considerable overestimation.

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 using an indicator not linked to the value of the vessels.

Irrespective of the fact that the absolute indicator values are not very pertinent for the reasons outlined above, it is clear that smaller vessels using mainly passive fishing gear (PG<12 m) often fail to break even. It needs to be taken into account, however, that many vessels in these segments are not primarily operated for commercial reasons but are used for amateur fishing or as a side business. Different cost structures are at play here which are not linked to the balance between fishing opportunities and fleet capacity. 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. Therefore, any form of overfishing by these vessels can 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 most important fleet segments with the biggest share of catches. This is also corroborated by the fact that fishing opportunities allocated to German fisheries under EU law are generally not exceeded.

With regard to Baltic Sea fisheries, future fleet management will be affected by unprecedented reductions in fishing opportunities for herring and cod. The ICES estimates that these stocks will continue to develop slowly, with a falling trend compared to previous years. Fishing capacity in the segments concerned will therefore have to be adjusted in the coming years.

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 the Baltic Sea in particular. However, such fishing typically involves part-time fishers whose catches account for a very small portion of total catches. The economic indicators are not very pertinent for this segment, as many of the fishers involved do not engage in fishing with a view to maximising profit. Furthermore, this segment has been constantly shrinking in recent years. In commercial fishing, historically low quotas for the western Baltic and an uncertain outlook for the future compound existing problems.

The indicator values for the larger vessels were more positive, although the economic situation has been very unstable in recent years. These vessels regularly engage in pelagic herring fishing in the Baltic Sea. The low herring quotas in the western Baltic therefore also affect these segments' ability to exploit their fishing capacity. Moreover, dwindling demersal stocks mean that there are fewer alternative options. The coronavirus pandemic has also affected the fishing businesses' economic results.

To protect and restore cod and herring stocks in the Baltic Sea, it was again necessary to adopt emergency measures in 2021. Closure periods were put in place, in three 10-day blocks for cod (in the periods from 1 to 31 January and from 1 April to 14 May 2021) and in two 10-day blocks for herring (in the period from 1 August to 31 October 2021). The businesses concerned received support under Article 33 of the European Maritime and Fisheries Fund Regulation (EMFF Regulation) for the temporary laying-up of their fishing vessels.

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 western Baltic cod, which remain in a critical condition (see Section 1.A.ii). Positive indicators allowed segments DFN VL1218 and DTS VL2440 to be removed from the action plan as from 2016. 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. In segment DTS VL1218 this resulted in six vessels being scrapped, 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 over the past fishing years. For 2021 the quotas have been set at 23.0 tonnes of western Baltic cod, 2.3 tonnes of eastern Baltic cod, 9.1 tonnes of western Baltic herring and 5.5 tonnes of Baltic sprat. Any impact of this measure on the stated

indicator values and on future support for young fishers will only become apparent once fishing quotas have stabilised at pre-2016 levels. The 2021 wrecking scheme will have an impact on the quota distribution only in the 2022 fishing year.

Due to much lower quotas also for western Baltic herring, further segments have been included again, or for the first time, in the 2020 Action Plan. One reason for this is that the majority of fishing businesses based in the Baltic Sea operate vessels suited to this management area. When catches of the two main fish species are at historically low levels, there are few other species that can be commercially exploited to compensate for this.

An updated action plan is enclosed with this report.

Annex 1: Overview of stocks fished in 2021 by vessels in individual fleet segments. The figures relate to landings in tonnes. In general stocks are 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**								
ICES stock	**Stock and region**	**PG VL0010**	**PG VL1012**	**DFN VL1218**	**DFN VL2440**	**DRB VL 40XX**	**TBB VL1218**	**TBB VL1824**	**TBB VL2440**	**TBB VL40XX**
Baltic Sea										
cod.27.22-24	Western Baltic cod	64	30							
dab.27.22-32	Baltic dab		63							
fle.27.2425	Flounder: west of Bornholm and southwest central Baltic	90	51							
fle.27.2223	Belt Sea and Øresund flounder	95	56							
GAR	Atlantic needlefish									
her.27.20-24	Western Baltic, Kattegat and Skagerrak herring	178	142							
her.27.25-2932	Eastern Baltic herring									
ple.27.21-23	Kattegat, Belt Sea and Øresund plaice	178	148							
spr.27.22-32	Baltic sprat									
sol.27.20-24	Western Baltic, Kattegat and Skagerrak sole			17						
North Sea										
anf.27.3a46	Anglerfish: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat				395					
cod.27.47d20	North Sea, eastern English Channel and Skagerrak cod			22						
csh.27.4	North Sea common shrimp						4 385	4 067	129	
had.27.46a20	Haddock: North Sea, west of Scotland and Skagerrak									
her.27.3a47d	Herring: North Sea, Skagerrak and Kattegat, eastern English Channel									
lin.27.3a4a6-91214	North Atlantic and Arctic Ocean common ling									
MUS	North Sea mussels					+			319	423
nep.fu.33	Norway lobster: central North Sea (Functional Unit 33)							86		
nop.27.34	Norway pout: North Sea, Skagerrak and Kattegat									

