



Annual Report on fishing fleet capacity 2018 - Denmark

The format of the Danish capacity report concerning 2018 follows the headlines mentioned in article 14 of Commission Regulation (EEC) No. 1013/2010 (no longer in force).

Fleet data used in the report are from 2018, whereas data on economic performance and technical indicators is from 2017.

Biological indicators provided by the Commission in 2018 include the time series of Danish catches from 2009-2016.

The report has been prepared by the national authority the Danish Fisheries Agency with inputs from the Department of Food and Resource Economics, University of Copenhagen and National Institute of Aquatic Resources, Technical University of Denmark.

Section A

Description of fleets

The statistics of Table A.1 include all Danish vessels during the year and not only by the 31st of December as fleet statistics usually do. There was 2,245 vessels registered in the Danish vessel register during 2018, cf. Table A.1.

Out of these 2,245 vessels, 109 of these were not registered at the end of 2018, but had been that during the year. In total, 2,136 vessels were registered the 31st December 2018. Of these, 770 vessels were not active during the year, i.e. did not have any registered landings value. There were 512 commercial vessels, each having a total landings value above the threshold level of € 36,000 in 2018. The remaining 854 vessels were non-commercial vessels with landing values below € 36,000.

Table A.1. Number of registered Danish fishing vessels in 2018

Length	Gear	Commercial ¹⁾	Non-commercial ²⁾	Inactive ³⁾	Not registered 31 st December ⁴⁾	Total
VL0010m	DTS	3	3	3	1	10
	PGP	88	727	681	73	1,569
	PMP	25	90	60	11	186
	Total	116	820	744	85	1,765
VL1012m	DRB	4	1	2	1	8
	DTS	12	3			15
	PGP	36	12	2		50
	PMP	22	7	1	2	32
	Total	74	23	5	3	105
VL1218m	DRB	31	3	2	1	37
	DTS	100	5	6	6	117
	PGP	22	1	4	1	28
	PMP	26	2	6	2	36
	TBB	9			1	10

	TM	6				6
	Total	194	11	18	11	234
VL1824m	DTS	35		1	4	40
	PMP	11				11
	TBB	15			1	16
	Total	61		1	5	67
VL2440m	DTS ⁵⁾	36		1	3	40
	PMP	3				3
	Total	39		1	3	43
VL40XXm	DTS	16		1	1	18
	TM ⁶⁾	12			1	13
	Total	28		1	2	31
Total		512	854	770	109	2,245

See Annex 1 for explanation of Gear Codes

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019.

Notes: ¹⁾ Includes vessels with a yearly catch value above € 36,000.

²⁾ Includes vessels with a yearly catch value below € 36,000 but above € 0.

³⁾ Includes vessels not having any catch value within the year.

⁴⁾ Includes vessels not being active by the end of the year.

⁵⁾ For discretionary purposes, VL24XXm TBB has been included in VL2440m DTS.

⁶⁾ For discretionary purposes, VL40XXm PS has been included in VL40XXm TM.

The distribution of tonnage and engine power is shown in Annex 2. For both capacity measures, the commercial vessels make up the majority of these with 87% of total GT and 71% of total kW. These shares have been increasing over the years.

Section A

Link with fisheries

The linkages between the different fleet segments and the kind of fisheries they conduct are shown in Table A.2 based on landing value and Table A.3 based on landing whole weight. A detailed overview for the commercial and non-commercial vessels can be found in Annex 3.

The fleet segments below 40 metres are primarily dependent on demersal species, with the exception of VL1218m TM that is mostly dependent on reduction species and pelagic consumption species (mackerel and herring). The fleet segments above 40 metres are solely dependent on mackerel, herring and reduction species. The VL40XXm is also dependent on an entry-restricted fishery, but this is attributable to one vessel catching shrimps in the waters around Greenland. The DRBs and TBBs are in entry-restricted fisheries for mussels and shrimps.

Table A.2. Distribution of landing value in 2018 on overall fisheries (%)

Length	Gear	Round fish	Flatfish	Lobster and shrimp	Mackerel and herring	Other species	Reduction species ¹⁾	Entry-restricted ²⁾	Total landings value ⁵⁾	
									€ 1,000	%
VL0010m	DTS	47	35	17	0	1	0	0	666	0.1
	PGP	20	34	10	3	32	0	2	12,384	2.6
	PMP	27	49	12	1	9	0	3	3,064	0.6
VL1012m	DRB	4	13	0	9	0	1	72	894	0.2
	DTS	36	30	24	0	1	9	0	2,045	0.4

	PGP	33	51	0	1	13	0	2	5,433	1.1
	PMP	28	55	11	0	2	4	0	3,024	0.6
VL1218m	DRB	0	0	0	0	1	0	99	9,721	2.1
	DTS	17	25	48	0	1	8	0	38,030	8.0
	PGP	28	67	1	0	4	0	0	10,025	2.1
	PMP	24	28	42	0	3	3	0	6,816	1.4
	TBB	0	0	0	0	0	0	100	5,561	1.2
	TM ³⁾	2	1	14	24	0	59	0	6,348	1.3
VL1824m	DTS	26	34	23	2	1	15	0	38,047	8.0
	PMP	19	46	16	0	3	15	0	13,547	2.9
	TBB	0	6	0	0	0	0	94	10,868	2.3
VL2440m	DTS ⁴⁾	52	26	16	0	0	5	0	78,860	16.7
	PMP	76	22	2	0	1	0	0	9,203	1.9
VL40XXm	DTS	0	0	0	21	0	59	20	81,536	17.2
	TM	0	0	0	65	0	35	0	137,390	29.0

See Annex 1 for explanation of Gear Codes

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019.

Notes: ¹⁾ Species such as sand eel, blue whiting, sprat, horse mackerel and Norway pout.

²⁾ Species that can only be caught with an authorization, i.e. mussels, oysters, brown shrimps and shrimps in the waters around Greenland.

³⁾ For discretionary purposes, VL1824m TM has been included in VL1218m TM.

⁴⁾ For discretionary purposes, VL24XXm TBB has been included in VL2440m DTS.

⁵⁾ For discretionary purposes, VL40XXm PS has been included in VL40XXm TM.

⁶⁾ Based on the average Euro exchange rate for 2018 being 7.4532DKK / €.

Table A.3. Distribution of landing live weight in 2018 on overall fisheries (%)

Length	Gear	Round-fish	Flatfish	Lobster and shrimp	Mackerel and herring	Other species	Reduction species ¹⁾	Entry-restricted ²⁾	Total landings live weight	
									Tonnes	%
VL0010m	DTS	53	38	8	0	1	0	0	221	0.0
	PGP	27	35	2	11	24	0	1	3,595	0.5
	PMP	31	59	4	1	4	0	1	1,036	0.1
VL1012m	DRB	1	6	0	15	0	5	73	1,416	0.2
	DTS	24	17	4	0	0	55	0	1,543	0.2
	PGP	39	49	0	4	8	0	1	1,869	0.2
	PMP	29	39	2	0	1	29	0	1,991	0.3
VL1218m	DRB	0	0	0	0	2	0	98	43,024	5.4
	DTS	15	16	11	1	1	57	0	24,314	3.1
	PGP	31	66	0	0	3	0	0	2,804	0.4
	PMP	32	23	12	0	3	30	0	3,309	0.4
	TBB	0	0	0	0	0	0	100	1,052	0.1
	TM ³⁾	0	0	1	18	0	81	0	21,395	2.7
VL1824m	DTS	11	11	4	4	0	70	0	35,623	4.5
	PMP	6	14	3	0	2	75	0	12,303	1.6
	TBB	0	9	0	0	0	0	90	2,162	0.3

VL2440m	DTS ⁴⁾	39	16	5	1	0	39	0	43,692	5.5
	PMP	80	18	1	0	1	0	0	3,334	0.4
VL40XXm	DTS	0	0	0	13	0	85	2	240,249	30.3
	TM	0	0	0	43	0	57	0	347,007	43.8

See Annex 1 for explanation of Gear Codes

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019.

Notes: ¹⁾ Species such as sand eel, blue whiting, sprat, horse mackerel and Norway pout.

²⁾ Species that can only be caught with an authorization, i.e. mussels, oysters, brown shrimps and shrimps in the waters around Greenland.

³⁾ For discretionary purposes, VL1824m TM has been included in VL1218m TM.

⁴⁾ For discretionary purposes, VL24XXm TBB has been included in VL2440m DTS.

⁵⁾ For discretionary purposes, VL40XXm PS has been included in VL40XXm TM.

Section A

Developments in fleets

The structure of the Danish fishing fleet has changed considerably since 2003, where the first ITQ regulation was implemented in the herring fishery. Since then, ITQs has gradually been introduced in other pelagic fisheries, and from 2007 demersal fisheries were also managed with vessel quota shares (VQS). These management changes are the major reason for the following reductions in the fishing capacity of the Danish fishing fleet, as displayed in Table A.4.

The number of registered vessels has been reduced with 27% from 2008 to 2018. The capacity of the Danish fishing fleet decreased 6% in GT and 23% in kW in the same period.

Table A.4. Development in the capacity of registered Danish fishing vessels^{1) 2)}

Length	Gear	2008			2011			2014			2018		
		No.	GT	kW	No.	No.	No.	No.	GT	kW	No.	GT	kW
VL0010m	DTS	17	95	1,185	16	91	1,091	20	125	1,667	10	75	1,011
	PGP	2,108	4,512	50,124	2,018	4,259	49,744	1,874	3,939	47,272	1,569	4,038	45,020
	PMP	143	646	7,144	198	831	9,219	199	796	9,301	186	733	8,884
	Total	2,268	5,253	58,453	2,232	5,181	60,054	2,093	4,860	58,240	1,765	4,846	54,915
VL1012m	DRB	31	422	3,337	31	433	3,375	22	339	2,325	8	99	701
	DTS	14	173	1,747	10	143	1,231	12	175	1,572	15	215	2,128
	PGP	78	827	6,872	66	716	6,167	63	706	6,152	50	567	4,868
	PMP	31	361	3,126	33	395	3,346	41	499	4,471	32	393	3,360
	Total	154	1,783	15,082	140	1,686	14,119	138	1,718	14,520	105	1,274	11,057
VL1218m	DRB	35	1,095	5,228	34	1,257	5,326	29	981	4,226	37	1,538	5,305
	DTS	209	6,756	37,407	166	5,702	30,228	135	4,615	24,444	117	4,397	21,604
	PGP	80	2,378	11,778	57	1,762	8,579	41	1,375	6,426	28	902	4,268
	PMP	58	1,332	8,801	57	1,382	8,923	46	1,360	7,688	36	1,116	6,098
	TBB	18	752	3,231	11	548	2,126	11	548	2,126	10	489	1,998
	TM ³⁾							15	764	3,023	6	506	1,371
Total	400	12,313	66,445	325	10,650	55,182	277	9,643	47,933	234	8,949	40,644	
VL1824m	DTS	90	7,634	27,585	68	6,721	21,110	60	6,100	17,940	40	4,488	11,967
	PMP	15	1,395	3,895	15	1,517	4,336	11	1,276	3,693	11	1,420	3,964
	TBB	13	827	2,393	17	1,137	3,087	16	1,094	2,877	16	1,114	2,858

	Total	118	9,856	33,873	100	9,374	28,533	87	8,470	24,510	67	7,022	18,789
VL2440m	DTS ⁴⁾	74	18,578	48,035	46	12,760	28,547	36	10,398	22,984	40	12,596	27,078
	PMP	8	1,992	4,124	5	1,140	2,143	6	1,532	3,028	3	1,135	1,791
	Total	82	20,569	52,159	51	13,900	30,690	42	11,929	26,012	43	13,731	28,869
VL40XXm	DTS	32	22,615	45,932	25	21,189	41,564	15	11,140	20,945	18	16,777	32,424
	PS	7	9,911	22,625	4	6,526	16,738	4	5,697	12,343			
	TM ⁵⁾							14	21,368	39,032	13	24,874	39,792
	Total	39	32,526	68,557	29	27,715	58,302	33	38,205	72,320	31	41,651	72,216
Total		3,061	82,299	294,569	2,877	68,506	246,880	2,670	74,825	243,535	2,245	77,474	226,490

See Annex 1 for explanation of Gear Codes

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019.

