27 May 2021

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 2020

1.A: Fleet description and development

i. Fleet description

As at 31 December 2020 the German fishing fleet comprised 1 291 fishing vessels, which is 17 vessels fewer than in the previous year. Fishing capacity increased by 2 404 kW in engine power and 798 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 is the largest segment of the German fishing fleet in terms of numbers, with 998 coastal fishing vessels less than 12 metres in length engaged in small-scale fishing. These vessels mainly operate with static nets in the Baltic Sea. About a third of the vessels in this segment (401) are managed as a side business. Many vessels are operated as a side business or are used only as a second or third vessel, which leads to a low technical indicator value. The species fished are primarily herring and cod, but also include plaice, flounder, bream and roach.

The segment decreased by 15 vessels. Also, engine power decreased by 508 kW and tonnage by 68 GT.

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

This segment is made up of vessels with an overall length of more than 12 metres using passive fishing gear. As at 31 December 2020 it comprised 15 vessels. Some of these vessels operate only in western waters, where they mainly fish anglerfish and Atlantic deep-sea red crab (*Chaceon affinis*). Vessels in this segment also fish in the western Baltic Sea (herring) and in the North Sea (anglerfish, cod and sole).

The number of vessels in this segment has not changed. However, fishing capacity increased slightly by 9 kW and 7 GT.

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

As at 31 December 2020 there were a total of 54 vessels in the segments made up of trawlers with a total length up to 40 metres. In the North Sea, these vessels mainly fished 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 increased by one. At the same time, fishing capacity increased by 997 kW in terms of engine power while tonnage decreased by 208 GT.

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.

There are currently 11 vessels equipped with pulse beam trawls, of which two target shrimp and nine target flatfish. Fishing with pulse beam trawls is permitted in ICES Divisions 4b and 4c until the transitional period ends on 30 June 2021. The legal basis for issuing fishing permits to beam trawlers is Regulation (EU) 2019/1241 (Article 7(1) in conjunction with Point 2 of Part D of Annex V).

206 beam trawlers, with a total capacity of 10 728 GT and 44 912 kW, were registered in the German fishing fleet as at 31 December 2020. This means that tonnage increased by 147 GT and engine power by 151 kW compared to the previous year. The number of vessels decreased by three.

Deep-sea pelagic fisheries (TM VL40XX)

As at 31 December 2020 there were a total of five vessels (total length 40 metres or more) registered in the German fishing fleet in the deep-sea pelagic fisheries segment. Vessels in this segment are assessed very differently as 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 areas. In the North Sea and in western British waters (ICES 4, 6a, 7) they mainly caught herring, mackerel and blue whiting. One vessel made several trips to FAO area 34-131/ESH (Western Sahara), mainly catching sardine (PIL) and Atlantic chub mackerel (*Scomber colias*). They also caught sprat and herring in the Baltic Sea (ICES 3).

In 2020 the number of vessels in this segment increased by one and fishing capacity also increased, by 973 GT and 2 309 kW.

Deep-sea demersal fisheries (DTS VL40XX)

As at 31 December 2020 there were a total of five deep-sea vessels in the deep-sea demersal fisheries segment. These fished almost exclusively in the north Atlantic (including Greenland, Norway, Svalbard and 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.

There were no changes in the number of vessels or fishing capacity from the previous year.

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

As at 31 December 2020 there were eight vessels in the mussel dredger segment. 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 one vessel and fishing capacity fell by 53 GT and 252 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 2020. 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 2020, or at least 500 tonnes in the case of pelagic trawlers of more than 40 metres (TM VL40XX). For segments DFN VL1218 and DTS VL1012, landings of less than 100 tonnes were included for the most important stocks, as no landings of more than 100 tonnes were reported.

Stock assessments (**Annex 2**) relate to 2019 for fishing mortality (F) and to early 2020 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 2020 will only become available in the course of 2021, after the deadline for submitting this fleet report. More recent data (collected in 2020) 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 in 2020. For western Baltic cod the spawning stock biomass (SSB) remained above B_{lim} (reduced reproductive capacity) but was still below $MSY_{Btrigger}$. Fishing mortality F_C fell again and remained at a sustainable level in 2019 based on the precautionary approach, but was still above

F_{MSY}. Catches in this segment dropped to 178 tonnes, which is considerably less than in the previous year (492 tonnes). According to the latest ICES advice (May 2020), the condition of the western Baltic cod stock has continued to improve. The SSB has been increasing since 2017 and is now just below $MSY_{Btrigger}$. Although there was only one good year between 2015 and 2020, that year (2016) was exceptional and continues to support virtually the entire fishery. If offspring production does not pick up again in the next few years, the medium to long-term prospects for this stock are poor. For western Baltic herring the SSB has been below B_{lim} for several years. In addition, F_C continued to exceed F_{MSY} and F_{pa} in 2019. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2021, as was also the case in the previous year. Catches in this segment amounted to 357 tonnes. Moreover, the outlook for this stock remains poor due to weak offspring production. This segment also made considerable flounder catches, of the stock west of Bornholm and in the southwest central Baltic (135 tonnes) and the Belt Sea and Øresund stock (122 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. In addition, 177 tonnes of plaice were caught (Kattegat, Belt Sea and Øresund). This stock has full reproductive capacity and was fished at F_C above F_{MSY}. Flatfish stocks and catches have been increasing for years in the Baltic Sea and, at least in ICES area 22, now account for a high share of overall catches. Apart from the main marine species, catches in this segment in the Baltic Sea and in bordering brackish waters also included larger quantities of bream (519 tonnes), roach (316 tonnes), zander (77 tonnes) and European perch (81 tonnes).

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

Vessels in this segment mainly fished three stocks in the Baltic Sea in 2020. For western Baltic cod (100 tonnes) the spawning stock biomass (SSB) remains above B_{lim} but is still below $MSY_{Btrigger}$. Fishing mortality F_C fell again and remained at a sustainable level in 2019 based on the precautionary approach, but was still above F_{MSY}. According to the latest ICES advice (May 2020), the condition of the western Baltic cod stock has continued to improve. The SSB has been increasing since 2017 and is now just below $MSY_{Btrigger}$. Although there was only one good year between 2015 and 2020, that year (2016) was exceptional and continues to support virtually the entire fishery. Unless offspring production picks up again in the next few years the prospects for this stock are poor. For western Baltic herring the SSB has been below B_{lim} for several years. In addition, F_C continued to exceed F_{MSY} and F_{pa} in 2019. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2021, as was also the case in the previous year. Catches by this segment amounted to 220 tonnes. Moreover, the outlook for this stock remains poor due to weak offspring production. In addition, 124 tonnes of plaice were caught (Kattegat, Belt Sea and Øresund). This stock has full reproductive capacity and was fished at F_C above F_{MSY}.

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

In 2020 vessels in this segment mainly fished cod in the North Sea (39 tonnes) and sole in the western Baltic, Kattegat and Skagerrak (21 tonnes). The North Sea cod stock is currently in a poor condition. The SSB has been in decline since 2015 and has been below B_{lim} (reduced reproductive capacity) since 2017. Fishing mortality has not changed since 2018 ($F_C = 0.64$) and remains above F_{lim}. The western Baltic, Skagerrak and Kattegat sole stock has full reproductive capacity and is being fished sustainably ($F_C < F_{MSY}$).

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

In 2020 this segment mainly fished anglerfish (*Lophius piscatorius* and *L. budegassa*) in the northeast Atlantic (total catches: 854 tonnes). 545 tonnes were caught in ICES areas 4 and 6 and Div.3a (anf.27.3a46), and 309 tonnes were caught 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 have to be considered as the species is not specified at landing (there is a combined TAC for both). The *L. piscatorius* stock (mon.27.78abd) is in a good condition with an SSB well above $MSY_{Btrigger}$ and F_C below F_{MSY} in 2019. No ICES classification is available for *L. budegassa* (ank.27.78abd), but F_C 2019 was below $F_{MSY\text{-}proxy}$.

Mussel dredgers (DRB)

Vessels in this segment worked 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,* 39 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 (40 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 (*Crangon crangon,* 4 216 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 (*Crangon crangon,* 4 547 tonnes). There is no quota for this target species and no analytical stock calculation is made. In addition, 100 tonnes of plaice and 182 tonnes of sole were caught in the North Sea. Plaice has full reproductive capacity and was fished at F_C below F_{MSY} in 2019. For sole the SSB has been below $MSY_{Btrigger}$ for a number of years and, in addition, fishing mortality F_C was above F_{MSY}.

Beam trawlers 24-40 m (TBB VL2440)

Beam trawlers in this segment mainly caught mussels (677 tonnes), sole (380 tonnes), plaice (207 tonnes) and common shrimp (134 tonnes) in the North Sea. Plaice has full reproductive capacity and fishing mortality was below F_{MSY}. For sole the SSB has been below $MSY_{Btrigger}$ for a number of years and, in addition, fishing mortality F_C was above F_{MSY}. There is no stock assessment for mussels and common shrimp.

Beam trawlers > 40 m (TBB VL40XX)

Beam trawlers in this segment mainly caught mussels (550 tonnes), plaice (156 tonnes) and sole (217 tonnes) in the North Sea. Plaice has full reproductive capacity and fishing mortality is below F_{MSY}. For sole the SSB has been below $MSY_{Btrigger}$ for a number of years and, in addition, fishing mortality F_C was above F_{MSY}. There is no stock assessment for North see mussels.

Demersal trawlers 10-12 m (DTS VL1012)

Vessels in this segment mainly fished western Baltic cod (45 tonnes) and flounder west of Bornholm and in the southwest central Baltic (58 tonnes). For western Baltic cod the spawning stock biomass (SSB) remains above B_{lim} but is still below $MSY_{Btrigger}$. Fishing mortality F_C fell again and remained at a sustainable level in 2019 based on the precautionary approach, but was still above F_{MSY}. According to the latest ICES advice (May 2020), the condition of the western Baltic cod stock has continued to improve. The SSB has been increasing since 2017 and is now just below $MSY_{Btrigger}$. Although there was only one good year between 2015 and 2020, that year (2016) was exceptional and continues to support virtually the entire fishery. Unless offspring production picks up again in the next few years the prospects for this stock are poor. 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 $F_{MSY\text{-}proxy}$.