ple.27.420	North Sea and Skagerrak plaice			23				159	252	185
pok.27.3a46	Saithe: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat									
pol.27.3a4	North Sea, Skagerrak and Kattegat pollack									
san.sa.4	Sand eel: northern and central North Sea									
sol.27.4	North Sea sole			18				111	347	165
spr.27.3a4	Skagerrak, Kattegat and North Sea sprat									
Northeast Arctic and Greenland										
CAA	North Atlantic wolffish									
cod.27.1-2	Northeast Arctic cod									
cod.2127.1f14	East and southwest Greenland cod									
ghl.27.561214	Greenland halibut: Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland									
ghl NAFO Div. 1A-1F	Greenland halibut: west Greenland									
had.27.1-2	Northeast Arctic haddock									
pok.27.1-2	Northeast Arctic saithe									
reb.27.14b dem	Redfish (*S. mentella*): east Greenland shelf									
reb.27.1-2	Redfish (*S. mentella*): northeast Arctic									
reg.27.561214	Redfish (*S. norvegicus*): Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland									
Widely distributed stocks and other areas										
aru.27.123a4	Northeast Atlantic, North Sea, Skagerrak and Kattegat great silver smelt (*Argentina silus*)									
ary.27	Northeast Atlantic *Argentina sphyraena*									
CJM FAO area 87	Southeast Pacific Chilean jack mackerel									
EMM FAO area 87	Southeast Pacific Cape bonnetmouth									
her.27.1-24a514a	Atlanto-Scandian herring (Norwegian spring spawner)									
hke.27.3a46-8abd	Hake (northern stock)									
hom.27.2a4a5b6a7a-ce-k8	Northeast Atlantic horse mackerel									

HOM FAO area 34	Central eastern Atlantic horse mackerel									
mac.27.nea	Northeast Atlantic mackerel									
MAS FAO area 87	Southeast Pacific chub mackerel									
mon.27.78abd	Anglerfish: southern Celtic Sea and Bay of Biscay				261					
PIL FAO area 34	Central eastern Atlantic sardine									
VMA FAO area 34	Atlantic chub mackerel: central eastern Atlantic									
whb.27.1-91214	Northeast Atlantic blue whiting									

Annex 1 (cont.)

Stock fished		**Segment**						
ICES stock	**Stock and region**	**DTS VL1012**	**DTS VL1218**	**DTS VL1824**	**DTS VL2440**	**DTS VL40XX**	**TM VL1824**	**TM VL40XX**
Baltic Sea								
cod.27.22-24	Western Baltic cod							
dab.27.22-32	Baltic dab		152	79	97			
fle.27.2425	Flounder: west of Bornholm and southwest central Baltic	73	109		144			
fle.27.2223	Belt Sea and Øresund flounder							
GAR	Atlantic needlefish	69						
her.27.20-24	Western Baltic, Kattegat and Skagerrak herring	35	79		197		202	
her.27.25-2932	Eastern Baltic herring							608
ple.27.21-23	Kattegat, Belt Sea and Øresund plaice		245	123				
spr.27.22-32	Baltic sprat		207		310			11 439

sol.27.20-24	Western Baltic, Kattegat and Skagerrak sole							
North Sea								
anf.27.3a46	Anglerfish: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat							
cod.27.47d20	North Sea, eastern English Channel and Skagerrak cod				746			
csh.27.4	North Sea common shrimp							
had.27.46a20	Haddock: North Sea, west of Scotland and Skagerrak				371			
her.27.3a47d	Herring: North Sea, Skagerrak and Kattegat, eastern English Channel							25 722
lin.27.3a4a6-91214	Northeast Atlantic and Arctic Ocean common ling				112			
MUS	North Sea mussels							
nep.fu.33	Norway lobster: central North Sea (Functional Unit 33)			66	97			
nop.27.34	Norway pout: North Sea, Skagerrak and Kattegat							486
ple.27.420	North Sea and Skagerrak plaice			297	343			
pok.27.3a46	Saithe: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat				4 245	202		
pol.27.3a4	North Sea, Skagerrak and Kattegat pollack				182			
san.sa.4	Sand eel: northern and central North Sea							1 772
sol.27.4	North Sea sole							
spr.27.3a4	Skagerrak, Kattegat and North Sea sprat							3 670
Northeast Arctic and Greenland								
CAA	North Atlantic wolffish					114		
cod.27.1-2	Northeast Arctic cod					6 193		
cod.2127.1f14	East and southwest Greenland cod					1 969		
ghl.27.561214	Greenland halibut: Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland					4 053		
ghl NAFO Div. 1A-1F	Greenland halibut: west Greenland					1 673		
had.27.1-2	Northeast Arctic haddock					365		

pok.27.1-2	Northeast Arctic saithe					601		
reb.27.14b dem	Redfish (*S. mentella*): east Greenland shelf					974		
reb.27.1-2	Redfish (*S. mentella*): northeast Arctic					652		514
reg.27.561214	Redfish (*S. norvegicus*): Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland					875		
Widely distributed stocks and other areas								
aru.27.123a4	Northeast Atlantic, North Sea, Skagerrak and Kattegat great silver smelt (*Argentina silus*)							439
ary.27.xx	Argentine (*Argentina sphyraena*)							466
CJM FAO area 87	Southeast Pacific Chilean jack mackerel							13 019
EMM FAO area 87	Southeast Pacific Cape bonnetmouth							561
her.27.1-24a514a	Atlanto-Scandian herring (Norwegian spring spawner)							3 186
hke.27.3a46-8abd	Hake (northern stock)				678			
hom.27.2a4a5b6a7a-ce-k8	Northeast Atlantic horse mackerel							7 178
HOM FAO area 34	Central eastern Atlantic horse mackerel							528
mac.27.nea	Northeast Atlantic mackerel							11 392
MAS FAO area 87	Southeast Pacific chub mackerel							3 116
mon.27.78abd	Anglerfish: southern Celtic Sea and Bay of Biscay							
PIL FAO area 34	Central eastern Atlantic sardine							5 016
VMA FAO area 34	Atlantic chub mackerel: central eastern Atlantic							6 500
whb.27.1-91214	Northeast Atlantic blue whiting							34 558

Annex 2: Development of stocks fished by the various fleet segments in 2021. In general stocks are listed if catches were ≥ 100 tonnes (≥ 500 tonnes in the case of TM VL40XX).