Notes: ¹⁾ Covers vessels in the register within a year, but does not include virtual capacity.

²⁾ From 2008-2011, gear type TM was included in gear type DTS.

³⁾ For discretionary purposes, VL1824m TM has been included in VL1218m TM.

⁴⁾ For discretionary purposes, VL24XXm TBB has been included in VL2440m DTS.

⁵⁾ For discretionary purposes, VL40XXm PS has been included in VL2440m TM in 2018.

Section B

Statement of effort reduction schemes - impact of the cod recovery plans for the North Sea and the Baltic in 2018

An overview of the data with respect to this section is presented in Annex 5. Data includes figures for activity according to the effort regimes in the North Sea and in the Baltic Sea in accordance with previous years of annual reports. There is no longer a days at sea effort regime in The Baltic Sea, however figures are presented in line with previous years reports, but it will be the last year it will be reported.

When describing the effects on the Danish fishing fleet for vessels involved in fishing with gear covered by the effort regime, it must be borne in mind that there were great variations in effort within each segment which to a large extent is caused by a clash between quota and effort management. The reason for the significant variation was that the Danish regulation with VQS (Vessel Quota Shares) from 2007 allowed vessels to pool their quotas on fewer vessels.

The description is based on the effort register kept by the Danish Fisheries Agency. While reading this presentation, it must be borne in mind that the Danish fleet in general conduct mixed fishery, both with regard to species and geography.

Fleet in the kilowatt days regime for the North Sea, Skagerrak, Kattegat, Irish Sea and West of Scotland

This will be the last year information on this matter is provided in the report, since the effort regulation has been removed as of August 2018.

In 2018, 303 vessels took part in fisheries using gears covered by the regulation, as opposed to 780 vessels in 2003. That corresponds to a reduction of 61%. In 2018, 38,594 days at sea were used as opposed to 86,962 days at sea in 2003, which corresponds to a reduction of 56%. The reduction, in terms of total kilowatt days used was 49%.

In the fishery with **trawl \geq 100 mm. (TR1)**, 7,121,732 kilowatt days were used in 2003 compared to 5,928,203 kilowatt days in 2018 – a 17% reduction. The number of vessels fishing

in this category fell by 63% to 131 vessels. There was an increase in kilowatt days per vessel by 127% compared to 2003.

In the **trawl** fishery between **70 mm and 99 mm (TR2)**, 4,241,202 kilowatt days were used in 2018 as opposed to 10,808,334 kilowatt days in 2003 – a 61% reduction. The number of vessels were reduced by 63% to 160 vessels. The kilowatt days per vessel were 5% up compared with 2003.

In the **trawl** fishery between **16 mm and 31 mm (TR3)**, 1,490,934 kilowatt days were used in 2018 compared to 3,867,765 kilowatt days in 2003 – a reduction of 61%. The number of vessels in this fishery fell by 86% to 24 vessels. The kilowatt days per vessel were increased by 179%.

In the fishery with **beam trawl** **>=120 mm (BT1)**, 379,115 kilowatt days were used in 2018 as opposed to 1,342,965 kilowatt days in 2003 – a 72% reduction. The number of vessels fishing in this segment fell 83% to 2 vessels. The increase in kilowatt days per vessel was 69%.

In the fishery with **beam trawl** between **80 mm and 119 mm (BT2)**, there were no activity in 2018.

In the fishery with **nets (GN1)**, 734,237 kilowatt days were used in 2018 as opposed to 2,456,364 kilowatt days in 2003, which was a 70% reduction. The number of vessels fell by 72 % to 66 vessels. There was an increase in kilowatt days per vessel by 6%.

In the fishery with **trammel nets (GT1)**, 550,400 kilowatt days were used in 2018 as opposed to 170,865 kilowatt days in 2003, which was a 222% increase. The number of vessels was reduced by 16%. There was an increase in kilowatt days per vessel by 284%.

In the segment **liners (LL1)**, 1,971 kilowatt days were used in 2018 as opposed to 82,134 kilowatt days in 2003, which was a 98 % reduction. The number of vessels was reduced by 94 % and there was a reduction in kilowatt days per vessel by 62%.

In summary, a substantial decrease of effort overall and for all types of gear, except trammel nets, has taken place since the effort regime was adopted. The situation has "stabilized" in recent years with a tendency of fewer vessels conducting a more efficient fishery.

Fleet in the effort regime for the Baltic Sea

In 2018, 179 vessels took part in fisheries using gears that may target cod, as opposed to 479 vessels in 2003. That corresponds to a reduction of 63%. In 2018, 13,038 days at sea were used as opposed to 35,571 days at sea in 2003, which corresponds to a reduction of 63%. The reduction in terms of total kilowatt days used was 72%.

From 2003 to 2018, the number of kilowatt days per vessel fell by 25%.

In the **Western Baltic Sea**, 1,184,793 kilowatt days were used in 2018 compared to 4,364,018 kilowatt days in 2003 – a reduction of 73%. The number of vessels in this fishery fell by 63% to 173 vessels. The kilowatt days per vessel fell by 27%.

In the **Eastern Baltic Sea**, 432,101 kilowatt days were used in 2018 compared to 1,438,598 kilowatt days in 2003 – a reduction of 70%. The number of vessels in this fishery fell by 84% to 30 vessels. Kilowatt days per vessel increased by 88%.

In summary, a substantial decrease of effort over all in the period. The situation for the recent years indicates a tendency of further reduction in the fishing effort for the Eastern Baltic Sea and for the Western Baltic the situation is more "stabilized".

Section B

Impact on fishing capacity of effort reduction schemes

An overview of the data with respect to this section is presented in Annex 6. Data includes figures for activity concerning the effort regimes for the North Sea and the Baltic Sea.

Fleet in cod recovery plan for the North Sea, Skagerrak, Kattegat, Irish Sea and West of Scotland

Vessels that took part in fisheries using gears covered by the regulation represented 39,362 GT and 99,043 kW in 2018 as opposed to 63,225 GT and 204,356 kW in 2003. That corresponds to a reduction of 38% in GT and a reduction of 52% in kW. There was a reduction in all gear segments although for GT1 the reduction in GT was only 2% and for kW 12%.

The situation has "stabilized" in recent years, but the fleet capacity has been reduced substantially since 2003.

Fleet in the effort regime for the Baltic Sea

Vessels that took part in fisheries using gears that may target cod represented 3,991 GT and 22,680 kW in 2018 as opposed to 18,165 GT and 83,675 kW in 2003. That corresponds to a reduction of 78% in GT and 73% kW respectively.

As such there was a substantial capacity reduction in both the Western and Eastern Baltic Sea. The situation for the recent years indicates a tendency of further reductions. The fleet capacity for the vessels has been reduced with more than 70 % in terms of both GT and kW.

Section C

Statement of compliance with entry / exit scheme

The present fleet capacity is below the entry-exit ceiling as laid down in annex II of regulation 1380/2013. The margin in terms of tonnage is 16,033 GT and 100,311 kW. In percentage the capacity is almost 20% in GT below ceiling and in kW more than 30% below ceiling.

Denmark is in compliance with the entry-exit levels for tonnage as well as engine power.

Table C1. Management of capacity according to Regulation 1380/2013

		National register	
		GT	kW
1	Fleet ceiling according to annex II	88,762	313,333
2	Capacity of the fleet on 31 December 2018	72,729	213,022
3	Capacity ceiling minus actual capacity	16,033	100,311

Source: The Danish Fishery Agency Vessel Register per 30th April 2019.

Note 1: For National Register: Virtual capacity is not included in 2 and 3. Virtual capacity per 30th April 2019 is 14,595 GT and 80,419 kW.

Note 2: No exits financed with public aid in 2018.

Section D

Summary of weaknesses and strengths of the management system

a. Fisheries management system

From 2007 the fisheries management underwent a change from a regime based on rations per period (individual non-transferable rations) to a regime based on primarily Individual Transferable Quotas (ITQ) and Vessel Quota Shares (VQS). This change caused a fall in the number of vessels as well as tonnage and engine power.

The purpose of the "New management" system was to create a new regulation of the Danish fishery to:

- initiate and develop a regulatory system (management model) that promotes a more sustainable exploitation of fish stocks, primarily by adapting the fishing capacity to fishing opportunities and reduce discards of fish.
- give the individual fishermen better opportunity to plan and run a fishery that fits his vessel and fishing activities,
- ensure basis for the fishery's total earnings,

The New management system divided the Danish fishing fleet into three segments:

- VQS – vessels that in the reference period 2003 - 2005 had been fishing for over 224,000 DKK¹, and landing one or more selected species included in the "New management". The vessels were assigned a Vessel Quota Share that can be transferred along with the vessel. Annual quotas based on Vessel Quota Shares can be transferred to other VQS vessels.
- LAV vessels - Less Active Vessels that in the reference period 2003 - 2005 had been fishing for under 224,000 DKK, and landing one or more of the VQS species included in the new management system. The vessels may enter the fishery of VQS species on ration terms.
- OV – Other vessels that in the reference period 2003-2005 did not land VQS species. The vessels may not land VQS species, unless that species is covered by the landing obligation.

The possibility to transfer quotas has resulted in a decrease in the number of vessels and in the capacity of the fleet without using decommission as a financial instrument.

a. Fleet management system

The fleet management system in Denmark is based on an entry-exit regime.

All fishing vessels have to be registered in the vessel register of The Danish Maritime Authority as well as the vessel register of the Danish Fisheries Agency² (Order no. 886 of 28th of June 2017 on vessels used for commercial fishery, § 3).

A vessel is only allowed to enter the fishing fleet if one or more other vessels have been removed from the above mentioned registers. It is a precondition that tonnage and engine power of the vessel used for fishery does not exceed the tonnage and engine power from that or those vessels, which were or are to be cancelled (§ 7).

¹ The threshold for commercial vessels in 2005.

² The Danish Fisheries Agency was extracted from the Danish Agriculture and Fisheries Agency by royal resolution of 8th of August 2018.

It is not allowed to increase tonnage, size or engine power of a vessel without the permission of the Danish Fisheries Agency (§ 10). The Danish Fisheries Agency can only allow the increase in tonnage or engine power of a vessel if the owner of the vessel also withdraws the same quantity in the form of virtual capacity or as physical capacity from the fleet (§ 9).

Virtual capacity is defined as tonnage and engine power (measured in kW), which used to be connected to vessels now erased from the above mentioned registers (§ 2) and as such virtual capacity is held by persons as a legal right and not in physical vessels. It is allowed to sell virtual capacity. There is no virtual capacity on vessels which have received any subsidy regarding final exit of the fleet (§ 11).

The concept of virtual capacity means that the entitlement to capacity can be kept even when a vessel is scrapped (without economic aid) or sold outside the EU. It works as an incentive to keep unnecessary capacity out of the physical fleet. On the other hand, the possibility to increase the fleet is limited by the market based system of fishing rights to the effect that holders of virtual capacity will only enter new capacity into the fleet if they have the fishing rights to keep the vessel active.

The vessel owners have to forward documentation concerning the capacity involved in replacements and modernizations. This documentation is verified in the Danish Fisheries Agency's database for fleet management.

A general weakness concerning all EU fleets in the EU fleet management system is the verification of engine power. In the Danish management system the definition of engine power of Regulation 2930/86 is implemented and derating of engine power is not allowed.