Demersal trawlers 12-18 m (DTS VL1218)

Vessels in this segment mainly fished herring (305 tonnes), cod (164 tonnes) and flounder (fle.27.2425: 133 tonnes) in the western Baltic, plaice in the Kattegat, Belt Sea and Øresund (257 tonnes) and dab across the Baltic Sea (193 tonnes). For western Baltic herring the SSB

has been below B_{lim} for several years. In addition, F_C was still above F_{MSY} and F_{pa} in 2019. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2021, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production. For western Baltic cod the spawning stock biomass (SSB) remains above B_{lim} but is still below $MSY_{Btrigger}$. Fishing mortality F_C fell again and remained at a sustainable level in 2019 based on the precautionary approach, but was still above F_{MSY}. According to the latest ICES advice (May 2020), the condition of the western Baltic cod stock has continued to improve. The SSB has been increasing since 2017 and is now just below $MSY_{Btrigger}$. Although there was only one good year between 2015 and 2020, that year (2016) was exceptional and continues to support virtually the entire fishery. Unless offspring production picks up again in the next few years the prospects for this stock are poor. No classification of stock status is currently possible for dab and flounder west of Bornholm and in the southwest central Baltic, but for flounder F_C was below $F_{MSY\text{-}proxy}$. Plaice has full reproductive capacity and F_C was above F_{MSY}.

Demersal trawlers 18-24 m (DTS VL1824)

In the North Sea vessels in this segment mainly fished plaice (431 tonnes) and Norway lobster (functional unit 33: 112 tonnes). In the western Baltic they mainly caught herring (447 tonnes), cod (318 tonnes) and flounder (fle.27.2425: 162 tonnes) and in the Kattegat, Belt Sea and Øresund they mainly caught plaice (168 tonnes). In addition, they fished dab (158 tonnes) across the Baltic Sea. Of these main stocks only the two flounder stocks have full reproductive capacity. For western Baltic herring the SSB has been below B_{lim} for several years. In addition, F_C continued to exceed F_{MSY} and F_{pa} in 2019. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2021, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production. For western Baltic cod the spawning stock biomass (SSB) remains above B_{lim} but is still below $MSY_{Btrigger}$. According to the latest ICES advice (May 2020), the condition of the western Baltic cod stock has continued to improve. The SSB has been increasing since 2017 and is now just below $MSY_{Btrigger}$. Although there was only one good year between 2015 and 2020, that year (2016) was exceptional and continues to support virtually the entire fishery. Unless offspring production picks up again in the next few years the prospects for this stock are poor. No stock status classification is possible for the main stock of Norway lobster fished (functional unit 33). There is no ICES classification available concerning the reproductive capacity of Baltic dab or the flounder stock. Fishing mortality F_C was below F_{MSY} for North Sea plaice, below $F_{MSY\text{-}proxy}$ for the flounder stock and Baltic dab and above F_{MSY} for western Baltic cod and herring and for Kattegat, Belt Sea and Øresund plaice.

Demersal trawlers 24-40 m (DTS VL2440)

In the North Sea vessels in this segment mainly fished saithe (6 093 tonnes), plaice (488 tonnes), cod (693 tonnes), hake (362 tonnes), haddock (325 tonnes), pollack (244 tonnes)

and sole (116 tonnes). In the western Baltic they mainly caught herring (323 tonnes) and cod (126 tonnes), in addition to flounder west of Bornholm and in the southwest central Baltic (341 tonnes). Of the main stocks fished, four have full reproductive capacity (North Sea and Skagerrak plaice, North Sea saithe and haddock and northern stock of hake).

The spawning stock biomass (SSB) is below $MSY_{Btrigger}$ for western Baltic cod and North Sea sole and has been below B_{lim} for North Sea cod and western Baltic herring. There is no ICES classification available concerning the reproductive capacity of the flounder stock or North Sea pollack.

Fishing mortality for North Sea plaice and haddock and the northern hake stock was below F_{MSY}. F_C was below $F_{MSY\text{-}proxy}$ for the flounder stock and above F_{MSY} for North Sea cod, haddock and sole and western Baltic cod and herring. There is no clear management status for North Sea pollack.

Demersal trawlers > 40 m (DTS VL40XX)

In the North Sea vessels in this segment mainly fished saithe (757 tonnes). In the Barents Sea and the Norwegian Sea they mainly fished northeast Arctic cod (9 725 tonnes), saithe (1 548 tonnes), haddock (282 tonnes) and redfish (*S. mentella*, 481 tonnes). In the west Greenland NAFO area, 1 884 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 (4 478 tonnes) and redfish (*Sebastes mentella*: 1 803 tonnes and *S. norvegicus*: 82 tonnes). Seven of the stocks fished have full reproductive capacity (northeast Arctic cod, saithe and haddock, *S. mentella* redfish, North Sea saithe, Greenland halibut and *S. norvegicus* redfish off east Greenland/Iceland). There is no ICES classification available concerning the reproductive capacity of Greenland halibut off west Greenland or *S. mentella* redfish on the Greenland shelf. Fishing mortality was below F_{MSY} for northeast Arctic cod and above F_{MSY} for *S. norvegicus* redfish off east Greenland/Iceland, northeast Arctic saithe and haddock and Greenland halibut off east Greenland/Iceland. For northeast Arctic saithe and redfish (*S. mentella*) F_{MSY} is not defined, and a classification is not possible for Greenland halibut off west Greenland and redfish (*S. mentella*) on the southeast Greenland shelf.

Pelagic trawlers 12-18 m (TM VL1218)

There were no active vessels in this segment in 2020.

Pelagic trawlers 18-24 m (TM VL1824)

Vessels in this segment mainly fished western Baltic herring (204 tonnes) and sprat (406 tonnes) across the Baltic Sea. For western Baltic herring the SSB has been below B_{lim} for several years. In addition, F_C continued to exceed F_{MSY} and F_{pa} in 2019. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2021, as was also the

case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production. In contrast, Baltic sprat has full reproductive capacity and F_C was above F_{MSY}.

Pelagic trawlers 24-40 m (TM VL2440)

Vessels in this segment mainly fished western Baltic herring (195 tonnes) and sprat across the Baltic Sea (385 tonnes). For western Baltic herring the SSB has been below B_{lim} for several years. In addition, F_C continued to exceed F_{MSY} and F_{pa} in 2019. The condition of this stock is considered to be so poor that the ICES advised zero catches for 2021, as was also the case in the previous year. Moreover, the outlook for this stock remains poor due to weak offspring production. In contrast, Baltic sprat has full reproductive capacity and F_C was above F_{MSY}.

Pelagic trawlers > 40 m (TM VL40XX)

In the North Sea vessels in this segment mainly caught herring (29 447 tonnes), sprat (9 859 tonnes) and sand eel (area 1r: 2 041 tonnes, area 2r: 586 tonnes, area 4: 1 071 tonnes). In the Baltic they caught 8 132 tonnes sprat and 892 tonnes of eastern Baltic herring. Among the main northeast Atlantic species they fished 41 467 tonnes of blue whiting, 24 519 tonnes of mackerel, 945 tonnes of horse mackerel and 1 348 tonnes of argentine *(Argentina sphyraena)*. In addition, 2 801 tonnes of Atlanto-Scandian herring and 1 326 tonnes of *S. mentella* pelagic redfish were caught in the Norwegian Sea.. In the central eastern Atlantic (CECAF area) they fished 11 466 tonnes of sardine and 6 048 tonnes of Atlantic chub mackerel (*Scomber colias*). Of the 15 stocks mentioned, six have full reproductive capacity (Atlanto-Scandian herring, Baltic sprat, North Sea sprat, northeast Atlantic blue whiting and mackerel and northeast Arctic (*S. mentella*) redfish. For three stocks a classification is not available or is outdated (central eastern Atlantic sardine and Atlantic chub mackerel and argentine). The spawning stock biomass of northeast Atlantic horse mackerel, North Sea herring and eastern Baltic herring is below MSY $B_{trigger}$, whereas the SSB is above MSY $B_{escapement}$ for North Sea sprat, which therefore has full reproductive capacity. In contrast, the SSB for sand eel was below MSY $B_{escapement}$ (areas 1r, 2r and 4) or even below B_{lim} (areas 1r and 2r). 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 defined. Fishing mortality F_C was below F_{MSY} for North Sea herring, eastern Baltic herring and northeast Atlantic mackerel but above F_{MSY} for Atlanto-Scandian herring, Baltic sprat and northeast Atlantic blue whiting and horse mackerel.

iii. Fleet development

The German fleet decreased by 17 vessels (-1.30%) in the 2020 reporting year. Total capacity increased by 768 GT (+1.39%) in tonnage and 2 404 kW (+1.87%) 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 limitations and their impact on fishing capacity

i. Fishing effort limitations

Regulation (EC) No 2016/2336 imposed fishing effort regulations on Germany for deep-sea species.

The overall fishing capacity allocated to Germany for fisheries targeting deep-sea species was not exceeded in 2020. Regulation (EU) 2016/2336 defines deep-sea fishing as targeted when deep-sea species make up at least 8% of catches on any fishing trip and total catches in a calendar year are 10 tonnes or more. Under this definition of targeted deep-sea fishing, the only deep-sea species caught by German fishing vessels are greater silver smelt (ARU) and deep-sea red crab (KEF).

ii. Impact of fishing effort restrictions on fishing capacity

German fishing vessels have no longer been 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 resulting total fishing capacity for Germany has not led 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:	71 114 GT	167 078 kW
Status of fleet as at 1 January 2003:	66 844 GT	161 045 kW
Status of fleet as at 31 December 2020:	58 376 GT	131 047 kW

Capacity reductions (withdrawals from the fleet with public support) in 2020: **0 GT / 0 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 2020 the fleet decreased by 17 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.

There was no subsidised scrapping in Germany in 2020.