Segment	Stock fished	Stock status early 2021
PG VL0010	Western Baltic cod	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
	Baltic dab	No classification possible, $F_{curr} < F_{MSY\ proxy}$
	Belt Sea and Øresund flounder	No classification possible, $F_{curr} < F_{MSY\ proxy}$
	Flounder: west of Bornholm and southwest central Baltic	No classification possible, $F_{curr} < F_{MSY\ proxy}$
	Western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
	Kattegat, Belt Sea and Øresund plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
PG VL1012	Western Baltic cod	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
	Baltic dab	No classification possible, $F_{curr} < F_{MSY\ proxy}$
	Belt Sea and Øresund flounder	No classification possible, $F_{curr} < F_{MSY\ proxy}$
	Flounder: west of Bornholm and southwest central Baltic	No classification possible, $F_{curr} < F_{MSY\ proxy}$
	Western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
	Kattegat, Belt Sea and Øresund plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
DFN VL1218	North Sea sole	Full reproductive capacity, $F_{curr} > F_{MSY}$
	North Sea, eastern English Channel and Skagerrak cod	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
	Sole: Skagerrak and Kattegat, western Baltic	Full reproductive capacity, $F_{curr} < F_{MSY}$
	North Sea and Skagerrak plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
DFN VL2440	Anglerfish: North Sea, Celtic Sea and western Scotland (anf.27.3a46)	No classification possible; management status unclear
	Anglerfish: southern Celtic Sea and Bay of Biscay (mon.27.78abd)	Full reproductive capacity, $F_{curr} < F_{MSY}$
DRB VL40XX	North Sea mussels	No ICES stock assessment
TBB VL1218	North Sea common shrimp	No ICES stock assessment
TBB VL1824	North Sea common shrimp	No ICES stock assessment
	North Sea and Skagerrak plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
	North Sea sole	Full reproductive capacity, $F_{curr} > F_{MSY}$
	Norway lobster: North Sea (Functional Unit33)	No classification possible
TBB VL2440	North Sea common shrimp	No ICES stock assessment
	North Sea mussels	No ICES stock assessment
	North Sea and Skagerrak plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
	North Sea sole	Full reproductive capacity, $F_{curr} > F_{MSY}$
TBB VL40XX	North Sea mussels	No ICES stock assessment
	North Sea and Skagerrak plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
	North Sea sole	Full reproductive capacity, $F_{curr} > F_{MSY}$
DTS VL1012	Flounder: west of Bornholm and southwest central Baltic	No classification of stock status, $F_{curr} < F_{MSY\text{-}proxy}$
	Atlantic needlefish	No classification possible
	Western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
DTS VL1218	Kattegat, Belt Sea and Øresund plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
	Baltic dab	No classification possible, $F_{curr} < F_{MSY\ proxy}$
	Flounder: west of Bornholm and southwest central Baltic	No classification of stock status, $F_{curr} < F_{MSY\text{-}proxy}$
	Baltic sprat	Full reproductive capacity, $F_{curr} > F_{MSY}$
	Western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
DTS VL1824	Kattegat, Belt Sea and Øresund plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
	Baltic dab	No classification possible, $F_{curr} < F_{MSY\ proxy}$
	North Sea and Skagerrak plaice	Full reproductive capacity, $F_{curr} < F_{MSY}$
	Norway lobster: North Sea (FU 33)	No classification possible
DTS VL2440	Saithe: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat	$SSB < MSY\ _{Btrigger}$, $F_{curr} > F_{MSY}$

Segment	Stock fished	Stock status early 2021
	North Sea, eastern English Channel and Skagerrak cod	SSB < B_{lim}, F_{curr} > F_{MSY}
	North Sea hake (northern stock)	Full reproductive capacity, F_{curr} = F_{MSY}
	Haddock: North Sea, west of Scotland and Skagerrak	Full reproductive capacity, F_{curr} < F_{MSY}
	North Sea and Skagerrak plaice	Full reproductive capacity, F_{curr} < F_{MSY}
	North Sea pollack	No classification possible
	Northeast Atlantic and Arctic Ocean common ling	No classification possible
	Norway lobster: North Sea (FU 33)	No classification possible
	Baltic sprat	Full reproductive capacity, F_{curr} > F_{MSY}
	Western Baltic, Kattegat and Skagerrak herring	SSB < B_{lim}, F_{curr} > F_{MSY}
	Flounder: west of Bornholm and southwest central Baltic	No classification of stock status
	Baltic dab	No classification possible, F_{curr} < $F_{MSY\ proxy}$
DTS VL40XX	Northeast Arctic cod	Full reproductive capacity, F_{curr} = F_{MSY}
	Greenland halibut: Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland	Full reproductive capacity, F_{curr} < F_{MSY}
	Cod: east and southwest Greenland	Full reproductive capacity, F_{curr} > F_{MSY}
	West Greenland halibut (NAFO area)	No classification possible
	Southeast Greenland *S. mentella* redfish (demersal)	No classification possible
	Redfish (S. norvegicus): Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland	Full reproductive capacity, F_{curr} > F_{MSY}
	S. mentella redfish, areas 1 and 2	Full reproductive capacity, F_{MSY} not defined
	Northeast Arctic saithe	Full reproductive capacity, F_{MSY} not defined but F_{curr} < F_{MGT}
	Northeast Arctic haddock	Full reproductive capacity, F_{curr} > F_{MSY}
	North Atlantic wolffish	No classification possible
	Saithe: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat	SSB < $MSY_{\ Btrigger}$, F_{curr} > F_{MSY}
TM VL1824	Western Baltic, Kattegat and Skagerrak herring	SSB < B_{lim}, F_{curr} > F_{MSY}
TM VL40XX	Northeast Atlantic blue whiting	Full reproductive capacity, F_{curr} > F_{MSY}
	Herring: North Sea, Skagerrak and Kattegat, eastern English Channel	Full reproductive capacity, F_{curr} < F_{MSY}
	Northeast Atlantic mackerel	Full reproductive capacity, F_{curr} < F_{MSY}
	Skagerrak, Kattegat and North Sea sprat	Full reproductive capacity, F_{MSY} not defined
	North Sea sand eel FU4	Full reproductive capacity, F_{MSY} not defined
	Norway pout: North Sea, Skagerrak and Kattegat	$MSY_{\ Btrigger}$ not defined, SSB > B_{pa}; F_{MSY} not defined
	Baltic sprat	Full reproductive capacity, F_{curr} > F_{MSY}
	Eastern Baltic herring	SSB < $MSY_{\ Btrigger}$, F_{curr} > F_{MSY}
	Redfish (*S. mentella*): northeast Arctic	Full reproductive capacity, F_{curr} > F_{MSY}
	Northeast Atlantic, North Sea, Skagerrak and Kattegat great silver smelt (*Argentina silus*)	No classification possible, F_{curr} < $F_{MSY\ proxy}$
	Argentine (*Argentina sphyraena*)	No classification possible
	Atlanto-Scandian herring (Norwegian spring spawner)	Full reproductive capacity, F_{curr} > F_{MSY}
	Northeast Atlantic horse mackerel	SSB < $MSY_{\ Btrigger}$, F_{curr} < F_{MSY}
	Central eastern Atlantic sardine	No classification possible
	Atlantic chub mackerel: central eastern Atlantic	No classification possible
	Central eastern Atlantic horse mackerel	No classification possible
	Southeast Pacific chub mackerel	No classification possible
	Southeast Pacific Chilean jack mackerel	SSB > B_{MSY}, F_{curr} < F_{MSY}
	Southeast Pacific Cape bonnetmouth	No classification possible