The regulation of capacity ensures that capacity can never increase over the level at the starting point.

The administrative system as such, concerning the administration of the entries and exits in the fleet is considered to work satisfactorily.

b. kW in Kattegat and North Sea/Skagerrak – effort regulation

As of August 2018 Member States are required to stay within the overall limits of the capacity ceiling defined in the Basic Regulation. The former capacity ceilings in Kattegat and the North Sea/Skagerrak were abolished with the introduction of the North Sea Multiannual Plan (973/2018).

Section D

Plan for improvement in fleet management system

The current Danish management system is considered to be well functioning in order to secure a balance between fishing opportunities and capacity. Therefore, there are no current plans for changes.

Section D

Information on general level of compliance with fleet policy instruments

Respect of reference level and entry-exit level is ensured by the fleet management. Since permits for new capacity are only issued if there is a previous withdrawal of capacity, total physical capacity will never be higher than the ceilings. And since the system works with individual permits which can be kept as virtual capacity, physical capacity tends to be well below the ceilings.

Unused capacity, including safety capacity and the capacity premium for decommissioning, is not reallocated. In combination with the market based regulation of a substantial part of the fishery the fleet management will tend to ensure a long term balance between fishing capacity and fishing possibilities.

Compliance is ensured by an active fisheries inspection by control vessels, control units in the fishing port as well as administrative checks and control activity.

Below is a table showing information on infringements and inspections on the main management measures in 2018.

Table D1. Number of infringements and accomplished inspections in 2018

Number of infringement cases	Administrative controls	Inspections in port	Inspections at sea	Total
1.1. Registration - license, authorisation etc.	3	5	1	9
1.2. Vessel not license as fishing vessel		1	1	2
1.3. Quotas and quantitative rationing	8	1		9
1.4. Limitations relating to gear and catch method		2	14	16
1.5. Area restrictions	4	3	5	12
2.1 Refusal of control		1		1
3.1 Other information obligations	3	1		4
4. Illegal catch composition, undersized, Landing obligation and other	3	18	4	25
5.1 Logbook Order and other matters	49	61	3	113
5.2. Control Order and other matters	12	13	5	30
5.3. Notifications	33	20	1	53
6.1. Infringements at the landing and marketing of fish	7	5	3	15
9.5. Other IUU				0
10. Other criminal offenses			1	1
Total	122	131	38	291
Number of inspections	857	2.745	549	3.294

Section E

Information on changes of the administrative procedures relevant to fleet management

There have been introduced a scheme making it easier for young fishermen to obtain a fishing vessel, by allocating a part of the Danish allocation of kW and BT in a reserve, which can then be applied for on a temporary basis by young fishermen hoping to buy their first vessel. This will make it easier for them, since they will not have to buy all of the needed capacity (kW and BT) at market prize. The new rules were introduced by order no. 886 of 28th June 2017 on vessels used for commercial fishery (chapter 6, §§ 19-21). In continuation of this all capacity (kW and BT) not registered with the Danish Fisheries Agency no later than 1st July 2018 will be allocated to the reserve.

In 2018 a number of changes were made regarding the national fleet management. A new requirement for vessels with ITQ's was introduced. This requires these vessels to fish at least 25 % of the value of their quotas to avoid so-called "slipper skippers". There was also introduced limits on how much quota a fishing company can own, supplementing the already existing limits for vessels and individual fishermen. For a number of ITQ quotas without limits on ownership, such limits were introduced, and for some quotas the limits were reduced. This means that all ITQ quotas are now covered by limits on ownership. Also the restrictions on how much demersal quota a pelagic fishermen can own were tightened. Finally, a part of the herring quota was reserved for a coastal fishery with small vessels in the North Sea and Skagerrak/Kattegat.

Section F

Estimation and discussion of balance indicators

The technical, biological and economic indicators are calculated in accordance with the guidelines issued by the Commission, taking into account that data is available at fleet segment level. The results are presented for 20 fleet segments, according to the Data Collection Regulation. The fleets VL1218m TBB and VL1824 TBB that is fishing for brown shrimp in the Wadden Sea, and the VL1012m DRB and VL1218m DRB that is fishing mussels are included, but they are not subject to quotas set at the EU level. These four fleet segments are subject to specific entry restrictions. It should also be noted that the DTS gear type from 2008 to 2011 also included TM, while separate specification of TMs are included from 2012. Comparison of fleet performance between years should therefore be done with caution.

i) Technical indicator(s)

The two technical indicators recommended in the EC guidelines: 1) The inactive fleet indicator and 2) The vessel utilisation indicator are presented in the following.

The Inactive fleet indicator

The number (No.), gross tonnage (GT) and engine power (kW) of inactive vessels, total vessels and share of inactive vessels within each length group are presented in Table F.1. By taking the share between the inactive vessels and the total vessels, the inactive fleet indicator is calculated. The length group VL0010m has a relative high percentage of inactivity, regardless if measured in number of vessels (44%), gross tonnage (41%) or engine power (34%). According to the EC guidelines, an inactivity level more than 20% indicates technical inefficiency. If this measure is used, the VL0010m is technical inefficient, however it has been reduced over the years. The other length groups do have a lower share of inactivity (below 8%), regardless of the measurement. Although the total Danish fleet has a high amount of inactive vessels (36%), the total inactivity of physical capacity is rather low with 5% of GT and 11% of kW, which in 2017 was 6% of GT and 10% of kW.

Table F.1. Ratios between inactive and total number of vessels in 2018

Length	Inactive ¹⁾			Total ²⁾			Share of inactivity (%)		
	No.	GT	kW	No.	GT	kW	No.	GT	kW
VL0010m	744	1,924	18,157	1,680	4,656	52,684	44	41	34
VL1012m	5	51	328	102	1,242	10,740	5	4	3
VL1218m	18	403	2,339	223	8,583	38,849	8	5	6
VL1824m	1	92	214	62	6,618	17,352	2	1	1
VL2440m	1	371	552	40	12,585	27,116	3	3	2
VL40XXm	1	449	1,081	29	39,058	66,335	3	1	2
Total	770	3,289	22,671	2,136	72,742	213,076	36	5	11

Source: The Danish Fisheries Agency Vessel Register and Logbook Register 21st March 2019.

¹⁾ Includes vessels not having any catch value in 2018, but in the Vessel Register per 31st December 2018.

²⁾ Includes vessels in the Vessel Register per 31st December 2018.

The vessel utilisation indicator

The ratio between days at sea and maximum days at sea for each length group and gear type is presented in Table F.2. By taking the ratio between average and maximum number of sea days, an expression for technical capacity utilisation is calculated. The maximum number of days at sea within a fleet segment has been set equal to the most active vessel within each year. This method is chosen, because there is a large variation in the maximum possible of days at sea between the fleet segments and within fleet segments. For example, the larger vessels will usually have more days at sea per year than the smaller vessels, operated only by one fisherman. By using the maximum observed days at sea for each fleet segment, this will be taken into account. At the same time, it ensures that the ratio between average days at sea and maximum days at sea does not exceed a value of 1.

Table F.2. Ratios between average days at sea and maximum days at sea^{1) 2)}

Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
VL0010m	DTS	0.59	0.34	0.30	0.54	0.46	0.29	0.29	0.32	0.31	0.35
	PGP	0.17	0.17	0.19	0.15	0.16	0.14	0.13	0.11	0.12	0.12

	PMP				0.25	0.23	0.21	0.23	0.25	0.21	0.27
VL1012m	DRB	0.43	0.50	0.65	0.75	0.53	0.59	0.57	0.65	0.50	0.37
	DTS	0.53	0.83		0.81	0.73	0.58	0.55	0.62	0.52	0.62
	PGP	0.44	0.43	0.42	0.43	0.47	0.44	0.45	0.43	0.39	0.39
	PMP	0.49	0.58	0.56	0.48	0.56	0.42	0.43	0.49	0.49	0.42
VL1218m	DRB	0.45	0.38	0.52	0.49	0.39	0.39	0.44	0.40	0.45	0.38
	DTS	0.44	0.42	0.45	0.47	0.47	0.49	0.43	0.45	0.45	0.46
	PGP	0.48	0.61	0.45	0.51	0.48	0.45	0.49	0.44	0.48	0.53
	PMP	0.55	0.48	0.52	0.37	0.35	0.43	0.45	0.49	0.40	0.41
	TBB	0.70	0.79	0.66	0.76	0.78	0.79	0.73	0.77	0.80	0.84
	TM				0.53	0.49	0.70	0.58	0.63	0.79	0.87
VL1824m	DTS	0.52	0.50	0.47	0.48	0.47	0.55	0.54	0.52	0.56	0.57
	PMP	0.60	0.62	0.62	0.66	0.77	0.74	0.70	0.64	0.72	0.66
	TBB	0.85	0.79	0.66	0.76	0.72	0.78	0.72	0.81	0.80	0.80
VL2440m	DTS	0.67	0.64	0.62	0.67	0.69	0.72	0.78	0.75	0.72	0.74
	PMP						0.72	0.63	0.87	0.80	0.79
VL40XXm	DTS	0.69	0.90	0.64	0.63	0.74	0.76	0.92	0.47	0.56	0.51
	TM				0.67	0.66	0.65	0.68	0.57	0.62	0.68

Source: The Danish Fisheries Agency Vessel Register and Logbook Register 21st March 2019.

Notes: ¹⁾ Covers only active vessels

²⁾ See Annex 4 for the figures used for the calculations

From Table F.2, it is observed that ratios are generally increasing with the vessel length. The major part of the vessels in the fleet segments above 24 meters has been managed with Individual Transferable Quotas (ITQ) since 2003, and a relative high ratio is observed for these vessels. All other fleets (except DRBs and TBBs) has since 2007 been managed with transferable Vessel Quota Shares (VQS), and an increasing ratio is expected in the coming years, and is to some extent partly already reflected in the figures.

Making strong conclusions about presence of technical overcapacity are difficult, because each fleet segment is not very homogeneous, thereby having a large variation in the maximum observed days at sea. A value below 0.7 is in the Commission guidelines considered to indicate the presence of technical overcapacity, and if this is applied to the above figures, technical overcapacity is present in 14 of the 20 fleet segments in 2017 and in 15 segments in 2018. The six fleets that do not indicate technical overcapacity in 2018 include two entry-restricted fisheries for mussels and shrimps (VL1218m TBB, and VL1824 TBB) as well as VL1218m TM, and VL2440m DTS and PMP. The low technical utilisation rate of the smaller fleet segments generally below 12 metres, but specifically VL0010m PGP and VL0010m PMP is due to the presence of a relatively large amount of non-commercial vessels in these groups. A more appropriate way of estimating the technical efficiency of these segments will be to calculate the technical indicator based on only commercial vessels, which also have the largest impact on the stocks fished on. Especially for the fleet segments below 12 metres, this will lead to an improvement of the vessel utilisation indicator.

ii) Biological indicators

The Sustainable Harvest Indicator (SHI) and Stock-at-risk Indicator (SAR) presented in this report are copied from "Assessment of balance indicators for key fleet segments and review of national

reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-18-14)", data table version 1.2.

The SHI values for the individual segments in 2016 are mainly determined by the proportion of landings value from the North Sea and Western Baltic cod stocks (overfished), the flatfish (mainly North Sea plaice and IIIa sole, fished at F_{MSY}), Norway lobster (mainly in Kattegat and Skagerrak fished at F_{MSY}) and the pelagic stocks (mainly North Sea herring and sprat in the Baltic fished at F_{MSY}), plus mackerel fished above F_{MSY} . Most of the industrial species fished by Denmark do not have a defined F_{MSY} , so SHI cannot be calculated for a large proportion of the Danish landings.