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 2020 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 1 291 vessels in 2020. 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 2019 since the 2020 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 2019, unless otherwise stated.

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

PG0010	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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
SAR	1	2	2	1	2	1	1	2	1	1	2	
SHI	2.48	2.73	2.61	2.51	2.7	2.75	2.6	2.59	1.93	1.8	1.61	
CR/BER	0.16	1.01	0.72	0.82	0.44	1.36	1.00	1.23	1.14	0.45	0.13	
RoFTA	-36.1	2.0	-14.6	-11.4	-27.8	18.9	0.26	12.4	7.3	-32.2	-60.0	
Number of vessels	1 766	841	838	809	783	768	743	729	691	666	650	631
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
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
Number of log vessels*	172	161	155	144	132	130	129	135	116	107	106	100
GT log*	846	814	798	721	659	656	672	721	616	560	565	541
kW log*	8 135	7 824	7 894	7 263	6 818	6 722	6 779	7 407	6 420	5 893	5 854	5 346

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 0.03 points.

Inactivity indicator:
A total of 315 vessels in segment PG VL0010 were inactive (as per their fleet status on 31 December 2020) and therefore had no landings. This accounts for a tonnage of 528 GT and engine power of 5 249 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. For all three stocks, fishing mortality F_C was above F_{MSY} in 2019. Fishing mortality F_C for herring dropped from 0.47 in 2018 to 0.38 in 2019 but is still above F_{MSY} = 0.31. Western Baltic cod saw another drop in fishing mortality in 2019 (F_C = 0.52) compared to 2018 (F_C =0.61) but remains above F_{MSY} = 0.26. Catches of plaice in the Kattegat, Belt Sea and Øresund also had an impact on the SHI indicator. For this stock, fishing mortality F_C fell slightly from 0.40 in 2018 to 0.38 in 2019 but is still above F_{MSY} (0.31). The overall SHI value fell from 1.8 in 2018 to 1.61 in 2019 due to the decline in fishing mortality for these 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 ($FC > F_{MSY}$). However, 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 36%, i.e. < 40%, and is therefore not taken into account in the assessment.

Stocks-at-risk (SAR) indicator
For this segment two stocks were considered at risk in 2019. This concerns the western Baltic herring, for which the spawning stock biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock. The second stock listed as a stock at risk is the European eel, classified as critically endangered by the IUCN (International Union for Conservation of Nature). As the 66 tonnes of eel caught by this segment account for less than 10% of the total EU catches of this stock, classifying it as a stock at risk for this segment appears questionable.

(c) Economic indicators

In 2019 the CR/BER fell from 0.45 to 0.13 and the RoFTA dropped to -60.0. The economic indicators for this fleet segment thus continued to fall drastically in 2019, pointing to overcapacity in the short term. 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 not related to the balance between fishing opportunities and capacity are at play here.

(d) Overall assessment

Overall, this segment is **in imbalance** according to the indicators analysed. 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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
SAR	1	2	2	1	2	1	1	2	1	2	1	
SHI	2.44	2.65	2.47	2.39	2.39	2.47	2.46	2.46	1.94	1.72	1.57	
CR/BER	0.38	0.48	0.38	0.56	0.48	0.12	0.42	0.61	0.04	-0.15	0.16	
RoFTA	-30.9	-26.4	-29.6	-20.8	-24.0	-42.8	-28.4	-23.5	-79.2	-70.3	-51.1	
Number of vessels	76	72	66	68	66	67	64	58	58	50	49	45
GT	840	790	719	750	717	723	695	646	668	579	577	549
kW	6 357	6 122	5 494	5 948	5 692	5 847	5 570	5 199	5 301	4 751	4 722	4 369

(a) Technical indicator

The value in the 10-12 m static netters segment has hardly changed compared to previous years (-0.02 points compared to 2019). Although the value of 0.53 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:
A total of 20 vessels in segment PG VL1012, with a fishing capacity of 189 GT and engine power of 1 236 kW, were inactive (as per their fleet status on 31 December 2020) 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). Fishing mortality F_C for herring dropped from 0.47 in 2018 to 0.38 in 2019 but is still above $F_{MSY} = 0.31$. Western Baltic cod saw another drop in fishing mortality in 2019 ($F_C = 0.52$) compared to 2018

(F_C =0.61) but remains above F_{MSY} = 0.26. Catches of plaice in the Kattegat, Belt Sea and Øresund also had an impact on the SHI indicator. For this stock, fishing mortality F_C fell slightly from 0.40 in 2018 to 0.38 in 2019 but is still above F_{MSY} (0.31). The overall SHI value fell from 1.72 in 2018 to 1.57 in 2019 due to the decline in fishing mortality for these most important stocks.

Stocks at risk (SAR)

For this segment one stock was considered at risk in 2019. This concerns the western Baltic herring, for which the spawning stock biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock.

(c) Economic indicators

Both the CR/BER and the RoFTA deteriorated for this fleet segment in 2019, with values remaining below 1 (CR/BER) or turning 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.48	0.46	0.51	0.72	0.44	0.57	0.48	0.58	0.40	0.47	0.43	0.34
SAR	1	2	3	3	3	1	1	1	2	3	3	
SHI	2.41	2.24	2.07	2.08	1.93	1.72	1.81	1.86	1.77	1.71	1.55	
CR/BER	1.47	2.42	0.50	7.54	3.85	1.85	-1.51	6.65	4.46	0.36	9.19	
RoFTA	18.7	58.5	-18.5	178.9	98.4	36.8	-96.9	176.3	107.9	-18.4	197.2	
Number of vessels	16	12	10	7	11	9	5	5	7	5	4	5
GT	365	273	237	147	272	220	121	132	193	150	124	152
kW	2 216	1 666	1 309	842	1 592	1 182	1 182	821	969	690	590	809

(a) Technical indicator

In segment DFN VL1218 only five fishing vessels could be taken into account to establish the technical indicators for the reporting year. The value of 0.34 is a considerable deterioration

from the previous year. This is due to the fact that one vessel in this segment spent a relatively many days at sea whereas all the other vessels logged very few sea days in comparison.

Inactivity indicator:
One vessel in segment DFN VL1218 was inactive (as per its fleet status on 31 December 2020) and therefore had no landings in 2020.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished sole and cod in the North Sea and herring in the western Baltic as well as some cod and flatfish. F_C was above F_{MSY} for the first three species mentioned. In 2019 there was no change in fishing mortality F_C for North Sea cod, which remained at 0.64, but fishing mortality fell compared to 2018 for North Sea sole and western Baltic herring, resulting in a lower overall SHI of 1.55 compared to a value of 1.71 in 2018.

Stocks at risk (SAR)
For this segment three stocks were considered at risk in 2019. This concerns the western Baltic herring and North Sea cod and sole, for which the spawning stock biomass was below B_{lim}. More than 10% of the total landings in this segment were of these stocks. According to the latest stock assessment carried out in early 2020, the spawning stock biomass for North Sea sole is now above B_{lim}.

(c) Economic indicators

In 2019 the CR/BER increased significantly from below 1 to nearly 10 and RoFTA from a negative value to nearly 200. This is a confirmation of the positive trend seen in previous years, after a completely different picture emerged in 2018. These values should be assessed 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 dropped significantly (from 16 to 5) between 2009 and 2020.

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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.50	0.71	0.64	0.66	0.85	0.64	0.81	0.75	0.83	0.88	0.77	0.54
SAR	0	0	0	1	0	0	0	0	0	1	0	
SHI	1.98	1.88	1.63	1.69	1.42	1.45	1.26	1.21	1.22	1.22	1.11	
CR/BER	-0.82	1.63	0.73	-0.22	0.37	0.13	0.77	0.70	1.85	6.78	-0.28	
RoFTA	-59.5	45.9	-42.2	-91.7	-50.8	-53.2	-12.6	-19.8	23.9	168.0	-83.7	
Number of vessels	5	5	4	5	5	5	4	4	5	5	5	5
GT	877	877	729	877	877	877	729	729	877	877	877	877
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

(a) Technical indicator

Five vessels were again taken into account to calculate the technical indicator in this segment. Unfortunately, these were not able to sustain the good results of the previous year and the indicator dropped to 0.54. One of the reasons for this is that two vessels in this segment had a much higher level of fishing activity (up to 260 sea days) than the other three, which were 'only' able to log up to 50 sea days. Overall the number of sea days of this group of vessels has fallen significantly compared to previous years.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Most vessels in this segment 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, there is an ICES stock assessment for one of the anglerfish stocks (mon.27.78abd), for which F_C was below F_{MSY}; in addition, fishing mortality fell further from 0.27 in 2018 to 0.22 in 2019, resulting in a lower SHI value of 1.11.

Note: The STECF has calculated an SHI of 1.62 for 2019, which is well above the value determined by Germany. The reason for this, however, is that the two anglerfish stocks, which make up the majority of catches in this segment, were not included in the STECF's calculation of the SHI. This could be linked to the fact that German fishers report all the various species and stocks of anglerfish under 'ANF', for which there is no analytical assessment, so that anglerfish catches were not taken into account in calculating the SHI. For balance assessments

in the fleet report, SHI values are only taken into account for those segments for which the share of the landings value that can be used to calculate the indicator exceeds 40% of the value of overall landings of that segment ('F2 ratio'). This means that the SHI value calculated by Germany can be used, as landings account for 48%, as opposed to the value calculated by the STEFC which cannot be taken into account (13%).

Stocks at risk (SAR)
For this segment no stock was considered at risk in 2019.

(c) Economic indicators

Both economic indicators have fallen significantly, pointing to overcapacity in the short term.

(d) Overall assessment

No clear assessment can be made for this segment. The technical indicator currently shows a falling trend, the SHI shows a positive trend and there is no stock at risk. The economic indicators improved considerably in recent years but turned negative again in 2019.