Annex 3: Overview of capacity changes in 2021

Status of the German fishing fleet as at 31 December 2020

Description	Number	GT	kW
Small-scale coastal fishing vessels < 12 m	**998**	**2 498**	**25 732**
VL0010 PG	934	1 773	20 197
VL1012 PG	64	725	5 535
Passive > 12 m	**15**	**1 391**	**3 788**
VL1218 FPO	1	24	220
VL1824 FPO	1	56	221
VL2440 FPO	1	199	441
VL1218 DFN	6	167	877
VL1824 DFN	1	68	132
VL2440 DFN	5	877	1 897
Trawlers up to 40 m	**54**	**6 370**	**15 713**
VL0010 DTS	1	4	57
VL1012 DTS	7	96	686
VL1218 DTS	19	649	3 428
VL1824 DTS	11	1 276	2 529
VL2440 DTS	13	4 072	8 388
VL1012 TM	0	0	0
VL1218 TM	0	0	0
VL1824 TM	2	147	441
VL2440 TM	1	126	184
Beam trawlers	**206**	**10 728**	**44 912**
VL0010 TBB	13	44	622
VL1012 TBB	5	63	515
VL1218 TBB	105	3 374	20 858
VL1824 TBB	72	4 580	15 859
VL2440 TBB	8	1 448	3 765
VL40XX TBB	3	1 219	3 293
Deep-sea pelagic trawlers > 40 m	**5**	**20 514**	**21 141**
VL40XX TM	5	20 514	21 141
Deep-sea demersal trawlers > 40 m	**5**	**14 470**	**14 875**
VL40XX DTS	5	14 470	14 875
Mussel dredgers	**8**	**2 405**	**4 886**
VL1218 DRB	0	0	0
VL2440 DRB	3	581	1 381
VL40XX DRB	5	1 824	3 505
Grand total	**1 291**	**58 376**	**131 047**

Status of the German fishing fleet as at 31 December 2021

Description	Number	GT	kW
Small-scale coastal fishing vessels < 12 m	**968**	**2 370**	**25 138**
VL0010 PG	911	1 734	20 056
VL1012 PG	57	636	5 082
Passive > 12 m	**12**	**1 098**	**3 077**
VL1218 FPO	1	59	221
VL1824 FPO	0	0	0
VL2440 FPO	1	199	441
VL1218 DFN	6	146	922
VL1824 DFN	0	0	0
VL2440 DFN	4	694	1 493
Trawlers up to 40 m	**47**	**5 557**	**14 543**
VL0010 DTS	0	0	0
VL1012 DTS	7	107	706
VL1218 DTS	19	653	3 333
VL1824 DTS	9	995	2 088
VL2440 DTS	11	3 670	8 195
VL1012 TM	0	0	0
VL1218 TM	0	0	0
VL1824 TM	1	132	221
VL2440 TM	0	0	0
Beam trawlers	**203**	**10 810**	**45 487**
VL0010 TBB	14	47	687
VL1012 TBB	4	53	424
VL1218 TBB	102	3 301	20 385
VL1824 TBB	73	4 706	16 081
VL2440 TBB	7	1 484	4 617
VL40XX TBB	3	1 219	3 293
Deep-sea pelagic trawlers > 40 m	**5**	**20 514**	**21 141**
VL40XX TM	5	20 514	21 141
Deep-sea demersal trawlers > 40 m	**5**	**12 849**	**14 275**
VL40XX DTS	5	12 849	14 275
Mussel dredgers	**6**	**1 783**	**3 614**
VL1218 DRB	0	0	0
VL2440 DRB	3	581	1 381
VL40XX DRB	3	1 202	2 233
Grand total	**1 246**	**54 981**	**127 275**