Table F.3. Sustainable Harvest Indicator (SHI)

Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	Trend (5%)	Status 2016 according to guidelines
VL0010m	DTS	1.3	1.2	1.1	1.3	1.0	0.8	0.8	0.8	decreasing	in balance
	PGP	2.2	2.1	2.1	2.1	2.3	2.1	1.8	1.5	decreasing	out of balance*
	PMP	1.9			1.8	1.7	1.5	1.4	1.2	decreasing	out of balance
VL1012m	DRB	0.3	0.7	1.0		1.3	1.4	1.4	1.3	increasing	out of balance*
	DTS	2.3	2.1		1.7	2.0	1.8	1.5	1.2	decreasing	out of balance
	PGP	2.4	2.4	2.5	2.7	2.7	2.1	2.1	1.8	decreasing	out of balance
	PMP	2.0	1.9	1.8	1.5	1.6	1.3	1.2	1.1	decreasing	out of balance
VL1218m	DTS	1.4	1.2	1.2	1.5	1.2	0.9	0.9	0.8	decreasing	in balance
	PGP	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	decreasing	out of balance
	PMP	1.7	1.6	1.4	1.6	1.6	1.4	1.0	0.8	decreasing	in balance
	TBB	2.1	1.2	1.0	1.2	1.1		1.0	1.0	no trend	in balance*
	TM				1.1	1.3	1.1	1.0	1.0	no trend	in balance
VL1824m	DTS	1.3	1.2	1.2	1.3	1.3	1.1	1.0	0.9	decreasing	in balance
	PMP	1.8	1.6	1.4	1.3	1.2	1.1	1.1	1.1	no trend	out of balance
	TBB		1.0	1.1	1.2	1.0	0.7	1.0	1.0	no trend	in balance*
VL2440m	DTS	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	no trend	out of balance
VL40XXm	DTS	1.2	1.3	1.1	0.9	1.0	0.9	1.0	0.8	no trend	in balance
	TM				1.0	1.1	1.1	1.1	1.0	no trend	in balance

SHI for Danish fleet segment where on average more than 40% of the landings value are from stocks with estimated F and F_{MSY} and with SHI for 2016. Trends are calculated for the years 2011-2016. Status 2016 indicators followed by a "*" indicates that status is not provided by STECF

Nine out of eighteen segments may not be in balance ($SHI > 1$) with their fishing opportunities in 2016 (Table F.3). The smaller vessels with a high proportion of North Sea cod or Western Baltic cod have a $SHI > 1$ ("out of balance"). The large pelagic trawlers have $SHI \leq 1$ ("in balance") due to their high proportion of North Sea herring. The SHI indices by segment show mainly a decreasing trend for the smaller vessels and no trend for the larger vessels. Fishing mortalities have in general decreased for the individual stocks since 2016 and will probably decrease SHI more for most segments in the most recent years.

The SAR indicator (Table F.4) for the Danish segments in 2016 is mainly determined by landings of Western Baltic cod with SSB below Blim. Other stocks at risk with a low total catch but high proportion by Danish segments, e.g. sandeel (san.sa.2), contribute also. Nine out of nineteen segments have the SAR in balance (values ≤ 0) in 2016. There is no general trend in SAR values.

Table F.4. Stocks-at-risk indicator (SAR)

Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	Status 2016 according to guidelines
VL0010m	DTS	-1	0	0	1	1	2	1	0	in balance
	PGP	-1	3	3	3	4	3	3	3	out of balance
	PMP	-1			2	2	2	2	1	out of balance
VL1012m	DRB	-1	0	0	-1	0	0	0	0	in balance
	DTS	-1	1		1	1	1	2	1	out of balance
	PGP	-1	2	2	2	3	2	2	2	out of balance
	PMP	-1	1	1	1	1	0	0	0	in balance
VL1218m	DRB	-1	0	0	0	0	0	-1	-1	no SAR found
	DTS	-1	2	2	2	5	3	3	1	out of balance
	PGP	-1	2	2	2	2	1	0	0	in balance
	PMP	-1	1	0	1	0	1	0	0	in balance
	TBB	-1	0	0	2	1	0	1	0	in balance
	TM				3	2	3	2	3	out of balance
VL1824m	DTS	-1	3	2	4	3	3	3	4	out of balance
	PMP	-1	1	2	2	1	1	0	0	in balance
	TBB	-1	0	0	2	1	0	1	0	in balance
VL2440m	DTS	-1	2	0	2	2	1	1	4	out of balance
VL40XXm	DTS	-1	2	2	2	3	2	1	3	out of balance
	TM				3	3	3	3	4	out of balance

iii) Economic indicators

The two indicators recommended in the EC guidelines: 1) Return on investment (ROI) per fleet segment and 2) Current revenue in proportion to break-even revenue per fleet segment are presented in the following.

Return on investment (ROI)

Return on investment (ROI) is defined as net profit, which is profit after capital stock depreciation, divided by the capital asset value, which consists of the vessel replacement value and the estimated value of fishing rights (net profit/capital asset value), according to EC guidelines. The ROI for the Danish fleet for the years 2009-2017 is shown in Table F.5.A.-F.5.D below for various approaches.

Table F.5.A. Return on investments excl. income and costs from fishing rights

Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	2017
VL0010m	DTS	-0.12	-0.06	-0.09	-0.10	-0.05	-0.02	0.02	0.01	0.01
	PGP	-0.13	-0.10	-0.10	-0.09	-0.07	-0.11	-0.10	-0.12	-0.06
	PMP	-0.20	.	.	-0.08	-0.10	-0.12	-0.03	-0.02	-0.02
VL1012m	DRB	0.00	-0.03	-0.01	-0.01	0.07	0.15	0.29	0.17	0.25
	DTS	-0.10	-0.05	.	-0.05	-0.05	-0.04	0.00	-0.01	0.02
	PGP	-0.08	-0.09	-0.06	-0.04	-0.04	-0.06	-0.03	-0.01	-0.02
	PMP	-0.15	-0.05	-0.07	-0.06	-0.07	-0.07	0.00	-0.01	-0.03
VL1218m	DRB	-0.09	-0.07	-0.04	-0.03	-0.01	0.14	0.22	0.17	0.23
	DTS	-0.03	0.01	0.00	-0.01	0.00	-0.01	0.02	0.02	0.00
	PGP	-0.03	0.00	0.00	-0.02	-0.01	-0.04	-0.01	0.01	0.02
	PMP	-0.03	0.00	-0.03	-0.01	-0.01	-0.01	0.01	0.01	0.00
	TBB	-0.15	-0.05	-0.11	0.06	0.06	0.01	-0.06	0.17	0.13
	TM	.	.	.	0.00	0.04	0.05	0.08	0.07	0.04
VL1824m	DTS	-0.01	0.01	0.02	0.00	0.00	0.02	0.05	0.03	0.02
	PMP	-0.03	0.02	0.02	0.01	0.03	0.03	0.06	0.06	0.03
	TBB	-0.09	-0.10	-0.09	0.05	0.04	0.01	0.01	0.23	0.15
VL2440m	DTS	0.00	0.03	0.01	0.00	0.02	0.03	0.06	0.06	0.04
VL40XXm	DTS	0.01	0.12	0.12	0.08	0.05	0.03	0.12	0.14	0.04
	TM	.	.	.	0.10	0.08	0.04	0.08	0.07	0.05

Source: 2019 Data call for economic and social datasets on the EU fishing fleets, EC Ref. Ares(2019)421298 - 24/01/2019.

Table F.5.B. Return on investments incl. income and costs from fishing rights

Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	2017
VL0010m	DTS	-0.12	-0.06	-0.09	-0.11	-0.03	-0.01	0.02	0.01	0.01
	PGP	-0.14	-0.11	-0.08	-0.09	-0.06	-0.11	-0.09	-0.12	0.02
	PMP	-0.21	.	.	-0.09	-0.10	-0.12	-0.04	-0.02	-0.01
VL1012m	DRB	0.00	-0.03	-0.01	-0.01	0.07	0.15	0.30	0.18	0.25
	DTS	-0.10	-0.06	.	-0.06	-0.05	-0.05	0.00	-0.03	0.02

	PGP	-0.08	-0.10	-0.05	-0.05	-0.03	-0.06	-0.04	-0.02	-0.02
	PMP	-0.15	-0.05	-0.06	-0.07	-0.08	-0.08	-0.01	-0.02	-0.03
VL1218m	DRB	-0.09	-0.07	-0.04	-0.03	-0.01	0.13	0.23	0.17	0.23
	DTS	-0.04	0.00	-0.02	-0.02	-0.01	-0.01	0.01	0.02	0.01
	PGP	-0.05	-0.01	-0.01	-0.03	-0.01	-0.04	-0.02	0.01	0.04
	PMP	-0.05	-0.02	-0.02	-0.02	-0.01	-0.02	0.01	0.00	0.03
	TBB	-0.15	-0.05	-0.10	0.05	0.05	0.04	-0.05	0.17	0.13
	TM	.	.	.	0.01	0.04	0.04	0.07	0.08	0.05
VL1824m	DTS	-0.02	-0.01	0.01	-0.01	-0.01	0.02	0.03	0.03	0.02
	PMP	-0.04	0.00	0.00	0.00	0.01	0.00	0.04	0.03	0.01
	TBB	-0.09	-0.10	-0.08	0.04	0.03	0.01	0.02	0.23	0.15
VL2440m	DTS	0.00	0.03	0.00	-0.01	0.01	0.03	0.04	0.04	0.03
VL40XXm	DTS	0.01	0.11	0.11	0.09	0.08	0.03	0.10	0.11	0.03
	TM	.	.	.	0.09	0.08	0.05	0.08	0.08	0.05

Source: 2019 Data call for economic and social datasets on the EU fishing fleets, EC Ref. Ares(2019)421298 - 24/01/2019.

According to the Commission guidelines, the indicator should be adjusted for the current long-term interest rate. This is done in Table F.5.C. and Table F.5.D. below.

Table F.5.C. Return on investments (ROI) adjusted with long term interest rate* and excl. income and costs from fishing rights

Interest rate		3.59	2.93	2.73	1.40	1.75	1.33	0.69	0.32	0.48
Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	2017
VL0010m	DTS	-0.15	-0.09	-0.12	-0.11	-0.06	-0.03	0.02	0.01	0.00
	PGP	-0.17	-0.13	-0.13	-0.10	-0.09	-0.12	-0.11	-0.12	-0.06
	PMP	-0.23	.	.	-0.10	-0.12	-0.14	-0.04	-0.02	-0.03
VL1012m	DRB	-0.04	-0.06	-0.04	-0.02	0.05	0.14	0.29	0.16	0.25
	DTS	-0.13	-0.08	.	-0.07	-0.07	-0.06	0.00	-0.01	0.02
	PGP	-0.11	-0.12	-0.09	-0.05	-0.06	-0.07	-0.04	-0.01	-0.02
	PMP	-0.18	-0.08	-0.09	-0.07	-0.08	-0.08	-0.01	-0.02	-0.03
VL1218m	DRB	-0.13	-0.10	-0.07	-0.04	-0.03	0.13	0.22	0.17	0.23
	DTS	-0.07	-0.02	-0.03	-0.02	-0.02	-0.02	0.01	0.02	0.00
	PGP	-0.07	-0.03	-0.03	-0.03	-0.03	-0.05	-0.02	0.01	0.02
	PMP	-0.07	-0.03	-0.05	-0.03	-0.03	-0.03	0.00	0.00	0.00
	TBB	-0.19	-0.08	-0.13	0.04	0.04	0.00	-0.06	0.16	0.13
	TM	.	.	.	-0.02	0.02	0.04	0.07	0.07	0.04
VL1824m	DTS	-0.04	-0.02	-0.01	-0.02	-0.01	0.01	0.04	0.03	0.01
	PMP	-0.06	-0.01	-0.01	0.00	0.01	0.02	0.05	0.06	0.03
	TBB	-0.13	-0.13	-0.11	0.03	0.02	0.00	0.01	0.22	0.15
VL2440m	DTS	-0.03	0.01	-0.02	-0.02	0.00	0.02	0.05	0.05	0.03
VL40XXm	DTS	-0.03	0.09	0.09	0.07	0.03	0.02	0.11	0.14	0.04

	TM	.	.	.	0.09	0.06	0.03	0.07	0.07	0.05
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Source: 2019 Data call for economic and social datasets on the EU fishing fleets, EC Ref. Ares(2019)421298 - 24/01/2019.