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 the 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 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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
SAR	0	0	0	0	0	0	0	0	0	0	0	
SHI	1.68	2.02	1.57	1.43	1.44	1.06	1.1	0.96	1.15	n/a	n/a	
CR/BER	2.27	1.11	-0.35	3.19	3.31	1.08	0.13	1.28	0.98	1.43	-0.07	
RoFTA	46.7	8.2	-75.0	124.0	133.1	6.6	-67.5	9.26	-3.8	32.1	-67.7	
Number of vessels	5	7	6	5	5	5	5	5	7	5	4	4
GT	61	85	74	63	63	63	63	63	78	63	53	53
kW	457	624	564	515	515	515	515	515	676	515	424	424

(a)Technical indicator

The value of 0.92 calculated for 2020 is a slight improvement on the previous year. However, the result is not very pertinent as the 10-12 m beam trawler segment consists of only four vessels.

Inactivity indicator:
One vessel in segment TBB VL1012 was inactive (as per its fleet status on 31 December 2020) and therefore had no landings.

(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, meaning that no SHI value was calculated by the STECF for 2019.

Stocks at risk (SAR)
In this segment no stock was considered at risk in 2019, as was also the case in previous years.

(c) Economic indicators

In 2018 both economic indicators improved considerably and there was no indication of overcapacity. However, in 2019 both indicators fell sharply and turned negative. 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. 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 12–18 m (TBB VL1218)

TBB1218	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.64	0.65	0.60	0.60	0.56	0.60	0.60	0.58	0.54	0.67	0.67	0.57
SAR	0	0	0	0	0	0	0	0	0	0	0	
SHI	2.4	2.98	2.7	3.29	3.52	3.14	2.25	2.74	n/a	1.06	1.1	
CR/BER	1.23	1.42	0.97	2.74	2.57	1.79	1.50	1.91	1.45	2.25	0.14	
RoFTA	15.1	22.7	-1.3	87.7	92.9	45.1	35.0	56.2	45.5	75.4	-46.7	
Number of vessels	140	134	127	118	120	117	112	111	108	109	105	100
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
kW	26 791	25 650	24 308	22 678	22 962	22 651	21 597	21 671	21 234	21 510	20 770	19 946

(a) Technical indicator

The value for 2020 was calculated on the basis of 100 fishing vessels. The value of 0.57 is far below the result of the previous year. As in previous years, the segment saw marked differences in 2020 between vessels logging a high number of sea days (around 200) and vessels logging only very few sea days. The fishing activity of the 20 ‘weakest’ vessels came to just 35 sea days on average. This is reflected in the indicator value.

Inactivity indicator:
Five vessels in segment TBB VL1218 were inactive (as per their fleet status on 31 December 2020) and therefore had no landings in 2020. These account for a fishing capacity of 147 GT and 912 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 1.1 for 2019 is therefore not very pertinent.

Stocks at risk (SAR)
In this segment no stock was considered at risk in 2019, 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 fell sharply in 2019, but in this type of fishery such variations are not unusual.

(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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.56	0.60	0.58	0.63	0.65	0.62	0.69	0.57	0.67	0.70	0.65	0.66
SAR	0	0	0	0	0	0	1	0	0	0	0	
SHI	2.31	2.52	2.29	2.44	3.57	2.22	1.69	1.49	1.23	1.22	1.09	
CR/BER	0.84	1.11	0.59	1.91	1.98	1.43	1.20	2.06	1.17	2.41	0.14	
RoFTA	-4.2	6.3	-16.2	36.2	39.4	19.5	10.1	60.7	13.7	64.7	-36.5	
Number of vessels	63	61	62	63	67	63	63	65	67	70	69	70
GT	3 892	3 521	3 679	3 756	4 104	3 850	3 706	3 976	4 045	4 403	4 314	4 504
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

(a) Technical indicator

The value for 2020 was calculated on the basis of 70 active fishing vessels. This is marginally above the result of the previous year (+0.01 points). The value of 0.66 can be considered as stable compared to the past 10 years.

(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 1.09 for 2019 is therefore not very pertinent.

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

(d) Overall assessment

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

Beam trawlers 24-40 m (TBB VL2440)

TBB2440	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.77	0.83	0.54	0.78	0.85	0.82	0.68	0.91	0.80	0.85	0.89	0.82
SAR	1	1	0	1	0	1	1	1	1	1	1	
SHI	1.7	1.8	1.5	1.52	1.48	1.54	1.52	1.61	1.57	1.35	1.18	
CR/BER	1.98	1.04	0.69	1.00	2.03	1.33	2.02	1.74	1.52	4.95	1.56	
RoFTA	39.4	3.5	-12.2	-0.6	41.7	12.2	35.1	44.5	22.3	130.0	15.2	
Number of vessels	7	8	8	9	8	10	10	9	10	10	6	6
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
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

(a) Technical indicator

The result achieved by the six vessels in this segment, with a value of 0.82, is not quite as good as in the previous year (-0.06 points). Two mussel dredgers (aquaculture) were not taken into account in the overall calculation.

Inactivity indicator:

Two vessels in segment TBB VL1824 were inactive (as per their fleet status on 31 December 2020) and therefore had no landings in 2020. These account for a fishing capacity of 95 GT and 397 kW.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Fishing vessels in this segment mainly caught plaice, mussels, sole, turbot and common shrimp in the North Sea. According to the available stock assessment for plaice, sole and turbot, fishing

mortality F_C was below F_{MSY} for plaice, just above F_{MSY} for turbot and above F_{MSY} for sole. Since fishing mortality F_C for sole, the economically most important stock in this segment, deteriorated from 0.33 in 2018 to 0.27 in 2019, the SHI also fell from 1.35 in 2018 to 1.18 in 2019.

Stocks at risk (SAR)

In this segment one stock was considered at risk in 2019. This concerns North Sea sole, for which the spawning stock biomass was below B_{lim} in early 2019. More than 10% of the total landings in this segment were of this stock. According to the latest stock assessment carried out in early 2020, the spawning stock biomass for North Sea sole is now 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 in 2019 recovered somewhat in 2020.

Beam trawlers > 40 m (TBB VL40XX)

TBB40XX	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.61	1.00	0.63	0.54	0.53	0.62	1.00	0.94	0.95	0.84	0.74	0.78
SAR						0	0	0	0	0	0	
SHI						1.18	0.97	1.01	1.00	1.01	1.15	
CR/BER												
RoFTA												
Number of vessels	1	2	1	2	2	2	2	2	2	2	3	3
GT	446	791	446	791	791	791	791	791	791	791	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

(a) Technical indicator

The calculated value of 0.78 is not pertinent as it is based on just three vessels.

(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 for plaice was below, for turbot just above and for sole above F_{MSY}, resulting in an SHI value slightly above 1 (SHI=1.15).

Stocks at risk (SAR)
For this segment no stock was considered at risk in 2019.

(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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.54	0.56	0.58	0.59	0.42	0.48	0.45	0.34	0.31	0.71	0.80	0.51
SAR	1	2	2	1	2	1	1	2	1	2	1	
SHI	2.71	3.07	3.2	2.59	3.06	2.95	2.58	2.34	1.88	1.77	1.67	
CR/BER	-0.08	1.18	0.67	0.56	0.66	0.39	0.41	0.29	0.81	0.97	0.41	
RoFTA	-70.8	12.3	-19.5	-29.0	-23.6	-47.6	-57.7	-4.7	-21.7	-2.1	-31.1	
Number of vessels	13	15	15	10	12	11	10	10	6	8	4	7
GT	213	244	233	146	183	169	154	156	94	112	52	96
kW	2 055	2 202	2 202	1 441	1 803	1 608	1 425	1 433	744	853	358	686

(a) Technical indicator

Although the result of 0.51 is a deterioration compared to the previous year (-0.29 points), it is still above the value seen in the years from 2013 to 2017. Compared to other groups, vessels in this segment have relatively few sea days and little fishing activity, which ultimately leads to

fluctuating indicator values. The calculated value is not very pertinent as it is based on just seven vessels.

(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. Fishing mortality F_C for western Baltic herring and cod fell in 2019 compared to 2018 (herring: F_C 2018 = 0.47 / F_C 2019 = 0.38; cod: F_C 2018 = 0.61 / F_C 2019 = 0.52), but was still above F_{MSY} for both stocks (herring F_{MSY} = 0.31, cod F_{MSY} = 0.26). Catches of plaice in the Kattegat, Belt Sea and Øresund also had an impact on the SHI indicator. For this stock F_C (0.378) was slightly above F_{MSY} (0.37). Mainly due to the lower fishing mortality of herring and cod, the SHI value fell slightly to 1.67 (compared 1.77 in 2018).

Stocks at risk (SAR)
In this segment one stock was considered at risk in 2019. This concerns the western Baltic herring, for which the spawning stock biomass was below B_{lim}. More than 10% of the total landings in this segment were of this stock.

(c) Economic indicators

After an increase in previous years, in 2019 the CR/BER fell sharply to 0.41 and is therefore still below 1. The RoFTA also fell sharply and remains negative with a value of -31.1. 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.49	0.47	0.60	0.71	0.53	0.53	0.52	0.53	0.57	0.68	0.66	0.62
SAR	1	2	2	1	2	1	1	2	1	1	1	
SHI	2.79	2.8	2.81	2.6	2.8	2.82	2.9	2.58	1.99	1.57	1.42	
CR/BER	0.68	0.81	0.60	1.00	0.82	0.80	0.74	0.57	0.81	1.37	1.54	
RoFTA	-9.4	-7.6	-16.7	-0.7	-7.5	-8.1	-10.7	-18.9	-18.9	17.7	24.0	
Number of vessels	39	37	33	27	30	29	28	27	20	17	18	19
GT	1 310	1 239	1 129	923	1 024	1 008	826	866	655	548	623	649
kW	7 283	6 767	6 088	4 960	5 514	5 414	4 694	4 918	3 765	3 109	3 328	3 428

(a) Technical indicator

The fishing activity of 19 fishing vessels were taken into account in 2020 to calculate the value for 12-18 m trawlers. The value of 0.62 is at the same level as in previous years.