Absolute changes from 2020 to 2021

Description	Number	GT	kW
Small-scale coastal fishing vessels < 12 m	**-30**	**-128**	**-594**
VL0010 PG	-23	-39	-141
VL1012 PG	-7	-89	-453
Passive > 12 m	**-3**	**-293**	**-711**
VL1218 FPO	0	35	1
VL1824 FPO	-1	-56	-221
VL2440 FPO	0	0	0
VL1218 DFN	0	-21	45
VL1824 DFN	-1	-68	-132
VL2440 DFN	-1	-183	-404
Trawlers up to 40 m	**-7**	**-813**	**-1170**
VL0010 DTS	-1	-4	-57
VL1012 DTS	0	11	20
VL1218 DTS	0	4	-95
VL1824 DTS	-2	-281	-441
VL2440 DTS	-2	-402	-193
VL1218 TM	0	0	0
VL1824 TM	-1	-15	-220
VL2440 TM	-1	-126	-184
Beam trawlers	**-3**	**82**	**575**
VL0010 TBB	1	3	65
VL1012 TBB	-1	-10	-91
VL1218 TBB	-3	-73	-473
VL1824 TBB	1	126	222
VL2440 TBB	-1	36	852
VL40XX TBB	0	0	0
Deep-sea pelagic trawlers > 40 m	**0**	**0**	**0**
VL40XX TM	0	0	0
Deep-sea demersal trawlers > 40 m	**0**	**-1 621**	**-600**
VL40XX DTS	0	-1 621	-600
Mussel dredgers	**-2**	**-622**	**-1 272**
VL1218 DRB	0	0	0
VL2440 DRB	0	0	0
VL40XX DRB	-2	-622	-1 272
Grand total	**-45**	**-3 395**	**-3 772**

Annex 4: Sustainable harvest indicator (SHI), 2020 The rows highlighted in grey were not taken into account because the indicator was calculated on the basis of less than 40% of a fleet's landings value. Values marked with an 'a' are based on a calculation made by Germany, since no STECF assessment was available.

Fleet segment	Value of landings by 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 landings value included in the indicator	Value of total landings by fleet
DTS VL1012	100 675	*cod.27.22-24, her.27.20-24, mac.27.nea, ple.27.21-23, sol.27.20-24	5	1	2.94	47	213 589
PG VL1012	537 546	*cod.27.22-24, sol.27.20-24, ple.27.21-23, nep.fu.3-4, mac.27.nea, *wit.27.3a47d, her.27.20-24	7	2	1.75	69	779 705
DTS VL1218	944 550	ple.27.420, whg.27.47d, *wit.27.3a47d, tur.27.4, ple.27.21-23, *nep.fu.8, *nep.fu.6, nep.fu.3-4, mac.27.nea, *hke.27.3a46-8abd, her.27.20-24, *had.27.46a20, *cod.27.47d20, *cod.27.22-24, *pok.27.3a46, sol.27.20-24, *sol.27.4, *spr.27.22-32	18	10	1.74	67	1 420 231
DTS VL1824	2 928 235	*nep.fu.6, *cod.27.22-24, *cod.27.47d20, *had.27.46a20, her.27.20-24, her.27.3a47d, *hke.27.3a46-8abd, mac.27.nea, nep.fu.3-4, nep.fu.7, *nep.fu.8, *nep.fu.9, ple.27.21-23, ple.27.420, ple.27.7d, *pok.27.3a46, sol.27.20-24, *sol.27.4, *spr.27.22-32, tur.27.4, whg.27.47d, *wit.27.3a47d	22	11	1.57	76	3 846 370

Fleet segment	Value of landings by 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 landings value included in the indicator	Value of total landings by fleet
DTS VL2440	14 700 830	ank.27.78abd, *nep.fu.8, ple.27.21-23, ple.27.420, ple.27.7d, *pok.27.3a46, sol.27.20-24, *sol.27.4, *sol.27.7d, *spr.27.22-32, tur.27.4, whg.27.47d, *wit.27.3a47d, *nep.fu.6, mon.27.78abd, mac.27.nea, lez.27.4a6a, *hom.27.2a4a5b6a7a-ce-k8, *hke.27.3a46-8abd, her.27.3a47d, her.27.20-24, *had.27.46a20, *cod.27.47d20, *cod.27.22-24, bss.27.4bc7ad-h	25	12	1.26	86	16 998 863
DFN VL1218	507 894	sol.27.20-24, bss.27.4bc7ad-h, *cod.27.22-24, *cod.27.47d20, *had.27.46a20, her.27.20-24, *hke.27.3a46-8abd, ple.27.21-23, ple.27.420, *pok.27.3a46, *sol.27.4, tur.27.4, *wit.27.3a47d	13	7	1.09	80	634 220
TBB VL2440	7 202 821	tur.27.4, whg.27.47d, bss.27.4bc7ad-h, *cod.27.47d20, *hke.27.3a46-8abd, mac.27.nea, *nep.fu.6, *nep.fu.8, ple.27.420, *pok.27.3a46, *sol.27.4	11	6	1.06	88	8 173 636
TBB VL40XX	2 614 214	*sol.27.4, tur.27.4, ple.27.420	3	1	1.04[a]	71	3 683 121
TM VL40XX	60 593 355	*cod.27.22-24, del_34.1.3_34.3.1, *had.27.46a20, had.27.7b-k, *her.27.1-24a514a, her.27.20-24, *her.27.25-2932, her.27.3a47d, *hke.27.3a46-8abd, *hom.27.2a4a5b6a7a-ce-k8, *hom_34 mac.27.nea, whg.27.47d, *whb.27.1-91214, *vma-34, *spr.27.22-32, *pok.27.3a46, ple.27.420, pil_34.1.3_34.3.1, aru.27.5b6a	20	11	1.01	91	66 311 063
TM VL2440	154 698	her.27.20-24, *spr.27.22-32	2	1	0.92[a]	99.6	155 350
TM VL1824	164 458	her.27.20-24, *spr.27.22-32, *cod.27.22-24	3	2	0.92[a]	92	178 919