* The long-term interest rate for convergence purposes, European Central Bank

Table F.5.D. Return on investments (ROI) adjusted with long term interest rate* and incl. income and costs from fishing rights

Interest rate		3.59	2.93	2.73	1.40	1.75	1.33	0.69	0.32	0.48
Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	2017
VL0010m	DTS	-0.15	-0.09	-0.12	-0.13	-0.05	-0.03	0.01	0.00	0.01
	PGP	-0.17	-0.14	-0.11	-0.10	-0.08	-0.12	-0.10	-0.12	0.01
	PMP	-0.25	.	.	-0.10	-0.12	-0.13	-0.05	-0.02	-0.01
VL1012m	DRB	-0.04	-0.06	-0.04	-0.02	0.05	0.13	0.29	0.18	0.25
	DTS	-0.13	-0.09	.	-0.08	-0.06	-0.07	-0.01	-0.03	0.01
	PGP	-0.12	-0.13	-0.08	-0.06	-0.05	-0.07	-0.04	-0.02	-0.02
	PMP	-0.19	-0.08	-0.09	-0.08	-0.10	-0.09	-0.02	-0.02	-0.03
VL1218m	DRB	-0.13	-0.10	-0.07	-0.04	-0.03	0.12	0.22	0.16	0.23
	DTS	-0.08	-0.03	-0.04	-0.03	-0.03	-0.02	0.01	0.01	0.01
	PGP	-0.08	-0.04	-0.04	-0.04	-0.03	-0.05	-0.02	0.01	0.04
	PMP	-0.08	-0.05	-0.05	-0.03	-0.02	-0.03	0.00	0.00	0.02
	TBB	-0.19	-0.08	-0.13	0.04	0.03	0.03	-0.06	0.17	0.13
	TM	.	.	.	-0.01	0.02	0.02	0.06	0.07	0.05
VL1824m	DTS	-0.06	-0.04	-0.02	-0.03	-0.03	0.00	0.03	0.03	0.02
	PMP	-0.08	-0.03	-0.03	-0.01	-0.01	-0.01	0.03	0.03	0.01
	TBB	-0.13	-0.13	-0.11	0.02	0.01	0.00	0.01	0.22	0.15
VL2440m	DTS	-0.04	0.00	-0.03	-0.02	-0.01	0.02	0.03	0.04	0.02
VL40XXm	DTS	-0.03	0.08	0.08	0.07	0.07	0.01	0.09	0.11	0.03
	TM	.	.	.	0.08	0.07	0.03	0.08	0.07	0.05

Source: 2019 Data call for economic and social datasets on the EU fishing fleets, EC Ref. Ares(2019)421298 - 24/01/2019.

* The long-term interest rate for convergence purposes, European Central Bank

When the long-term interest rate is included there is a stronger trend over time towards larger negative values or smaller positive values. Including any income or costs from renting fishing quantities within a year does not change the overall picture. This income or cost may vary from year to year.

Especially the fleets below 12 meters have almost consistently negative ROIs, thus indicating economic over-capitalisation, but in 2017 ROI was positive for VL0010m PGP and VL1012m DTS for the first time. The dredgers (DRB) are an entry-restricted fishery, but negative ROIs are observed during the period from 2009 to 2012, but from 2013 to 2017 it is positive for vessels between 10-12 meter. For dredgers between 12-18 meters ROI is negative between 2009-2013, being positive in the following years.

The other entry-restricted fisheries, the TBBs, experienced negative ROIs from 2009-2011, but has been positive since then, except in 2015 for the VL1218.

The remaining fleet segments between 12 and 24 meters have ROIs varying around zero, thus indicating a reasonable balance. The fleets above 40 meters, which for many years have been managed with ITQs, are having positive ROIs, thus indicating economic under-capitalisation.

It should be noted that vessels below 24 metres are operated by 1-3 crew members including the owner. The standard salary is often higher than the realistic income for fishermen working in the small scale fishery. Moreover, in many cases the owner does not have capital costs. The market value of the vessel is often lower than assumed in the calculation and the owner does not expect a return on his investment in fishing rights.

Ratio between current revenue and break-even revenue

The ratio between current revenue and break-even revenue (CR/BER) is estimated as the current revenue divided by break-even revenue (fixed costs / $1 - (\text{variable costs}/\text{current revenue})$), according to the EC guidelines. Current revenue consists of income from fishing and other income while excluding any subsidies. The break-even revenue shows the level of revenue needed to cover all costs, thereby having a net profit of zero. Two versions of CR/BER are estimated. The first version includes opportunity cost of capital in the fixed costs (see Table F.6.), whereas the second version excludes the opportunity cost of capital (see Table F.7.). The opportunity cost of capital is calculated by the capital asset value and the long-term interest rate for Denmark. Both measures of CR/BER are good measures of economic sustainability. When the ratio is below 1, the current cash flow is not sufficient to cover the current costs, and so the activity is not economically balanced and sustainable.

Table F.6. Ratio between current revenue and break-even revenue incl. opportunity cost of capital (CR/BER)

Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	2017
VL0010m	DTS	-1.48	0.47	0.31	0.22	-0.02	0.33	1.32	1.28	1.18
	PGP	-0.20	0.11	0.08	0.26	0.27	-0.14	-0.09	-0.05	0.01
	PMP	-0.32	.	.	0.24	0.03	0.02	0.53	-0.05	-0.10
VL1012m	DRB	0.64	0.59	0.74	0.77	1.44	2.22	3.55	3.25	4.15
	DTS	0.14	-0.38	.	0.39	0.31	0.38	0.96	0.74	1.30
	PGP	0.16	0.28	0.31	0.44	0.39	0.22	0.57	0.85	0.58
	PMP	-0.19	0.44	0.30	0.34	0.16	0.27	0.92	0.72	0.35
VL1218m	DRB	0.43	0.45	0.68	0.62	0.78	2.00	3.22	3.13	3.44
	DTS	0.40	0.86	0.70	0.64	0.73	0.75	1.14	1.42	0.98
	PGP	0.44	0.73	0.70	0.63	0.79	0.53	0.81	1.11	1.31
	PMP	0.34	0.75	0.50	0.59	0.68	0.61	1.04	1.09	0.97
	TBB	-0.10	0.54	0.28	1.26	1.23	0.99	0.58	2.16	1.92
	TM	.	.	.	0.79	1.32	1.56	2.68	2.17	2.23
VL1824m	DTS	0.62	0.85	0.94	0.78	0.81	1.13	1.64	1.72	1.39
	PMP	0.42	0.92	0.87	0.95	1.14	1.19	1.84	2.05	1.71
	TBB	0.32	0.36	0.34	1.23	1.14	0.96	1.04	2.70	2.53
VL2440m	DTS	0.70	1.05	0.81	0.82	1.01	1.21	1.78	2.11	1.85

VL40XXm	DTS	0.76	1.76	1.63	1.96	1.42	1.22	2.58	3.56	1.73
	TM	.	.	.	1.77	1.62	1.40	1.98	2.49	2.22

Source: 2019 Data call for economic and social datasets on the EU fishing fleets, EC Ref. Ares(2019)421298 - 24/01/2019.

*Interest rate used to calculate the opportunity cost of capital is the long-term interest rate for convergence purposes, European Central Bank

Table F.7. Ratio between current revenue and break-even revenue excl. opportunity cost of capital (CR/BER)

Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	2017
VL0010m	DTS	-3.57	0.57	0.37	0.24	-0.03	0.47	1.54	1.56	2.18
	PGP	-0.26	0.14	0.11	0.29	0.32	-0.16	-0.09	-0.05	0.01
	PMP	-0.40	.	.	0.27	0.04	0.02	0.58	-0.06	-0.12
VL1012m	DRB	0.99	0.74	0.90	0.89	1.71	2.52	3.79	3.40	4.41
	DTS	0.18	-0.73	.	0.44	0.38	0.45	1.04	0.79	1.43
	PGP	0.22	0.34	0.39	0.52	0.47	0.26	0.62	0.89	0.64
	PMP	-0.25	0.55	0.38	0.39	0.19	0.31	1.00	0.75	0.38
VL1218m	DRB	0.51	0.54	0.77	0.70	0.90	2.22	3.46	3.26	3.63
	DTS	0.57	1.13	0.95	0.81	0.96	0.91	1.28	1.55	1.18
	PGP	0.61	1.00	0.98	0.74	0.92	0.60	0.87	1.16	1.46
	PMP	0.52	0.98	0.68	0.74	0.85	0.77	1.12	1.18	1.11
	TBB	-0.13	0.65	0.33	1.38	1.37	1.09	0.61	2.21	1.99
	TM	.	.	.	0.96	1.69	1.92	3.17	2.30	2.61
VL1824m	DTS	0.89	1.11	1.26	0.94	1.04	1.36	1.84	1.87	1.66
	PMP	0.62	1.29	1.22	1.12	1.41	1.40	2.06	2.17	1.94
	TBB	0.40	0.42	0.40	1.37	1.30	1.08	1.10	2.77	2.67
VL2440m	DTS	1.06	1.46	1.10	0.95	1.23	1.43	1.99	2.27	2.12
VL40XXm	DTS	1.10	2.35	2.02	2.42	1.92	1.50	2.85	3.79	1.92
	TM	.	.	.	2.03	1.96	1.67	2.18	2.67	2.52

Source: 2019 Data call for economic and social datasets on the EU fishing fleets, EC Ref. Ares(2019)421298 - 24/01/2019.

*Interest rate used to calculate the opportunity cost of capital is the long-term interest rate for convergence purposes, European Central Bank

There is a tendency that the CR/BER values increase with vessel size within each gear type, indicating that the larger vessels generally have better economic performance. This tendency is not observed for the entry-restricted fisheries, DRB and TBB. The TBBs had values below 1 for 2009-2011, but values around or above 1 for the following years for both vessel lengths incl. opportunity costs of capital. In 2014, the CR/BER was close to 1 for the 12-18 meters TBB vessels (and above 1 excl. opportunity costs of capital), decreasing in 2015 to below 1, while increasing to more than 2 in 2016 and 2017. For the larger 18-24 meters TBB vessels, CR/BER has been above 1 since 2012 increasing to 2.77 and 2.67 in 2016 and 2017 respectively. The DRBs, fishing for mussels, below 12 metres have values below 1 for the first five years, but then becomes above 1 in 2013 and onwards. The DRBs between 12 and 18 metres have values below 1 until 2014.

A more unclear picture is seen for remaining fleet segments, but generally the CR/BER is improving for the various fleet segments. In 2017, 15 fleet segments had a CR/BER above 1, while the number was 5 in 2012, and 2 in 2009. Furthermore, it was only the VL0010m PMP that had a negative CR/BER. The only fleet segments that have been economically viable through the entire period and thus able to cover current costs is the VL40XXm DTS and TM.

It can be observed that fifteen fleet segments had a CR/BER above 1 in 2017, which is the highest number looking at the period from 2009-2017.

iv) Summary and evaluation

According to Regulation 1380/2013, the report should include the annual assessment of fleet capacity and identify structural over-capacity for each segment. This assessment should be based on the balance between capacity and fishing possibilities.