(b) Biological indicators

Sustainable harvest indicator (SHI)
Vessels in this segment mainly fished western Baltic herring and cod. In addition, they made considerable catches of plaice in the Belt Sea and of sprat and dab across the Baltic Sea. The SHI fell from 1.57 in 2018 to 1.47 in 2019. This is mainly because fishing mortality F_C fell in 2019 compared to the previous year for the three stocks that are most important in terms of quantity and revenue (western Baltic cod and herring and Kattegat, Belt Sea and Øresund plaice).

Stocks at risk (SAR)
In this segment one stock was considered at risk in 2019. This concerns the western Baltic herring, for which the spawning stock biomass was below B_{lim}. More than 10% of the total landings in this segment were of this stock.

(c) Economic indicators

In 2019 the CR/BER was again above 1. The RoFTA also increased considerably to 24.0. Both indicators have been quite unfavourable in this segment over the years. The increase in both indicators in 2018 and 2019 is a positive sign. It is not yet possible to assess whether this is a stable trend.

(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. The number of vessels has dropped by nearly half, from 39 in 2009 to 19 in 2020.

Demersal trawlers 18-24 m (DTS VL1824)

DTS1824	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.64	0.58	0.60	0.62	0.60	0.59	0.60	0.65	0.68	0.66	0.60	0.60
SAR	1	1	2	1	1	0	0	1	1	1	1	
SHI	1.97	1.59	1.73	1.67	1.55	1.56	1.47	1.5	1.36	1.14	1.14	
CR/BER	0.90	1.19	0.91	0.51	2.84	2.22	1.32	2.91	1.59	3.49	2.93	
RoFTA	-0.5	9.0	-3.0	-15.9	50.9	37.6	12.3	66.2	33.6	82.4	60.7	
Number of vessels	28	30	29	20	18	17	16	13	13	11	14	11
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
kW	6 122	6 525	6 347	4 330	3 925	3 704	3 485	2 824	3 118	2 529	3 192	2 529

(a) Technical indicator

The sea days of 11 vessels were taken into account to calculate the indicator. The value of 0.60 has not changed from the previous year. In this segment too the vessels saw their fishing activity decline compared to 2018 and 2019. However, as in previous years, some cutters were considerably more active than most of the other vessels in the group, which was reflected a higher fishing effort for those vessels. This again led to a certain imbalance in the reporting year.

(b) Biological indicators

Sustainable harvest indicator (SHI)

Vessels in this segment fished a number of different stocks in the North Sea and the Baltic (western Baltic cod, 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 cod. Plaice is fished sustainably, with fishing mortality F_C 2019 well below F_{MSY}, unlike for cod where F_C 2019 was above F_{MSY}. As a result, the SHI for this segment was a poor 1.14, the same as in 2018.

Stocks at risk (SAR)

In this segment one stock was considered at risk in 2019, as was also the case in previous years. This concerns the western Baltic herring, for which the spawning stock biomass is below B_{lim}. More than 10% of the total landings in this segment were of this stock.

(c) Economic indicators

Both the CR/BER and the RoFTA have improved further compared to the good result of the previous year and there is no indication 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, one stock at risk is fished. The economic indicators are positive. Since 2010 the number of vessels has dropped from 30 to 11. 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.62	0.50	0.57	0.65	0.68	0.59	0.66	0.70	0.70	0.51	0.57	0.76
SAR	3	2	1	1	2	2	1	0	1	1	1	
SHI	1.69	1.56	1.42	1.34	1.26	1.34	1.32	1.31	1.37	1.37	1.27	
CR/BER	1.02	1.51	1.87	1.05	1.36	1.30	2.02	2.24	1.25	1.18	1.06	
RoFTA	4.1	20.4	32.5	3.2	12.6	8.8	31.1	31.2	23.6	5.5	0.7	
Number of vessels	16	16	13	10	11	12	10	9	8	11	14	12
GT	3 439	3 431	3 033	2 523	2 660	2 981	2 768	2 343	2 172	2 992	4 410	3 947
kW	7 409	6 821	5 994	4 683	4 830	5 361	5 295	4 275	3 835	5 505	7 822	8 048

(a) Technical indicator

The indicator was calculated taking into account the sea days of 12 fishing vessels. The value of 0.76 is considerably higher than in 2019 (+0.19), confirming the slight positive trend of the previous year. The fact that large deep-sea cutters with engine power exceeding 700 kW and smaller cutters with at most 221 kW are grouped together continues to have a negative impact on this group. The larger vessels sometimes spend well above 200 days at sea, whereas some of the smaller cutters hardly manage to log 100 days, a discrepancy that again makes this group appear to be in imbalance in 2020.

Inactivity indicator:
One vessel in segment DTS VL2440 was inactive (as per its fleet status on 31 December 2020) and therefore had no landings in 2020.

(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, but below F_{MSY} for plaice. For the economically most important stock, the North Sea saithe, fishing mortality increased slightly compared to the previous year, and for cod there was no change. However, as fishing mortality decreased for hake and plaice, the SHI value fell slightly to 1.27 from 1.37 the previous year. Since 2012 the SHI has been fluctuating between 1.26 and 1.37 in this segment.

Stocks at risk (SAR)
One stock was considered by the STEFC to be at risk in this segment. This concerns the western Baltic herring, for which the spawning stock biomass is below B_{lim}. More than 10% of the total landings in this segment are of this stock.

(c) Economic indicators

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

(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. The economic indicators are positive. 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.82	0.84	0.92	0.83	0.78	0.73	0.70	0.80	0.78	0.85	0.83	0.84
SAR	2	4	5	5	1	1	2	2	3	3	4	
SHI	1.25	1.22	1.23	1.15	1.07	1.02	1.04	1.07	1.07	1.08	0.97	
CR/BER	0.47	0.81	0.68	0.75	0.62	0.86	0.98	1.50	0.44	0.91	1.10	
RoFTA	-17.6	-4.7	-9.1	-8.5	-13.5	-4.4	-0.2	11.0	-12.9	-2.2	0.5	
Number of vessels	8	8	8	8	7	6	7	7	7	7	6	5
GT	13 215	13 215	13 215	13 215	10 247	8 650	12 898	12 898	15 417	15 417	14 962	14 470
kW	18 651	18 651	18 651	18 651	14 151	11 724	15 724	15 724	16 394	16 394	15 610	14 875

(a) Technical indicator

The calculation is based on the sea days of five fishing vessels. The value of 0.84 is roughly the same as in the previous year (+0.01). 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. If the theoretical indicator value is used, calculated on the basis of no more than 220 days, the segment has a good value of 1.16, pointing to a very balanced and active group of vessels.

(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, cod off east Greenland and North sea saithe. Fishing mortality F_C was below F_{MSY} for northeast Arctic cod – the economically most important stock – and saithe, and approximately at F_{MSY} for halibut off Iceland and east Greenland, which gives an excellent SHI value of 0.97. The SHI has been fluctuating between the excellent values of 0.97 and 1.08 since 2013.

Stocks at risk (SAR)

The STECF analysis shows that, based on the relevant criteria, there were four stocks at risk in this segment in 2019. These are the roughhead grenadier *(Macrourus berglax)* across the northeast Atlantic, Norwegian coastal cod and the shallow and deep stocks of *S. mentella* redfish in the Irminger Sea. All four 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 2019. 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. As regards the roughhead grenadier, the segment caught just under 1 tonne of this stock in 2019. The ICES recommends that this stock should not be directly targeted, but as catches of 1 tonne of this stock account for less than 10% of the total landings of 259 tonnes, it should not be considered a stock at risk for this segment.

(c) Economic indicators

In this segment both the CR/BER and the RoFTA have been on a positive trend for years. The 2019 values have improved further compared to 2018, with the CR/BER above 1 and the RoFTA above zero.

(d) Overall assessment

No clear assessment can be made for this segment. The technical indicator value is good. The SHI has deteriorated slightly. Four 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator							0.88	0.89	0.85	1.00	1.00	
SAR							0	0	1	2	1	
SHI							1.16	1.52	1.40	1.36	1.23	
CR/BER												
RoFTA												
Number of vessels	0	0	0	0	0	0	2	2	3	1	1	0
GT	–	–	–	–	–	–	122	122	163	75	26	
kW	–	–	–	–	–	–	439	439	659	219	100	

(a) Technical indicator

There were no vessels in 2020.

(b) Biological indicators

Sustainable harvest indicator (SHI)

The only vessel in this segment fished practically only western Baltic herring, in addition to sprat across the Baltic Sea. For western Baltic herring fishing mortality F_C fell compared to the previous year but is still above F_{MSY}. Sprat was fished only slightly above F_{MSY} and compared to the previous year the SHI therefore fell slightly to 1.23 in 2019 (SHI_{2018} = 1.36).

Stocks at risk (SAR)

Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2019. This concerns the western Baltic herring, for which the spawning stock biomass was below B_{lim}. More than 10% of the total landings in this segment were of this stock.

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

Pelagic trawlers 18-24 m (TM VL1824)

TM1824	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	–	0.85	1.00	1.00	1.00	0.88	0.67	0.70	0.59	0.65	1.00	0.51
SAR						0	0	0	1	1	1	
SHI						1.19	0.86	1.31	1.36	1.36	1.25	
CR/BER												
RoFTA												
Number of vessels	0	2	1	1	1	2	2	4	4	3	1	2
GT	–	239	107	107	107	239	207	354	354	279	40	147
kW	–	442	221	221	221	442	441	882	882	662	220	441

(a) Technical indicator

The value of 0.51 is not pertinent as there are only two vessels in segment TM VL1824.

(b) Biological indicators

Sustainable harvest indicator (SHI)

The only vessel in this segment fished mainly western Baltic herring, in addition to sprat across the Baltic Sea. For the most important stock in terms of volume, the western herring, fishing mortality F_C 2019 fell to 0.38 from 0.47 the previous year, resulting in a slightly lower SHI of 1.25 (SHI 2018 = 1.36).

Stocks at risk (SAR)

Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2019. This concerns the western Baltic herring, for which the spawning stock biomass was below B_{lim}. More than 10% of the total landings in this segment were of this stock.