Fleet segment	Value of landings by 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 landings value included in the indicator	Value of total landings by fleet
DTS VL40XX	34 179 492	*had.27.46a20, *wit.27.3a47d, whg.27.47d, *whb.27.1-91214, *reg.27.561214, *reg.27.1-2, *pok.27.3a46, mac.27.nea, lez.27.4a6a, *hom.27.2a4a5b6a7a-ce-k8, *hke.27.3a46-8abd, *had.27.1-2, ghl.27.561214, *cod.27.47d20, cod.27.1-2, *cod.2127.1f14, aru.27.5a14	17	11	0.91	75	45 350 692
PG VL0010	1 014 562	*cod.27.22-24, sol.27.20-24, ple.27.21-23, mac.27.nea, her.27.20-24	5	1	1.83	27	3 809 442
TBB VL1824	2 148 196	bss.27.4bc7ad-h, whg.27.47d, tur.27.4, *sol.27.4, ple.27.420, *nep.fu.8, *nep.fu.6, *hke.27.3a46-8abd, *had.27.46a20, *cod.27.47d20	10	6	1.08	11	19 093 824
TBB VL1218	33 567	tur.27.4, ple.27.420, *sol.27.4	3	1	1.00	0.25	13 213 150
DFN VL2440	710 770	*sol.27.4, mon.27.78abd, ple.27.420, *pok.27.3a46, *wit.27.3a47d, tur.27.4, ank.27.78abd, *cod.27.47d20, *had.27.46a20, *hke.27.3a46-8abd	10	6	0.86	29	2 487 184

Annex 5: Indicator values for the various segments (Log*= vessels required to keep a logbook), 2009-2021.

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
PG VL0010	**Technical indicator**	0.26	0.31	0.26	0.35	0.33	0.25	0.36	0.36	0.42	0.46	0.45	0.42	0.36
	SAR	1	2	2	1	2	1	1	2	1	1	2	3	
	SHI	2.48	2.73	2.58	2.65	2.53	2.65	2.55	2.58	2.06	2.24	2.18	1.83	
	CR/BER	0.16	1.01	0.72	0.82	0.44	1.36	1	1.23	1.14	0.45	0.13	0.06	
	RoFTA	-36.1	2	-14.6	-11.4	-27.8	18.9	0.26	12.4	7.3	-32.2	-60	-59.3	
	Number of vessels	1 766	841	838	809	783	768	743	729	691	666	650	631	617
	GT	3 564	1 715	1 702	1 615	1 544	1 521	1 516	1 527	1 398	1 317	1 311	1 271	1 238
	kW	35 786	17 435	17 809	17 175	16 832	17 000	16 993	17 202	16 268	15 361	15 477	15 227	15 143
	Number of log vessels*	172	161	155	144	132	130	129	135	116	107	106	100	98
	GT log*	846	814	798	721	659	656	672	721	616	560	565	541	527
	kW log*	8 135	7 824	7 894	7 263	6 818	6 722	6 779	7 407	6.42	5 893	5 854	5 346	5 471
PG VL1012	**Technical indicator**	0.53	0.51	0.48	0.56	0.51	0.41	0.44	0.43	0.56	0.54	0.55	0.53	0.54
	SAR	1	2	2	1	2	1	1	2	1	2	2	2	
	SHI	2.44	2.65	2.43	2.52	2.27	2.38	2.42	2.46	2.08	2.04	2.05	1.75	
	CR/BER	0.38	0.48	0.38	0.56	0.48	0.12	0.42	0.61	0.04	-0.15	0.16	-0.12	
	RoFTA	-30.9	-26.4	-29.6	-20.8	-24	-42.8	-28.4	-23.5	-79.2	-70.3	-51.1	-67.5	

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	Number of vessels	76	72	66	68	66	67	64	58	58	50	49	45	45
	GT	840	790	719	750	717	723	695	646	668	579	577	549	532
	kW	6 357	6 122	5 494	5 948	5 692	5 847	5.57	5 199	5 301	4 751	4 722	4 369	4 323
DFN VL1218	**Technical indicator**	0.48	0.46	0.51	0.72	0.44	0.57	0.48	0.58	0.4	0.47	0.43	0.34	0.29
	SAR	1	2	2	3	3	1	1	1	1	2	3	2	
	SHI	2.41	2.24	1.84	1.97	1.83	1.62	1.68	1.74	1.76	1.77	1.49	1.09	
	CR/BER	1.47	2.42	0.5	7.54	3.85	1.85	-1.51	6.65	4.46	0.36	9.19	2.31	
	RoFTA	18.7	58.5	-18.5	178.9	98.4	36.8	-96.9	176.3	107.9	-18.4	197.2	57.1	
	Number of vessels	16	12	10	7	11	9	5	5	7	5	4	5	5
	GT	365	273	237	147	272	220	121	132	193	150	124	152	131
	kW	2 216	1 666	1 309	842	1 592	1 182	1 182	821	969	690	590	809	854
DFN VL2440	**Technical indicator**	0.5	0.71	0.64	0.66	0.85	0.64	0.81	0.75	0.83	0.88	0.77	0.54	0.92
	SAR	0	0	0	1	0	0	0	0	0	1	0	0	
	SHI	1.98	1.88	1.7	1.73	1.46	1.47	1.37	1.39	1.47	1.54	1.15	0.86	
	CR/BER	-0.82	1.63	0.73	-0.22	0.37	0.13	0.77	0.7	1.85	6.78	-0.28	0.24	
	RoFTA	-59.5	45.9	-42.2	-91.7	-50.8	-53.2	-12.6	-19.8	23.9	168	-83.7	48.1	
	Number of vessels	5	5	4	5	5	5	4	4	5	5	5	5	2
	GT	877	877	729	877	877	877	729	729	877	877	877	877	461