According to the common guidelines as presented in a communication from the Commission (COM (2014) 545 final), the report should use a set of economic and biological indicators in combination to draw conclusions on imbalance for each fleet segment separately. The indicators are presented for the Danish fleet in section F.

The traffic light table, F8, includes indicators for 19 segments. The segments are numbered 1-19 to facilitate the understanding.

The segments 4, 8, 12, 16 are segments specialised in mussels and shrimps fisheries. These fisheries are restricted access and closely regulated and monitored.

The remaining segments are statistical categories defined by JRC. In this context, there are 5 groups which reflect the size and type of fishery as well as the mix of stocks fished by the statistically defined segments within the group. Over 24 metres, 12-24 metres and 0-12 metres. Within the group of small scale vessels is a subgroup consisting of non-commercial and inactive vessels.

So for the purpose of assessment of the balance the fleet is divided in the following fisheries relevant segments or groups:

- ✓ Mussels
- ✓ Brown shrimps
- ✓ >24 metres
- ✓ 12-24 metres
- ✓ <12 metres
- ✓ Inactive and non-commercial vessels

Explanations given for each group applies to all statistical segments within the group.

Mussels fishery (4, 8):

This fishery is restricted access and ITQ managed. Fisheries are limited to specific areas and quotas are set according to assessment of the local stock. Earnings are generally good and

improving. **The situation is stable and there is no need for action which is indicated by a green colour in the traffic lights table.**

Brown shrimps fishery (12, 16):

This fishery is limited to vessels on the list of beam trawlers specialised in shrimp fishery in the Wadden Sea area. Restricted access fishery. **The situation has improved during the years and the situation is regarded stable and there is no need for action which is indicated by a green colour in the traffic lights table.**

Vessels over 24 metres (17, 18 and 19):

The vessels fish for pelagic and industrial species. The smaller ones also take some codfish, flatfish and prawn. Most of those stocks are in good condition which is also reflected in the SHI indicator for which is close to 1 for vessels over 24 metres. In conclusion, there is a good balance for these segments. Economic indicators are also positive and have improved over time.

There is a good balance for this group which is indicated by a green colour in the traffic lights table.

Vessels 12-24 metres (9, 10, 11, 13, 14, 15, 16):

These vessels fish for a variety of species including cod fish, flat fish, prawn and industrial species. The SHI indicator is around 1 which shows that the vessels both fish on stocks with fishing mortality somewhat higher than the MSY based assessment, but also lower.

The SHI indicator is based on data from 2016 and for some stocks the situation has improved somewhat since then. Management of stocks is in transition to MSY based management and for this reason the SHI indicator exaggerates the imbalance. The SHI indicator only covers parts of the stocks taken by the fishery. It should also be taken into consideration that the capacity of this group of vessels has already been reduced considerably.

The economic indicators have improved and ROI minus current interest rate is close to zero and the current break even ratio is higher than 1 for all segments.

In assessing the economic indicators it should be taken into account that these vessels are operated by 1-3 crew members including the owner. The owner's remuneration is set at a standard salary which in many cases is higher than the real and realistic income for fishermen operating small vessels. At a more realistic pay to the owner the economic result would be higher. The earnings of these vessels are also strongly influenced by short term economic developments in prices and costs.

In conclusion, there is considered to be an acceptable balance between capacity and fishing possibilities which is indicated by a green colour in the traffic light table.

Vessels 0-12 metres including inactive and non-commercial vessels (1, 2, 3, 5, 6, 7):

These vessels fish on demersal stocks for flatfish, codfish, and Norway lobster. The biological indicators reflect a negative situation for some of the stocks fished by these vessels, mainly for cod stocks in the North Sea and the Baltic. The distribution of landings values show that a variety of species are fished by the small scale vessels. Most of these stocks are in a biological good state: There are unfished quotas available for i.e. flat fish and Norway lobster and the small vessels also have the possibility of fishing non quota species such as some flatfish and crab species.

Although return on investment mainly is negative, but close to zero, for most segments, it must be kept in mind, that this is based on a high standard salary which is higher than the realistic income for fishermen operating small vessels.

The economic indicators cover active vessels with commercial earnings and these indicators have improved considerable recent years. Despite the modest earnings and dependency of some stock under rebuilding, it is considered that there is balance between capacity of the active commercial vessels and fishing possibilities.

As part of the EMFF programme for Denmark, a number of measures aim at improving the situation for small vessels. These include support for investments in facilities in ports and landing places supporting small scale fishery, innovative project in the value chain (including markets for new species) and market promotion measures. In the regulatory system, coastal vessels are given special consideration and these vessels also receive special priority in the measure for fishing ports and landings places and the measure investments on vessels.

The remaining non-commercial vessels less than 12 metres include about 1,700 vessels and many of these have no registered activity. Although the number of vessels is high they are not involved in fishery of any significance for the stocks. Almost all of these non-commercial and in some cases inactive vessels are less than 10 metres and the quantities fished are small and with low importance for the overall stocks.

A great share of the small vessels is owned by part-time fishermen. Part time fishermen are allowed to continue their activity at a low level provided they can keep an income of 5 % from fishery. They are important for the regional development in Denmark in order to ensure an activity in small ports and coastal communities. But their activity is very low and has no significant impact on the overall stocks.

Many owners of small non-commercial vessels keep their vessel for social and recreational purposes. Although they have the status of a fisherman or a part-time fisherman they are not economically dependent on the fishery. This is confirmed by a large number of inactive vessels under 10 metres and the inferior quantities landed by the non-commercial part of the small scale fleet (less than 1% of Danish landings). The potential capacity of the small scale fleet is around 1,800 vessels, 4,800 GT and 55,000 kW. In reality, in 2018 only 116 vessels in the small scale fleet were active at a commercial level. All the 1,765 vessels under 10 m, including the less active ones, fished around 5,000 tonnes of fish combined.

It is concluded that the capacity of these vessels is not associated with commercial over-capacity and that they do not represent a real fishing capacity which could lead to increased fishery. Even if they wanted to become commercial vessels they had to obtain quotas from other vessels and this is not believed to be a realistic scenario.

On the basis of the assessment above **it is concluded that despite weaknesses in few segments, for the fleet in general there is a good balance between capacity and fishing possibilities. The traffic lights show the interpretation for each segment.**

Table F. 8. Traffic lights

No.	Length	Gear code	ROI	Current/Break-even		Sustainable Harvest Indicator	Stocks at Risk indicator	Technical indicators		Over all assesment
				Incl. opp.	Excl. opp.			Inactivity	Utilisation	
1	VLOO10	DTS	0.00	1.18	2.18	0.8	0	44	0.35	Mainly inactive or less active vessels non commercial vessels
2	VL0010	PGP	-0.06	0.01	0.01	1.5	3	0.12		
3	VL0010	PMP	-0.03	-0.10	-0.12	1.2	1	0.27		
4	VL1012	DRB	0.25	4.15	4.41	1.3	0	5	0.37	Mussels
5	VL1012	DTS	0.02	3.30	1.43	1.2	1		0.62	Mixed Demersal
6	VL1012	PGP	-0.02	0.58	0.64	1.8	2		0.39	
7	VL1012	PMP	-0.03	0.35	0.38	1.1	0		0.42	
8	VL1218	DRB	0.23	3.44	3.63		-1	8	0.38	Mussels
9	VL1218	DTS	0.00	0.98	1.18	0.8	1		0.46	Mixed Demersal
10	VL1218	PGP	0.02	1.31	1.46	1.2	0		0.53	
11	VL1218	PMP	0.00	0.97	1.11	0.8	0		0.41	Brown Shrimps
12	VL1218	TBB	0.13	1.92	1.99	1.0	0		0.84	
13	VL1218	TM	0.04	2.23	2.61	1.0	3		0.87		Pelagic
14	VL1824	DTS	0.01	1.29	1.66	0.9	4	2	0.57	Mixed
15	VL1824	PMP	0.03	1.71	1.94	1.1	0		0.66	
16	VL1824	TBB	0.15	2.53	2.67	1.0	0		0.80	Brown Shrimps
17	VL2440	DTS	0.03	1.85	2.12	1.1	4	3	0.74	Mixed
18	VL40XX	DTS	0.04	1.73	1.92	0.8	3	3	0.51	Pelagic +
19	VL40XX	TM	0.05	2.22	2.52	1.0	4		0.68	Industrial
	COM guideline		>0	>1	>1	<1	0	< 10	>0,9	
				>0<1	>0<1		>0			
				<0	<0	<0	>40% from assessed stocks >1 for 3 years	>10% from SAR	>20	<0,7

Annex 1. Gear Codes and length classes

FISHING TECHNIQUE

(Gear Codes)

DFN	=	Drift and/or fixed netters
DRB	=	Dredgers
DTS	=	Demersal trawlers and/or demersal seiners
PTS	=	Pelagic trawl and/or pelagic seiners
FPO	=	Vessels using pots and/or traps
HOK	=	Vessels using hooks
MGO	=	Vessel using other active gears
MGP	=	Vessels using polyvalent active gears only
PG	=	Vessels using passive gears only for vessels < 12m
PGO	=	Vessels using other passive gears
PGP	=	Vessels using polyvalent passive gears only
PMP	=	Vessels using active and passive gears
PS	=	Purse seiners
TM	=	Pelagic trawlers
TBB	=	Beam trawlers

VESSEL LENGTH classes

VL0006	=	Vessel less than 6 meters in length. *For Supra region 2 only. Vessel between 0 meters and 10 meters in length. **For Supra region 1
VL0010	=	and 3 only.
VL0612	=	Vessel between 6 meters and 12 meters in length. *For Supra region 2 only.
VL1012	=	Vessel between 10 meters and 12 meters in length. **For Supra region 1 and 3 only.
VL1218	=	Vessel between 10 meters and 18 meters in length. All regions.
VL1824	=	Vessel between 18 meters and 24 meters in length. All regions.
VL2440	=	Vessel between 24 meters and 40 meters in length. All regions.
VL40XX	=	Vessel greater than 40 meters in length. All regions.

Annex 2. Capacity of registered Danish fishing vessels, 2018
Tonnage in GT, 2018

Length	Gear	Commercial ¹⁾	Non-commercial ²⁾	Inactive ³⁾	Not registered 31 st December ⁴⁾	Total
VL0010m	DTS	34	16	18	7	75
	PGP	495	1,649	1,751	143	4,038
	PMP	217	320	155	41	733
	Total	747	1,985	1,924	191	4,846
VL1012m	DRB	61	16	16	6	99
	DTS	188	27			215
	PGP	411	129	27		567
	PMP	280	79	8	27	393
	Total	941	250	51	33	1,274
VL1218m	DRB	1,453	37	26	22	1,538
	DTS	3,978	99	152	169	4,397
	PGP	772	15	98	17	902
	PMP	834	36	126	119	1,116
	TBB	450			40	489
	TM ⁵⁾	506				506
	Total	7,992	188	403	366	8,949
VL1824m	DTS	4,035		92	361	4,488
	PMP	1,420				1,420
	TBB	1,072			43	1,114
	Total	6,527		92	404	7,022
VL2440m	DTS ⁵⁾	11,079		371	1,145	12,596
	PMP	1,135				1,135
	Total	12,214		371	1,145	13,731
VL40XXm	DTS	15,885		449	443	16,777
	TM ⁶⁾	22,724			2,150	24,874
	Total	38,609		449	2,593	41,651
Total		67,030	2,423	3,289	4,732	77,474

See Annex 1 for explanation of Gear Codes

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019.

- Notes:
- ¹⁾ Includes vessels with a yearly catch value above € 36,000.
 - ²⁾ Includes vessels with a yearly catch value below € 36,000 but above € 0.
 - ³⁾ Includes vessels not having any catch value within the year.
 - ⁴⁾ Includes vessels not being active by the end of the year.
 - ⁵⁾ For discretionary purposes, VL24XXm TBB has been included in VL2440m DTS.
 - ⁶⁾ For discretionary purposes, VL40XXm PS has been included in VL40XXm TM.