(c) Economic indicators

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

(d) Overall assessment

No clear assessment can be made for this segment. The indicators are not pertinent because they are based on just one to 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.52	0.98	0.71	0.99	1.00	1.00	0.69	0.89	0.84	0.83	1.00	
SAR						0	0	0	1	1	1	
SHI						1.31	1.05	1.24	1.35	1.32	1.25	
CR/BER												
RoFTA												
Number of vessels	2	2	4	2	1	1	3	3	3	2	1	1
GT	495	873	1 149	529	374	374	655	655	655	281	126	126
kW	884	1 435	1 840	921	700	700	1 105	1 105	1 105	405	184	184

(a) Technical indicator

No value could be established as there was only one vessel this segment in 2020.

(b) Biological indicators

Sustainable harvest indicator (SHI)

The only vessel in this segment fished mainly western Baltic herring. As fishing mortality F_C 2019 for this most important stock was slightly lower, at 0.38, than in the previous year (F_C 2018 = 0.47), the SHI fell slightly to 1.25 (compared to 1.32 in 2018).

Stocks at risk (SAR)

Our analysis shows that, based on the relevant criteria, one stock must be considered at risk in this segment for 2019. This concerns the western Baltic herring, for which the spawning stock biomass was below B_{lim}. More than 10% of the total landings in this segment were of this stock.

(c) Economic indicators

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

(d) Overall assessment

No clear assessment can be made for this segment. The indicators are not pertinent because they are based on just one to three vessels. 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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Technical indicator	0.82	0.81	0.86	0.86	0.80	0.85	0.94	0.88	0.87	0.77	0.89	0.88
SAR	0	4	1	1	1	2	2	3	1	1	2	
SHI	1.21	1.18	1.22	0.99	1.05	1.03	0.93	0.9	0.99	0.94	0.91	
CR/BER												
RoFTA												
Number of vessels	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
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

(a) Technical indicator

In this segment (pelagic trawlers with an overall length of 40 metres or more) a value of 0.88 was achieved by the German vessels, which is nearly identical to that of the previous year. A high theoretical value of 1.04 also points to a very homogeneous segment. Again, it should be noted that the calculation involves comparing sea-going cutters to large deep-sea fishing vessels.

(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 North Sea, the Baltic Sea and the rest of 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 just above F_{MSY} for blue whiting and sprat, an excellent SHI of 0.91 was achieved which is even lower than that of the previous year (0.94).

Stocks at risk (SAR)

According to the STECF analysis, two stocks at risk were fished in 2019. This concerns the western Baltic herring and the sand eel stock in the management unit of area 1 (san.sa.1r). However, classifying these as stocks at risk appears questionable for this segment. The spawning stock biomass for sand eel in area 1 was below B_{lim} in 2019, but the segment landed a total of 3 717 tonnes of the san.sa.1r stock. This is far below 10% of the total landings of 86 066 tonnes of this stock, which should therefore not be considered a stock at risk. This also applies to western Baltic herring, as only negligible quantities of this stock were caught by this segment in 2019.

(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

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 2019 and the state of stocks in early 2020, since the results of the 2020 stock assessments were not yet available when this fleet report was submitted.

The SHI and SAR indicator results for 2019 were mainly provided by the STECF but were calculated by Germany for some segments. The biological indicator results are summarised in **Annex 4**.

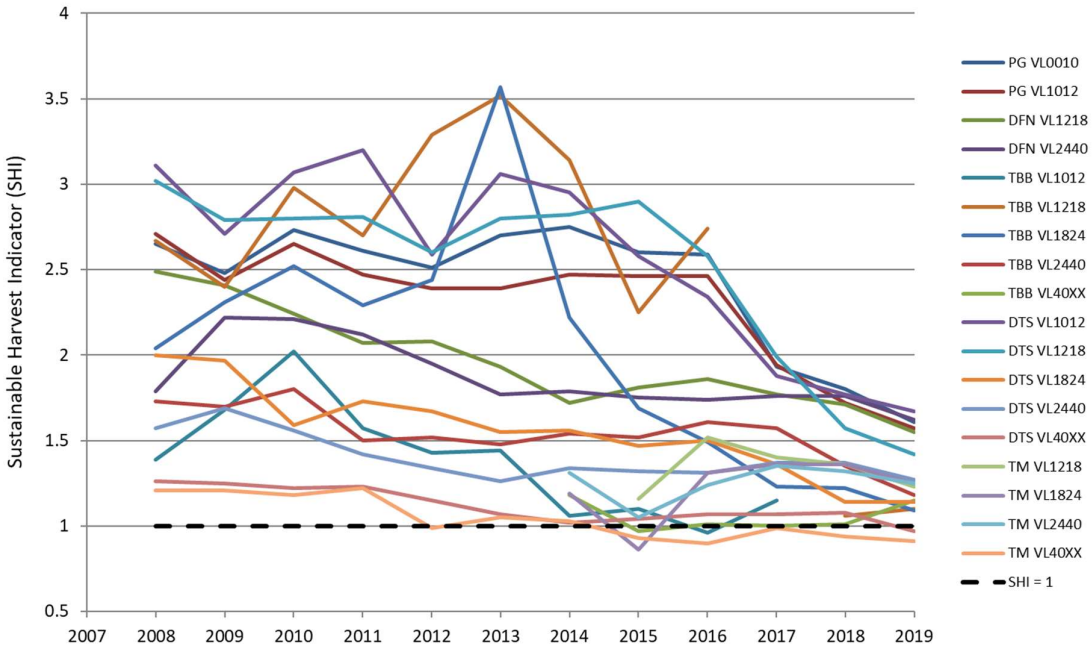
2.1 Sustainable harvest indicator (SHI)

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 1.67. 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. TBB VL1218, TBB VL40XX) 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 cod, a very important stock for several segments operating in the Baltic Sea, as well as for western Baltic herring and North Sea sole and plaice. The most important segment in terms of volume and revenue (TM VL40XX) again achieved an excellent SHI value of less than 1, with a further decrease from 0.94 in 2018 to 0.91 in 2019.

The values for smaller vessels are a reason for concern, but their landings in 2019 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 2019, 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. According to the latest data for 2019, all SHI values are below 1.7.



Graph 1: SHI trends in the various fleet segments, 2008-2019. 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 arrange for this indicator to be reviewed or adjusted as soon as possible.

2.2 Stocks-at-risk (SAR) indicator

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

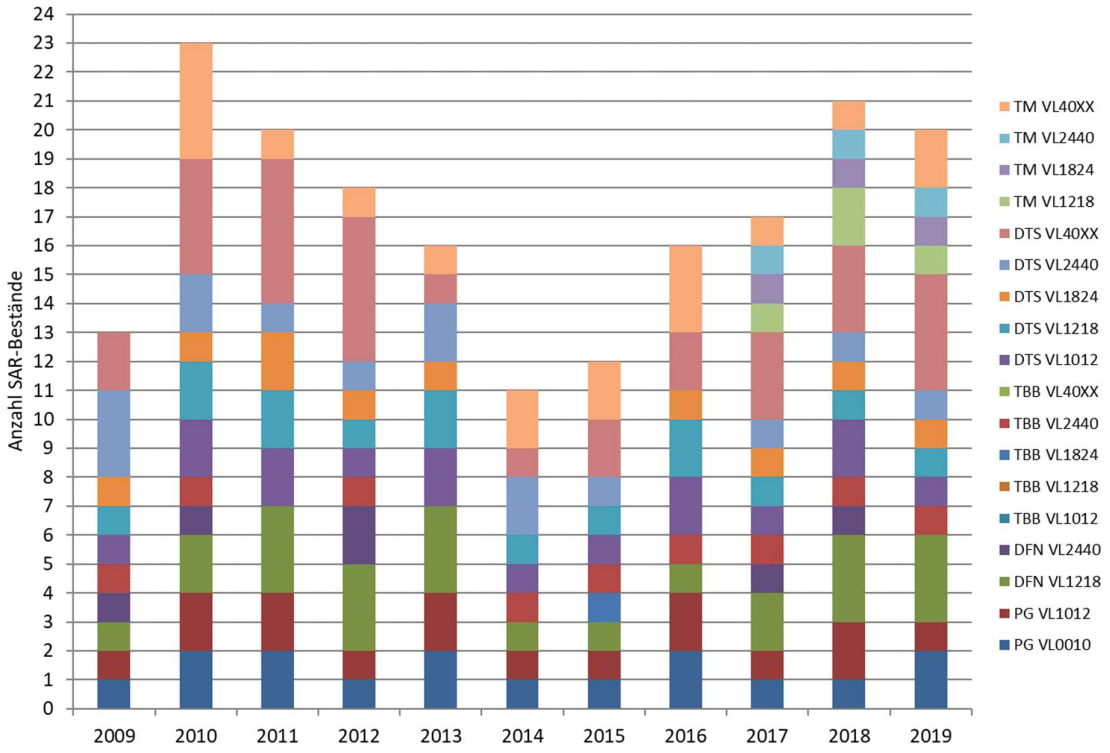
(a) Assessed as being below the B_{lim}; or
(b) subject to an advice to close the fishery, to prohibit directed fisheries, to reduce the fishery to the lowest possible level, or similar advice from an international advisory body, even where such advice is given on a data - limited basis; or
(c) subject 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 2019 (see Graph 2). The total number of stocks at risk initially fell from 23 in 2010 to 11 in 2014 and then increased again to 21 in 2018; in 2019 the number decreased by just one stock to 21 [*sic*]. 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. The western Baltic herring, which is currently in a poor condition, accounted for 10 of the 21 stocks at risk in 2019.



Graph 1: Number of stocks at risk in the various fleet segments, trend from 2009 to 2019.

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 not related to the balance between fishing opportunities and capacity are at play here. Moreover, it should be borne in mind that these vessels account for a very small share of German catches and that the quantities fished are in any case limited by technical constraints. Also, a notable portion of their catches consists of fresh-water species for which there is no quota and that are not subject to EU quota management. 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 2020. Closure periods were put in place, in two 10-day blocks for cod (between 1 and 31 January and 1 April and 31 May) and three 10-day blocks for herring (between 1 August and 31 October). 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 2020 the quotas have been set at 21.9 tonnes of western Baltic cod, 7.6 tonnes of eastern Baltic cod, 18.3 tonnes of western Baltic herring and 5.2 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.