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	kW	1 897	1 897	1 475	1 897	1 897	1 897	1 475	1 475	1 897	1 897	1 897	1 897	853
TBB VL1012	**Technical indicator**	0.33	0.45	0.31	0.48	0.64	0.48	0.76	0.79	0.54	0.88	0.85	0.92	0.88
	SAR	0	0	0	0	0	0	0	0	0	0	0	0	
	SHI	1.68	2.02	1.61	1.37	1.46	1.06	1.12	1.04	1.03	n/a	n/a	1.6	
	CR/BER	2.27	1.11	-0.35	3.19	3.31	1.08	0.13	1.28	0.98	1.43	-0.07	1.15	
	RoFTA	46.7	8.2	-75	124	133.1	6.6	-67.5	9.26	-3.8	32.1	-67.7	5.47	
	Number of vessels	5	7	6	5	5	5	5	5	7	5	4	4	4
	GT	61	85	74	63	63	63	63	63	78	63	53	53	53
	kW	457	624	564	515	515	515	515	515	676	515	424	424	424
TBB VL1218	**Technical indicator**	0.64	0.65	0.6	0.6	0.56	0.6	0.6	0.58	0.54	0.67	0.67	0.57	0.6
	SAR	0	0	0	0	0	0	0	0	0	0	0	0	
	SHI	2.4	2.98	2.76	3.5	3.22	3.07	2.21	2.75	n/a	1.25	1.29	1	
	CR/BER	1.23	1.42	0.97	2.74	2.57	1.79	1.5	1.91	1.45	2.25	0.14	0.89	
	RoFTA	15.1	22.7	-1.3	87.7	92.9	45.1	35	56.2	45.5	75.4	-46.7	-6.7	
	Number of vessels	140	134	127	118	120	117	112	111	108	109	105	100	97
	GT	4 268	4 075	3 876	3 597	3 663	3 627	3 457	3 479	3 451	3 472	3 346	3 227	3.16
	kW	26 791	25.65	24 308	22 678	22 962	22 651	21 597	21 671	21 234	21.51	20.77	19 946	19 487
TBB VL1824	**Technical indicator**	0.56	0.6	0.58	0.63	0.65	0.62	0.69	0.57	0.67	0.7	0.65	0.66	0.68

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	SAR	0	0	0	0	0	0	0	0	0	0	0	0	
	SHI	2.31	2.52	2.35	2.55	3.26	2.16	1.67	1.55	1.28	1.48	1.33	1.08	
	CR/BER	0.84	1.11	0.59	1.91	1.98	1.43	1.2	2.06	1.17	2.41	0.14	1.29	
	RoFTA	-4.2	6.3	-16.2	36.2	39.4	19.5	10.1	60.7	13.7	64.7	-36.5	12.2	
	Number of vessels	63	61	62	63	67	63	63	65	67	70	69	70	70
	GT	3 892	3 521	3 679	3 756	4 104	3.85	3 706	3 976	4 045	4 403	4 314	4 504	4 523
	kW	13 652	13 175	13 394	13 616	14 537	13 653	13 477	14 278	14 619	15 428	15 242	15 462	15 464
TBB VL2440	**Technical indicator**	0.77	0.83	0.54	0.78	0.85	0.82	0.68	0.91	0.8	0.85	0.89	0.82	0.87
	SAR	1	1	0	1	0	1	1	1	1	1	1	1	
	SHI	1.7	1.8	1.55	1.56	1.49	1.53	1.52	1.71	1.86	1.71	1.42	1.06	
	CR/BER	1.98	1.04	0.69	1	2.03	1.33	2.02	1.74	1.52	4.95	1.56	1.2	
	RoFTA	39.4	3.5	-12.2	-0.6	41.7	12.2	35.1	44.5	22.3	130	15.2	6.1	
	Number of vessels	7	8	8	9	8	10	10	9	10	10	6	6	7
	GT	1 424	1 693	1 693	1 752	1 559	2 021	2 021	1 828	2 021	2 201	1 448	1 448	1 389
	kW	4 874	5 867	5 867	5 971	5 411	6 721	6 721	6 161	5 788	5 788	3 765	3 765	4 278
TBB VL40XX	**Technical indicator**	0.61	1	0.63	0.54	0.53	0.62	1	0.94	0.95	0.84	0.74	0.78	0.76
	SAR						0	0	0	0	0	0	0	
	SHI						1.18	0.97	1.01	1.79	1.62	1.38	1.04	

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	CR/BER													
	RoFTA													
	Number of vessels	1	2	1	2	2	2	2	2	2	2	3	3	3
	GT	446	791	446	791	791	791	791	791	791	791	1 219	1 219	1 219
	kW	1 471	2 221	1 471	2 221	2 221	2 221	2 221	1 853	1 853	1 853	3 293	3 293	3 293
DTS VL1012	**Technical indicator**	0.54	0.56	0.58	0.59	0.42	0.48	0.45	0.34	0.31	0.71	0.8	0.51	0.53
	SAR	1	2	3	2	2	1	1	2	1	2	2	2	
	SHI	2.71	3.07	3.23	2.73	2.83	2.86	2.52	2.31	1.99	2.19	2.39	2.94	
	CR/BER	-0.08	1.18	0.67	0.56	0.66	0.39	0.41	0.29	0.81	0.97	0.41	-0.14	
	RoFTA	-70.8	12.3	-19.5	-29	-23.6	-47.6	-57.7	-4.7	-21.7	-2.1	-31.1	-54.9	
	Number of vessels	13	15	15	10	12	11	10	10	6	8	4	7	7
	GT	213	244	233	146	183	169	154	156	94	112	52	96	107
	kW	2 055	2 202	2 202	1 441	1 803	1 608	1 425	1 433	744	853	358	686	706
DTS VL1218	**Technical indicator**	0.49	0.47	0.6	0.71	0.53	0.53	0.52	0.53	0.57	0.68	0.66	0.62	0.59
	SAR	1	2	3	2	2	1	1	2	1	1	2	2	
	SHI	2.79	2.8	2.81	2.73	2.6	2.72	2.84	2.55	2.14	1.79	1.67	1.74	
	CR/BER	0.68	0.81	0.6	1	0.82	0.8	0.74	0.57	0.81	1.37	1.54	0.25	
	RoFTA	-9.4	-7.6	-16.7	-0.7	-7.5	-8.1	-10.7	-18.9	-18.9	17.7	24	-41.2	