Engine power in kW, 2018

Length	Gear	Commercial ¹⁾	Non-commercial ²⁾	Inactive ³⁾	Not registered 31 st December ⁴⁾	Total
VL0010m	DTS	382	209	361	59	1,011
	PGP	5,873	21,765	15,639	1,743	45,020
	PMP	2,477	3,821	2,157	429	8,884
	Total	8,732	25,795	18,157	2,231	54,915
VL1012m	DRB	445	126	87	43	701
	DTS	1,798	330			2,128
	PGP	3,676	1,029	163		4,868
	PMP	2,323	685	78	274	3,360
	Total	8,242	2,170	328	317	11,057
VL1218m	DRB	4,595	384	200	126	5,305
	DTS	19,226	769	584	1,025	21,604
	PGP	3,489	147	551	81	4,268
	PMP	4,461	284	1,004	349	6,098
	TBB	1,784			214	1,998
	TM ⁵⁾	1,371				1,371
	Total	34,926	1,584	2,339	1,795	40,644
VL1824m	DTS	10,526		214	1,227	11,967
	PMP	3,964				3,964
	TBB	2,648			210	2,858
	Total	17,138		214	1,437	18,789
VL2440m	DTS ⁵⁾	24,773		552	1,753	27,078
	PMP	1,791				1,791
	Total	26,564		552	1,753	28,869
VL40XXm	DTS	30,262		1,081	1,081	32,424
	TM ⁶⁾	34,992			4,800	39,792
	Total	65,254		1,081	5,881	72,216
Total		160,856	29,549	22,671	13,414	226,490

See Annex 1 for explanation of Gear Codes

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019.

- Notes:
- ¹⁾ Includes vessels with a yearly catch value above € 36,000.
 - ²⁾ Includes vessels with a yearly catch value below € 36,000 but above € 0.
 - ³⁾ Includes vessels not having any catch value within the year.
 - ⁴⁾ Includes vessels not being active by the end of the year.
 - ⁵⁾ For discretionary purposes, VL24XXm TBB has been included in VL2440m DTS.
 - ⁶⁾ For discretionary purposes, VL40XXm PS has been included in VL40XXm TM.

Annex 3. Link with fisheries for commercial and non-commercial vessels

Distribution landing value in 2018 (%)

Group	Length	Gear	Round-fish	Flatfish	Lobster and shrimp	Mackerel and herring	Other species	Reduction species ¹)	Entry-restricted ²⁾	Total landing value (€ 1,000) ⁶⁾
Commercial	VL0010m	DTS	50	35	15	0	1	0	0	626
		PGP	25	36	9	3	24	0	3	7,182
		PMP	29	49	13	1	5	0	2	2,345
	VL1012m	DRB	4	13	0	10	0	1	72	859
		DTS	36	30	24	0	0	9	0	1,995
		PGP	33	52	0	1	12	0	2	5,265
		PMP	28	56	10	0	2	5	0	2,930
	VL1218m	DRB	0	0	0	0	1	0	99	9,619
		DTS	17	25	48	0	1	8	0	37,976
		PGP	28	67	1	0	4	0	0	9,992
		PMP	24	28	42	0	3	3	0	6,782
		TBB TM ³⁾	0 2	0 1	0 14	0 24	0 0	0 59	100 0	5,561 6,348
	VL1824m	DTS	26	34	23	2	1	15	0	38,034
		PMP	19	46	16	0	3	15	0	13,547
		TBB	0	6	0	0	0	0	94	10,868
VL2440m	DTS	52	26	16	0	0	5	0	78,860	
	PMP	76	22	2	0	1	0	0	9,203	
VL40XXm	DTS	0	0	0	21	0	59	20	81,536	
	TM ⁵⁾	0	0	0	65	0	35	0	137,390	
Non-commercial	VL0010m	DTS	0	30	60	0	9	0	0	41
		PGP	13	30	12	2	42	0	1	5,203
		PMP	18	48	7	1	21	0	5	719
	VL1012m	DRB	0	4	0	0	2	0	93	36
		DTS	26	38	7	0	29	0	0	50
		PGP	42	32	0	1	24	0	0	169
		PMP	16	17	49	0	18	0	0	93
	VL1218m	DRB	0	0	0	0	1	0	99	102
		DTS	52	14	17	7	0	10	0	54
		PGP	77	16	1	0	6	0	0	33
		PMP	23	75	0	0	1	0	0	35
VL1824m	DTS	62	7	0	0	2	29	0	12	

See Annex 1 for explanation of Gear Codes

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019.

Notes: ¹⁾ Species such as sand eel, blue whiting, sprat, horse mackerel and Norway pout.

²⁾ Species that can only be caught with an authorization, i.e. mussels, oysters, brown shrimps and shrimps in the waters around Greenland.

³⁾ For discretionary purposes, VL1824m TM has been included in VL1218m TM.

⁴⁾ For discretionary purposes, VL24XXm TBB has been included in VL2440m DTS.

⁵⁾ For discretionary purposes, VL40XXm PS has been included in VL40XXm TM.

⁶⁾ Based on the average Euro exchange rate for 2018 being 7.4532DKK / €.

Distribution landing whole weight in 2018 (%)

Group	Length	Gear	Round-fish	Flatfish	Lobster and shrimp	Mackerel and herring	Other species	Reduction species ¹)	Entry-restricted ²⁾	Total landing whole weight (tonnes)
Commercial	VL0010m	DTS	56	37	6	0	1	0	0	211
		PGP	31	34	2	12	19	0	2	2,005
		PMP	32	59	5	1	2	0	1	797
	VL1012m	DRB	1	6	0	15	0	5	72	1,410
		DTS	24	17	4	0	0	55	0	1,531
		PGP	38	49	0	4	8	0	1	1,812
		PMP	29	39	2	0	0	29	0	1,950
	VL1218m	DRB	0	0	0	0	2	0	98	42,614
		DTS	15	16	11	1	1	57	0	24,259
		PGP	31	66	0	0	3	0	0	2,795
		PMP	32	23	12	0	3	30	0	3,288
		TBB	0	0	0	0	0	0	100	1,052
		TM ³⁾	0	0	1	18	0	81	0	21,395
	VL1824m	DTS	11	11	4	4	0	70	0	35,604
		PMP	6	14	3	0	2	75	0	12,303
		TBB	0	9	0	0	0	0	90	2,162
VL2440m	DTS ⁴⁾	39	16	5	1	0	39	0	43,692	
	PMP	80	18	1	0	1	0	0	3,334	
VL40XXm	DTS	0	0	0	13	0	85	2	240,249	
	TM ⁵⁾	0	0	0	43	0	57	0	347,007	
Non-commercial	VL0010m	DTS	0	56	34	0	9	0	0	10
		PGP	22	36	3	9	30	0	0	1,590
		PMP	26	58	1	1	11	0	2	239
	VL1012m	DRB	0	4	0	0	2	0	94	6
		DTS	39	43	2	0	17	0	0	12
		PGP	60	24	0	1	15	0	0	57
		PMP	29	27	14	0	30	0	0	41
	1218m	DRB	0	0	0	0	3	0	97	410
		DTS	30	5	1	18	0	46	0	55
		PGP	78	15	0	0	7	0	0	9
PMP		34	65	0	0	1	0	0	20	
VL1824m	DTS	13	1	0	0	0	86	0	19	

See Annex 1 for explanation of Gear Codes

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019.

Notes: ¹⁾ Species such as sand eel, blue whiting, sprat, horse mackerel and Norway pout.

²⁾ Species that can only be caught with an authorization, i.e. mussels, oysters, brown shrimps and shrimps in the waters around Greenland.

³⁾ For discretionary purposes, VL1824m TM has been included in VL1218m TM.

⁴⁾ For discretionary purposes, VL24XXm TBB has been included in VL2440m DTS.

⁵⁾ For discretionary purposes, VL40XXm PS has been included in VL40XXm TM.

Annex 4. Figures used to calculate the technical indicator

Length	Gear	Days at sea ^{1) 2)}									
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
VL0010m	DTS	478	400	594	580	654	705	612	628	583	495
	PGP	38,072	39,457	41,032	30,245	28,903	29,212	26,469	25,703	22,306	22,918
	PMP	-	-	-	6,060	5,557	5,093	4,914	5,277	5,056	4,851
VL1012m	DRB	1,781	1,183	1,702	1,640	1,317	1,163	1,295	756	286	303
	DTS	1,108	950	-	1,070	1,042	1,132	1,157	1,280	1,461	1,634
	PGP	7,738	7,026	6,492	5,903	6,388	5,942	5,834	5,768	4,768	4,955
	PMP	2,703	2,808	3,121	3,415	2,691	2,828	3,059	3,378	2,840	2,875
VL1218m	DRB	1,608	1,441	2,086	2,543	2,017	2,141	1,826	1,892	2,445	2,061
	DTS	21,827	21,010	19,677	16,829	16,606	16,659	14,812	15,502	14,224	14,431
	PGP	6,322	6,412	5,818	4,682	4,669	3,913	3,793	3,315	3,142	3,128
	PMP	4,947	4,775	4,796	5,009	4,280	4,702	4,118	4,127	3,840	3,408
	TBB	2,463	1,748	1,185	1,731	1,662	1,901	1,644	2,018	1,688	1,737
	TM	-	-	-	1,506	1,326	1,848	1,499	1,233	904	979
VL1824m	DTS	12,250	11,741	11,123	10,554	9,693	9,655	9,039	8,061	7,222	7,470
	PMP	2,027	2,300	2,348	2,281	3,363	2,104	2,089	2,113	2,408	2,405
	TBB	2,417	2,546	2,105	2,788	2,772	2,764	2,550	3,067	2,917	2,932
VL2440m	DTS	11,128	9,550	8,564	8,664	7,851	7,782	7,579	8,081	9,209	9,701
	PMP	-	-	-	-	-	1,233	1,097	1,157	974	869
VL40XXm	DTS	5,628	6,025	5,321	1,440	2,762	2,073	2,005	1,728	3,035	2,959
	TM	-	-	-	2,496	2,607	2,538	3,439	3,468	2,419	2,501

Length	Gear	Number of vessels ²⁾									
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
VL0010m	DTS	10	12	14	10	11	16	11	9	9	7
	PGP	1,000	1,024	1,012	855	824	928	883	905	855	827
	PMP	-	-	-	126	116	121	121	130	128	119
VL1012m	DRB	32	24	25	21	24	19	16	11	6	6
	DTS	13	8	-	9	9	12	13	13	15	15
	PGP	67	65	56	50	56	54	50	53	50	48
	PMP	31	29	34	44	30	38	34	32	31	31
VL1218m	DRB	34	30	27	27	25	26	24	29	34	35
	DTS	177	168	156	127	128	123	117	117	114	109
	PGP	57	45	48	35	37	31	29	27	25	23
	PMP	46	51	47	46	38	38	37	35	35	30
	TBB	14	11	11	11	11	11	12	11	10	10
	TM	-	-	-	16	14	15	13	10	6	6
VL1824m	DTS	77	68	70	64	61	51	49	45	38	38
	PMP	15	16	15	12	16	10	10	11	11	11
	TBB	13	17	18	17	18	16	17	16	16	16
VL2440m	DTS	46	42	39	38	34	34	30	34	37	38
	PMP	-	-	-	-	-	6	5	4	4	3
VL40XXm	DTS	32	29	31	12	17	14	11	10	19	17
	TM	-	-	-	17	13	15	18	23	13	13

Maximum obs. days at sea^{1) 3)}

Length	Gear	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
VL0010m	DTS	81	97	140	108	130	154	190	221	206	204
	PGP	223	221	214	229	225	220	226	263	225	225
	PMP	190	178	183	189	210	200	175	160	186	150
VL1012m	DRB	130	99	105	104	103	103	141	105	95	137
	DTS	162	143	149	147	158	164	161	160	186	176
	PGP	264	253	275	273	242	250	260	256	246	262
	PMP	178	166	163	162	161	176	210	215	187	220
VL1218m	DRB	106	126	149	193	206	210	172	162	161	155
	DTS	280	298	278	282	276	279	295	296	275	286
	PGP	230	235	270	261	265	282	265	281	262	255
	PMP	195	196	196	291	321	285	250	242	272	277
	TBB	253	200	164	207	194	219	188	238	212	207
	TM	0	0	0	177	194	176	199	195	190	188
VL1824m	DTS	306	345	340	345	339	342	339	342	339	347
	PMP	225	232	254	287	272	283	300	298	303	333
	TBB	218	190	176	217	213	222	208	237	227	229
VL2440m	DTS	363	353	356	340	336	320	323	318	346	343
	PMP	-	-	-	-	-	285	351	333	304	365
VL40XXm	DTS	254	232	268	190	219	195	198	365	285	341
	TM	-	-	-	219	303	262	282	263	300	282

Source: The Danish Fisheries Agency Vessel Register and Sales Notes Register 21st March 2019

2019 Data call for economic and social datasets on the EU fishing fleets, EC Ref. Ares(2019)421298 - 24/01/2019.

Notes: ¹⁾ The days at sea is based on the Calendar Days method.