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. If 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 2020 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 VL2440**	**DRB VL 40XX**	**TBB VL1218**	**TBB VL1824**	**TBB VL2440**	**TBB VL40XX**
Baltic Sea											
cod.27.22-24	western Baltic cod	178	100								
dab.27.22-32	Baltic dab										
fle.27.2425	flounder: west of Bornholm and southwest central Baltic	135									
fle.27.2223	Belt Sea and Øresund flounder	122									
her.27.20-24	western Baltic, Kattegat and Skagerrak herring	357	220								
her.27.25-2932	eastern Baltic herring										
ple.27.21-23	Kattegat, Belt Sea and Øresund plaice	177	124								
spr.27.22-32	Baltic sprat										
sol.27.20-24	western Baltic, Kattegat and Skagerrak sole			21							
North Sea											
anf.27.3a46	anglerfish: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat				545						
cod.27.47d20	North Sea, eastern English Channel and Skagerrak cod			39							
csh.27.4	North Sea common shrimp							4 216	4 547	134	
had.27.46a20	haddock: North Sea, west of Scotland and Skagerrak										
her.27.3a47d	herring: North Sea, Skagerrak and Kattegat, eastern English Channel										
MUS	North Sea mussels					+	+			677	550
nep.fu.33	Norway lobster: central North Sea (Functional Unit 33)										
ple.27.420	North Sea and Skagerrak plaice								100	207	156

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.1r	sand eel: central and southern North Sea, Dogger Bank										
san.sa.2r	sand eel: central and southern North Sea, Skagerrak										
san.sa.4	sand eel: northern and central North Sea										
sol.27.4	North Sea sole								182	380	217
spr.27.3a4	Skagerrak, Kattegat and North Sea sprat										
Northeast Arctic and Greenland											
cod.27.1-2	northeast Arctic 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											
ary.27	north east Atlantic *Argentina sphyraena*										
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										
mac.27.nea	northeast Atlantic mackerel										
mon.27.78abd	anglerfish: southern Celtic Sea and Bay of Biscay				309						
PIL FAO area 34	eastern central Atlantic sardine										
VMA FAO area 34	Atlantic chub mackerel: eastern central Atlantic										
whb.27.1-91214	northeast Atlantic blue whiting										
Baltic Sea											
cod.27.22-24	western Baltic cod	45	164	318	126					6	
dab.27.22-32	Baltic dab		193	158						2	
fle.27.2425	flounder: west of Bornholm and southwest central Baltic	58	133	162	341					5	
fle.27.2223	Belt Sea and Øresund flounder									1	
her.27.20-24	western Baltic, Kattegat and Skagerrak herring		305	447	323		204	195		7	
her.27.25-2932	eastern Baltic herring								829	1	
ple.27.21-23	Kattegat, Belt Sea and Øresund plaice		257	168						4	
spr.27.22-32	Baltic sprat						406	385	8 132	3	
sol.27.20-24	western Baltic, Kattegat and Skagerrak sole									1	
North Sea											
anf.27.3a46	anglerfish: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat									1	
cod.27.47d20	North Sea, eastern English Channel and Skagerrak cod				693					2	
csh.27.4	North Sea common shrimp									3	
had.27.46a20	haddock: North Sea, west of Scotland and Skagerrak				325					1	
her.27.3a47d	herring: North Sea, Skagerrak and Kattegat, eastern English Channel								29 447	1	

MUS	North Sea mussels									4
nep.fu.33	Norway lobster: central North Sea (Functional Unit 33)			112						1
ple.27.420	North Sea and Skagerrak plaice			431	488					5
pok.27.3a46	saithe: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat				6 093	757				2
pol.27.3a4	North Sea, Skagerrak and Kattegat pollack				244					1
san.sa.1r	sand eel: central and southern North Sea, Dogger Bank								2 041	1
san.sa.2r	sand eel: central and southern North Sea, Skagerrak								586	1
san.sa.4	sand eel: northern and central North Sea								1 071	1
sol.27.4	North Sea sole				116					4
spr.27.3a4	Skagerrak, Kattegat and North Sea sprat								9 859	1
Northeast Arctic and Greenland										
cod.27.1-2	northeast Arctic cod					9 725				1
ghl.27.561214	Greenland halibut: Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland					4 478				1
ghl NAFO Div. 1A-1F	Greenland halibut: west Greenland					1 884				1
had.27.1-2	northeast Arctic haddock					282				1
pok.27.1-2	northeast Arctic saithe					1 548				1
reb.27.14b dem	redfish (*S. mentella*): east Greenland shelf					1 803				1
reb.27.1-2	redfish (*S. mentella*): northeast Arctic					481			1 326	2
reg.27.561214	redfish (*S. norvegicus*): Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland					582				1

Widely distributed stocks and other areas										
ary.27.xx	argentine (*Argentina sphyraena*)								1 348	1
her.27.1-24a514a	Atlanto-Scandian herring (Norwegian spring spawner)								2 801	1
hke.27.3a46-8abd	hake (northern stock)				362					1
hom.27.2a4a5b6a7a-ce-k8	northeast Atlantic horse mackerel								945	1
mac.27.nea	northeast Atlantic mackerel								24 519	1
mon.27.78abd	anglerfish: southern Celtic Sea and Bay of Biscay									1
PIL FAO area 34	eastern central Atlantic sardine								11 466	1
VMA FAO area 34	Atlantic chub mackerel: eastern central Atlantic								6 048	1
whb.27.1-91214	northeast Atlantic blue whiting								41 467	1

Annex 2: Development of stocks fished by the various fleet segments in 2020. In general stocks are listed if catches were ≥ 100 tonnes (≥ 500 tonnes in the case of TM VL40XX).

Segment	Stock fished	Stock status early 2020
PG VL0010	western Baltic cod	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
	flounder: west of Bornholm and southwest central Baltic	no classification of stock status
	Belt Sea and Øresund flounder	no classification of stock status
	western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, Fcurr > F_{MSY}
	Kattegat, Belt Sea and Øresund plaice	full reproductive capacity, $F_{curr} > F_{MSY}$
PG VL1012	western Baltic cod	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
	western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, Fcurr > F_{MSY}
	Kattegat, Belt Sea and Øresund plaice	full reproductive capacity, $F_{curr} > F_{MSY}$
DFN VL1218	North Sea, eastern English Channel and Skagerrak cod	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
	western Baltic, Kattegat and Skagerrak sole	full reproductive capacity, $F_{curr} < F_{MSY}$
DFN VL2440	anglerfish: North Sea, Celtic Sea and western Scotland	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 VL2440	North Sea mussels	no ICES stock assessment
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	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
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	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
TBB VL40XX	North Sea and Skagerrak plaice	full reproductive capacity, $F_{curr} < F_{MSY}$
	North Sea sole	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
	North Sea mussels	no ICES stock assessment
DTS VL1012	flounder: west of Bornholm and southwest central Baltic	no classification of stock status
	western Baltic cod	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
DTS VL1218	Baltic dab	no classification possible; management status unclear
	flounder: west of Bornholm and southwest central Baltic	no classification of stock status
	western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
	western Baltic cod	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
	Kattegat, Belt Sea and Øresund plaice	full reproductive capacity, $F_{curr} > F_{MSY}$

DTS VL1824	Baltic dab	no classification possible, $F_{curr} < F_{MSY\ proxy}$
	Norway lobster: North Sea (functional unit 33)	no classification possible
	flounder: west of Bornholm and southwest central Baltic	no classification of stock status
	western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, $F_{curr} > F_{MSY}$
	western Baltic cod	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
	North Sea and Skagerrak plaice	full reproductive capacity, $F_{curr} < F_{MSY}$
	Kattegat, Belt Sea and Øresund plaice	full reproductive capacity, $F_{curr} > F_{MSY}$
DTS VL2440	western Baltic cod	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
	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
	North Sea, eastern English Channel and Skagerrak cod	$SSB < B_{lim}$, Fcurr > F_{MSY}
	haddock: North Sea, west of Scotland and Skagerrak	full reproductive capacity, $F_{curr} < F_{MSY}$
	saithe: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat	full reproductive capacity, $F_{curr} > F_{MSY}$
	North Sea and Skagerrak plaice	full reproductive capacity, $F_{curr} < F_{MSY}$
	North Sea, Skagerrak and Kattegat pollack	no classification possible; management status unclear
	hake (northern stock)	full reproductive capacity, $F_{curr} < F_{MSY}$
	North Sea sole	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
DTS VL40XX	northeast Arctic cod	full reproductive capacity, $F_{curr} < F_{MSY}$
	saithe: North Sea, Rockall and west of Scotland, Skagerrak and Kattegat	full reproductive capacity, $F_{curr} > F_{MSY}$
	northeast Arctic saithe	full reproductive capacity, F_{MSY} not defined but $F_{curr} < F_{MGT}$
	northeast Arctic haddock	full reproductive capacity, $F_{curr} > F_{MSY}$
	Greenland halibut: Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland	full reproductive capacity, $F_{curr} > F_{MSY}$
	west Greenland halibut (NAFO)	no classification possible
	redfish (*S. mentella)*: southeast Greenland (demersal)	no classification possible
	redfish (*S. mentella*): northeast Arctic	full reproductive capacity, F_{MSY} not defined
	redfish (*S. norvegicus*): Iceland and Faroe Islands, west of Scotland, north of the Azores, east Greenland	full reproductive capacity, $F_{curr} > F_{MSY}$
TM VL1824	western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, Fcurr > F_{MSY}
	Baltic sprat	full reproductive capacity, $F_{curr} > F_{MSY}$
TM VL2440	western Baltic, Kattegat and Skagerrak herring	$SSB < B_{lim}$, Fcurr > F_{MSY}
	Baltic sprat	full reproductive capacity, $F_{curr} > F_{MSY}$