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	Number of vessels	39	37	33	27	30	29	28	27	20	17	18	19	19
	GT	1.31	1 239	1 129	923	1 024	1 008	826	866	655	548	623	649	649
	kW	7 283	6 767	6 088	4.96	5 514	5 414	4 694	4 918	3 765	3 109	3 328	3 428	3 378
DTS VL1824	**Technical indicator**	0.64	0.58	0.6	0.62	0.6	0.59	0.6	0.65	0.68	0.66	0.6	0.6	0.59
	SAR	1	1	3	2	1	0	0	1	2	1	3	2	
	SHI	1.97	1.59	1.73	1.76	1.55	1.57	1.48	1.51	1.45	1.31	1.57	1.57	
	CR/BER	0.9	1.19	0.91	0.51	2.84	2.22	1.32	2.91	1.59	3.49	2.93	0.57	
	RoFTA	-0.5	9	-3	-15.9	50.9	37.6	12.3	66.2	33.6	82.4	60.7	-19.5	
	Number of vessels	28	30	29	20	18	17	16	13	13	11	14	11	10
	GT	3 045	3 215	3 169	2 231	2 064	1 847	1 724	1 444	1 544	1 293	1 621	1 276	1 144
	kW	6 122	6 525	6 347	4.33	3 925	3 704	3 485	2 824	3 118	2 529	3 192	2 529	2 308
DTS VL2440	**Technical indicator**	0.62	0.5	0.57	0.65	0.68	0.59	0.66	0.7	0.7	0.51	0.57	0.76	0.75
	SAR	3	2	1	1	1	1	1	0	1	0	1	1	
	SHI	1.69	1.56	1.36	1.27	1.21	1.29	1.28	1.27	1.37	1.42	1.37	1.26	
	CR/BER	1.02	1.51	1.87	1.05	1.36	1.3	2.02	2.24	1.25	1.18	1.06	0.87	
	RoFTA	4.1	20.4	32.5	3.2	12.6	8.8	31.1	31.2	23.6	5.5	0.7	-6.2	
	Number of vessels	16	16	13	10	11	12	10	9	8	11	14	12	11
	GT	3 439	3 431	3 033	2 523	2.66	2 981	2 768	2 343	2 172	2 992	4.41	3 947	3 685

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	kW	7 409	6 821	5 994	4 683	4.83	5 361	5 295	4 275	3 835	5 505	7 822	8 048	8 075
DTS VL40XX	**Technical indicator**	0.82	0.84	0.92	0.83	0.78	0.73	0.7	0.8	0.78	0.85	0.83	0.84	0.74
	SAR	2	4	7	6	4	4	5	5	6	6	7	5	
	SHI	1.25	1.22	1.03	1	0.98	0.86	0.98	1.03	1.02	1.1	1	0.91	
	CR/BER	0.47	0.81	0.68	0.75	0.62	0.86	0.98	1.5	0.44	0.91	1.1	1.16	
	RoFTA	-17.6	-4.7	-9.1	-8.5	-13.5	-4.4	-0.2	11	-12.9	-2.2	0.5	2.1	
	Number of vessels	8	8	8	8	7	6	7	7	7	7	6	5	6
	GT	13 215	13 215	13 215	13 215	10 247	8.65	12 898	12 898	15 417	15 417	14 962	14.47	16 818
	kW	18 651	18 651	18 651	18 651	14 151	11 724	15 724	15 724	16 394	16 394	15.61	14 875	17 875
TM VL1218	**Technical indicator**							0.88	0.89	0.85	1	1	0	0
	SAR							0	0	1	2	1	n/a	
	SHI							1.16	1.52	1.71	1.67	0.99	n/a	
	CR/BER													
	RoFTA													
	Number of vessels	0	0	0	0	0	0	2	2	3	1	1	0	0
	GT	–	–	–	–	–	–	122	122	163	75	26	0	0
	kW	–	–	–	–	–	–	439	439	659	219	100	0	0
TM VL1824	**Technical indicator**	–	0.85	1	1	1	0.88	0.67	0.7	0.59	0.65	1	0.51	0.78

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	SAR						0	0	0	1	1	1	1	
	SHI						1.19	0.86	1.31	1.63	1.6	1.04	0.92	
	CR/BER													
	RoFTA													
	Number of vessels	0	2	1	1	1	2	2	4	4	3	1	2	2
	GT	–	239	107	107	107	239	207	354	354	279	40	147	172
	kW	–	442	221	221	221	442	441	882	882	662	220	441	441
TM VL2440	**Technical indicator**	0.52	0.98	0.71	0.99	1	1	0.69	0.89	0.84	0.83	1	1	0
	SAR						0	0	0	1	1	1	1	
	SHI						1.31	1.05	1.24	1.41	1.52	0.99	0.92	
	CR/BER													
	RoFTA													
	Number of vessels	2	2	4	2	1	1	3	3	3	2	1	1	0
	GT	495	873	1 149	529	374	374	655	655	655	281	126	126	0
	kW	884	1 435	1.84	921	700	700	1 105	1 105	1 105	405	184	184	0
TM VL40XX	**Technical indicator**	0.82	0.81	0.86	0.86	0.8	0.85	0.94	0.88	0.87	0.77	0.89	0.88	0.84
	SAR	0	4	2	3	3	4	5	4	2	2	1	2	
	SHI	1.21	1.18	1.16	0.97	1.02	1	0.94	0.9	0.98	0.94	0.96	1.01	

Segment	Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	CR/BER													
	RoFTA													
	Number of vessels	5	5	5	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	20 254	20 514	20 514
	kW	23 274	23 537	23 537	23 537	23 537	23 537	23 537	23 537	24 397	21 128	20 427	21 141	21 141