²⁾ Covers only active vessels.

³⁾ Based on the vessel with most observed days at sea within each year and fleet segment, using the 24 hours method.

Annex 5. Development in effort in relation to the effort regime in the North Sea and then Baltic 2003, 2017 and 2018

North Sea, Skagerrak, Kattegat, Irish Sea and West of Scotland:

Number of days at sea and kilowatt days for Danish vessels 10 metres and above in the regulated area 2003, 2017 and 2018. Note: The total is the actual number of vessels.

	Kattegat									North Sea									Irish Sea		
	Days at sea			kW-days			No. Vessels			Days at sea			kW-days			No. Vessels			Days at sea	kW-days	No. Vessels
	2003	2017	2018	2003	2017	2018	2003	2017	2018	2003	2017	2018	2003	2017	2018	2003	2017	2018	2003	2003	2003
Total	19.652	8.173	9.213	3.969.539	1.638.553	1.821.713	366	143	139	67.172	29.018	29.381	21.830.602	11.430.432	11.504.348	690	283	258	2	915	1
TR1	809	78	96	132.857	11.985	17.356	96	18	22	17.394	12.783	13.101	6.988.875	5.677.506	5.910.847	296	131	122	.	.	.
TR2	14.957	7.809	8.765	3.020.289	1.577.672	1.741.236	253	129	121	26.292	8.651	8.804	7.788.045	2.400.080	2.499.966	369	135	120	.	.	.
TR3	2.049	47	44	629.240	10.063	9.446	71	4	2	5.276	1.059	996	3.089.609	1.704.148	1.481.488	135	23	23	2	915	1
BT1	.	.	.	.	.	.	.	.	.	1.371	251	263	1.342.965	367.850	379.115	12	2	2	.	.	.
BT2	.	.	.	.	.	.	.	.	.	114	16	.	98.897	21.871	.	11	2	.	.	.	.
GN1	1.675	176	144	169.471	27.495	23.494	75	11	9	15.276	4.184	4.063	2.286.893	761.470	710.743	213	62	61	.	.	.
GT1	150	63	164	14.713	11.338	30.182	9	5	7	957	2.074	2.134	156.152	497.508	520.218	32	30	24	.	.	.
LL1	13	.	.	2.968	.	.	2	.	.	492	.	19	79.166	.	1.971	31	.	2	.	.	.

	West of Scotland			Total									Change (%) in kW-days 2003-2018								
	Days at sea	kW-days	No. Vessels	Days at sea			kW-days			No. Vessels			Days at sea			kW-days			No. Vessels		
	2003	2003	2003	2003	2017	2018	2003	2017	2018	2003	2017	2018	Kattegat	North Sea	Total	Kattegat	North Sea	Total	Kattegat	North Sea	Total
Total	136	148.001	5	86.962	37.191	38.594	25.949.057	13.068.985	13.326.061	780	326	303	-53	-56	-56	-54	-47	-49	-62	-63	-61
TR1	.	.	.	18.203	12.861	13.197	7.121.732	5.689.491	5.928.203	358	144	131	-88	-25	-28	-87	-15	-17	-77	-59	-63
TR2	.	.	.	41.249	16.461	17.570	10.808.334	3.977.752	4.241.202	429	176	160	-41	-67	-57	-42	-68	-61	-52	-67	-63
TR3	136	148.001	5	7.463	1.106	1.039	3.867.765	1.714.211	1.490.934	174	27	24	-98	-81	-86	-98	-52	-61	-97	-83	-86
BT1	.	.	.	1.371	251	263	1.342.965	367.850	379.115	12	2	2	.	-81	-81	.	-72	-72	.	-83	-83
BT2	.	.	.	114	16	.	98.897	21.871	.	11	2	.	.	.	.	.	.	.	.	.	.
GN1	.	.	.	16.951	4.360	4.207	2.456.364	788.964	734.237	235	67	66	-91	-73	-75	-86	-69	-70	-88	-71	-72
GT1	.	.	.	1.107	2.137	2.298	170.865	508.846	550.400	37	34	31	9	123	108	105	233	222	-22	-25	-16
LL1	.	.	.	504	.	19	82.134	.	1.971	32	.	2	.	-96	-96	.	-98	-98	.	-94	-94

Source: The Danish Fishery Agency Effort Register per 30th April 2019

Annex 5. Continued...

	Kattegat						North Sea						Irish Sea	
	Days/Vessel			Kw-days/vessel			Days/Vessel			Kw-days/vessel			Days/Vessel	Kw-days/vessel
	2003	2017	2018	2003	2017	2018	2003	2017	2018	2003	2017	2018	2003	2003
Total	53,69	57,15	66,28	10.846	11.458	13.106	97,35	102,54	113,88	31.639	40.390	44.590	1,71	915
TR1	8,43	4,32	4,36	1.384	666	789	58,76	97,58	107,39	23.611	43.340	48.450	.	.
TR2	59,12	60,54	72,44	11.938	12.230	14.390	71,25	64,08	73,37	21.106	17.778	20.833	.	.
TR3	28,86	11,75	21,75	8.863	2.516	4.723	39,08	46,04	43,3	22.886	74.093	64.413	1,71	915
BT1	.	.	.	.	.	.	114,25	125,47	131,5	111.914	183.925	189.558	.	.
BT2	.	.	.	.	.	.	10,36	7,87	.	8.991	10.935	.	.	.
GN1	22,33	15,95	16,04	2.260	2.500	2.610	71,72	67,49	66,61	10.737	12.282	11.652	.	.
GT1	16,67	12,6	23,48	1.635	2.268	4.312	29,91	69,13	88,92	4.880	16.584	21.676	.	.
LL1	6,25	.	.	1.484	.	.	15,87	.	9,5	2.554	.	986	.	.

	West of Scotland		Total						Change (%) in 2003-2018	
	Days/Vessel	Kw-days/vessel	Days/Vessel			Kw-days/vessel			Days/Vessel	Kw-days/vessel
	2003	2003	2003	2017	2018	2003	2017	2018		
Total	27,16	29.600	111,5	114,1	127,4	33.268	40.089	43.980	14	32
TR1	.	.	50,85	89,31	100,7	19.893	39.510	45.253	98	127
TR2	.	.	96,15	93,53	109,8	25.194	22.601	26.508	14	5
TR3	27,16	29.600	42,89	40,96	43,31	22.229	63.489	62.122	1	179
BT1	.	.	114,3	125,5	131,5	111.914	183.925	189.558	15	69
BT2	.	.	10,36	7,87	.	8.991	10.935	.	.	.
GN1	.	.	72,13	65,07	63,75	10.453	11.776	11.125	-12	6
GT1	.	.	29,92	62,85	74,14	4.618	14.966	17.755	148	284
LL1	.	.	15,76	.	9,5	2.567	.	986	-40	-62

Note: The total is the actual number of vessels.

Source: The Danish Fishery Agency Effort Register per 30th April 2019.

Annex 5. Continued...

The Baltic Sea:

Number of days at sea and kilowatt days for Danish vessels 8 metres and above in the regulated area 2003, 2017 and 2018.

	Days at sea			kW-days			No. Vessels			Change (%) in 2003-2018		
	2003	2017	2018	2003	2017	2018	2003	2017	2018	Days at sea	kW-days	No. Vessels
Total	35.571	13.719	13.038	5.802.616	1.833.031	1.616.893	479	189	179	-63,3	-72,1	-62,6
Western Baltic	27.535	10.662	11.045	4.364.018	1.162.413	1.184.793	464	177	173	-59,9	-72,9	-62,7
Eastern Baltic	8.036	3.057	1.994	1.438.598	670.618	432.101	188	44	30	-75,2	-70,0	-84,0

	Days/Vessel			Kw-days/vessel			Change (%) in 2003-2018	
	2003	2017	2018	2003	2017	2018	Days/Vessel	Kw-days/vessel
Total	74,26	72,59	72,84	12.114	9.699	9.033	-1,9	-25,4
Western Baltic	59,34	60,24	63,84	9.405	6.567	6.849	7,6	-27,2
Eastern Baltic	42,74	69,48	66,47	7.652	15.241	14.403	55,5	88,2

Source: The Danish Fishery Agency Effort Register per 30th April 2019.

Annex 6. Development in capacity in relation to cod recovery plan in the North Sea and the Baltic 2004, 2016 and 2017

North Sea, Skagerrak, Kattegat, Irish Sea and West of Scotland:

Capacity fluctuations for Danish vessels 10 metres and above in the regulated area 2003, 2017 and 2018.

	Total									Change (%) in 2003-2018	
	GT			kW			No. Vessels			GT	kW
	2003	2017	2018	2003	2017	2018	2003	2017	2018		
Total	63.255	41.873	39.362	204.356	109.965	99.043	780	326	303	-38	-52
TR1	29.117	14.988	16.247	99.810	40.747	41.249	358	144	131	-44	-59
TR2	39.461	14.554	13.758	159.359	58.719	54.299	429	176	160	-65	-66
TR3	34.513	19.025	16.979	88.264	37.816	29.922	174	27	24	-51	-66
BT1	2.488	541	597	7.891	1.669	1.649	12	2	2	-76	-79
BT2	2.434	541	.	7.672	1.669	.	11	2	.	.	.
GN1	7.763	2.580	2.456	37.615	10.626	10.443	235	67	66	-68	-72
GT1	1.707	1.814	1.668	6.264	6.178	5.495	37	34	31	-2	-12
LL1	1.128	.	23	5.433	.	152	32	.	2	.	.

Source: The Danish Fishery Agency Effort Register per 30th April 2019.

The Baltic Sea:

Capacity fluctuations for Danish vessels 8 metres and above in the Baltic 2003, 2017 and 2018.

	GT			kW			No. Vessels			Change (%) in 2003-2018	
	2003	2017	2018	2003	2017	2018	2003	2017	2018	GT	kW
Total	18.165	4.496	3.991	83.675	24.296	22.680	479	189	179	-78	-73
Western Baltic	16.986	4.193	3.553	79.480	22.303	21.084	464	177	173	-79	-73
Eastern Baltic	8.505	2.262	1.560	38.374	8.868	6.555	188	44	30	-82	-83

Source: The Danish Fishery Agency Effort Register per 30th April 2019.