TM VL40XX	Atlanto-Scandian herring (Norwegian spring spawner)	full reproductive capacity, $F_{curr} > F_{MSY}$
	herring: North Sea, Skagerrak and Kattegat, eastern English Channel	$SSB < MSY_{Btrigger}$, $F_{curr} < F_{MSY}$
	eastern Baltic herring	$SSB < MSY_{Btrigger}$, $F_{curr} < F_{MSY}$
	Baltic sprat	full reproductive capacity, $F_{curr} > F_{MSY}$
	Skagerrak, Kattegat and North Sea sprat	full reproductive capacity, F_{MSY} not defined
	northeast Atlantic mackerel	full reproductive capacity, $F_{curr} < F_{MSY}$
	northeast Atlantic blue whiting	full reproductive capacity, $F_{curr} > F_{MSY}$
	argentine (*Argentina sphyraena*)	no classification possible
	northeast Atlantic horse mackerel	$SSB < MSY_{Btrigger}$, $F_{curr} > F_{MSY}$
	redfish (*S. mentella*): northeast Arctic	full reproductive capacity, F_{MSY} not defined
	North Sea sand eel 1r	$SSB < B_{lim}$, F_{MSY} not defined
	North Sea sand eel 2r	$SSB < B_{lim}$, F_{MSY} not defined
	North Sea sand eel 4	$SSB < MSY_{Besc}$, F_{MSY} not defined
	eastern central Atlantic sardine	no classification possible
	Atlantic chub mackerel: eastern central Atlantic	no classification possible

Annex 3: Overview of capacity changes in 2020

Status of the German fishing fleet as at 31.12.2019

Description	Number	GT	kW
Small-scale coastal fishing vessels < 12 m	**1 013**	**2 566**	**26 240**
VL0010 PG	946	1 813	20 285
VL1012 PG	67	753	5 955
Passive > 12 m	**15**	**1 384**	**3 779**
VL1218 FPO	2	73	441
VL1824 FPO	0	0	0
VL2440 FPO	1	199	441
VL1218 DFN	6	167	868
VL1824 DFN	1	68	132
VL2440 DFN	5	877	1 897
Trawlers up to 40 m	**53**	**6 578**	**14 716**
VL0010 DTS	0	0	0
VL1012 DTS	4	52	358
VL1218 DTS	18	623	3 328
VL1824 DTS	14	1 621	3 192
VL2440 DTS	13	4 072	7 234
VL1012 TM	1	18	100
VL1218 TM	1	26	100
VL1824 TM	1	40	220
VL2440 TM	1	126	184
Beam trawlers	**209**	**10 581**	**45 063**
VL0010 TBB	14	46	637
VL1012 TBB	5	63	515
VL1218 TBB	108	3 405	21 214
VL1824 TBB	71	4 400	15 639
VL2440 TBB	8	1 448	3 765
VL40XX TBB	3	1 219	3 293
Deep-sea pelagic trawlers > 40 m	**4**	**19 541**	**18 832**
VL40XX TM	4	19 541	18 832
Deep-sea demersal trawlers > 40 m	**5**	**14 470**	**14 875**
VL40XX DTS	5	14 470	14 875
Mussel dredgers	**9**	**2 458**	**5 138**
VL1218 DRB	1	53	252
VL2440 DRB	3	581	1 381
VL40XX DRB	5	1 824	3 505
Grand total	**1 308**	**57 578**	**128 643**

Status of the German fishing fleet as at 31.12.2020

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	1219	3293
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**

Absolute changes in 2020 on previous year

Description	Number	GT	kW
Small-scale coastal fishing vessels < 12 m	**-15**	**-68**	**-508**
VL0010 PG	-12	-40	-88
VL1012 PG	-3	-28	-420
Passive > 12 m	**0**	**7**	**9**
VL1218 FPO	-1	-49	-221
VL1824 FPO	1	56	221
VL2440 FPO	0	0	0
VL1218 DFN	0	0	9
VL1824 DFN	0	0	0
VL2440 DFN	0	0	0
Trawlers up to 40 m	**1**	**-208**	**997**
VL0010 DTS	1	4	57
VL1012 DTS	3	44	328
VL1218 DTS	1	26	100
VL1824 DTS	-3	-345	-663
VL2440 DTS	0	0	1 154
VL1218 TM	-1	-26	-100
VL1824 TM	1	107	221
VL2440 TM	0	0	0
Beam trawlers	**-3**	**147**	**-151**
VL0010 TBB	-1	-2	-15
VL1012 TBB	0	0	0
VL1218 TBB	-3	-31	-356
VL1824 TBB	1	180	220
VL2440 TBB	0	0	0
VL40XX TBB	0	0	0
Deep-sea pelagic trawlers > 40 m	**1**	**973**	**2 309**
VL40XX TM	1	973	2 309
Deep-sea demersal trawlers > 40 m	**0**	**0**	**0**
VL40XX DTS	0	0	0
Mussel dredgers	**-1**	**-53**	**-252**
VL1218 DRB	-1	-53	-252
VL2440 DRB	0	0	0
VL40XX DRB	0	0	0
Grand total	**-17**	**798**	**2 404**

Annex 4: 2019 sustainable harvest indicator (SHI). The rows highlighted in grey were not taken into account for the SHI 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	187 751	*cod.27.22-24, *her.27.20-24, sol.27.20-24, *ple.27.21-23	5	4	1.67	62	303 782
PG VL1012	1 179 165	sol.27.20-24, *ple.27.21-23, *cod.27.22-24, *her.27.20-24, *mac.27.nea, nep.fu.3-4	6	4	1.57	83	1 418 183
DFN VL1218	455 488	*cod.27.22-24, *cod.27.47d20, *had.27.46a20, ple.27.420, *pok.27.3a46, *sol.27.4, *wit.27.3a47d, *her.27.20-24, *tur.27.4, hke.27.3a46-8abd, bss.27.4bc7ad-h	11	8	1.55	66	692 306
DTS VL1218	2 068 449	hke.27.3a46-8abd, *mac.27.nea, *wit.27.3a47d, *whg.27.47d, *cod.27.47d20, *cod.27.22-24, nep.fu.3-4, *ple.27.21-23, ple.27.420, *pok.27.3a46, sol.27.20-24, *spr.27.22-32, *sol.27.4, *tur.27.4, *had.27.46a20, *her.27.20-24	16	12	1.42	75	2 775 043

DTS VL2440	17 630 788	*ple.27.21-23, nep.fu.8, *nep.fu.6, *mac.27.nea, *pok.27.3a46, sol.27.20-24, lez.27.4a6a, *hom.27.2a4a5b6a7a-ce-k8, hke.27.3a46-8abd, her.27.3a47d, *her.27.20-24, *sol.27.4, her.27.1-24a514a, *spr.27.22-32, *tur.27.4, *whg.27.47d, *wit.27.3a47d, *cod.27.22-24, *cod.27.47d20, *had.27.46a20, ple.27.420	21	14	1.27	88	20 118 995
TM VL1824	410 370	*her.27.20-24, *spr.27.22-32, *cod.27.22-24	3	3	1.25	99	416 101
TM VL2440	577 655	*her.27.20-24, *spr.27.22-32, *cod.27.22-24	3	3	1.25	92	626 216
TM VL1218	347 908	*her.27.20-24, *spr.27.22-32, *cod.27.22-24	3	3	1.23	99.5	349 549
TBB VL2440	7 294 071	*wit.27.3a47d, *cod.27.47d20, hke.27.3a46-8abd, *mac.27.nea, *nep.fu.6, nep.fu.8, ple.27.420, *sol.27.4, *tur.27.4, *whg.27.47d	10	7	1.18	87	8 366 373
TBB VL40XX	2 383 045	ple.27.420, *sol.27.4, *tur.27.4	3	2	1.15	60	3 976 526
DTS VL1824	5 970 575	hke.27.3a46-8abd, *her.27.20-24, *whg.27.47d, *wit.27.3a47d, ple.27.420, *pok.27.3a46, sol.27.20-24, *sol.27.4, *spr.27.22-32, *tur.27.4, *had.27.46a20, *mac.27.nea, nep.fu.3-4, *nep.fu.6, nep.fu.8, *ple.27.21-23, *cod.27.22-24, *cod.27.47d20	18	13	1.14	70	859 0420

DTS VL40XX	44 412 050	lez.27.4a6a, *wit.27.3a47d, *whg.27.47d, *reg.27.1-2, *pok.27.3a46, pok.27.1-2, ple.27.420, *mac.27.nea, hke.27.3a46-8abd, *had.27.46a20, *had.27.1-2, *ghl.27.561214, *cod.27.47d20, cod.27.1-2, *cod.2127.1f14	15	10	0.97	82.0	54 181 270
TM VL40XX	56 971 081	*whg.27.7b-ce-k, *whg.27.47d, *whb.27.1-91214, *vma-34, *spr.27.22-32, *pok.27.3a46, pil_34.1.3_34.3.1, *mac.27.nea, *her.27.25-2932, her.27.3a47d, her.27.6a7bc, *had.27.46a20, *cod.27.22-24, boc.27.6-8, *had.27.7b-k, her.27.1-24a514a, *her.27.20-24, hke.27.3a46-8abd, *hom.27.2a4a5b6a7a-ce-k8, *hom_34	20	14	0.91	86	66 586 693
DFN VL2440	512 789	*pok.27.3a46, bss.27.4bc7ad-h, *cod.27.47d20, *had.27.46a20, *her.27.20-24, hke.27.3a46-8abd, ple.27.420, *sol.27.4, *tur.27.4	9	6	1.62	13	3 908 524
PG VL0010	1 794 149	*cod.27.22-24, *her.27.20-24, *mac.27.nea, *ple.27.21-23, sol.27.20-24	5	4	1.61	36	4 931 796
TBB VL1218	14 779	*sol.27.4, *tur.27.4, ple.27.420	3	2	1.10	0.14	10 905 182
TBB VL1824	1 244 572	*whg.27.47d, *tur.27.4, *sol.27.4, *pok.27.3a46, *had.27.46a20, ple.27.420, nep.fu.8, *nep.fu.6, *mac.27.nea, hke.27.3a46-8abd, *cod.27.47d20, *wit.27.3a47d	12	9	1.09	10	11 908 929