7 Orange roughy (*Hoplostethus atlanticus*) in the Northeast Atlantic

7.1 Stock description and management units

The stock structure of this species is unknown. The information available is insufficient to admit the existence of separate populations of orange roughy in the North Atlantic.

For assessment purposes, ICES considers three assessment units along ICES area:

- Subarea 6;
- Subarea 7;
- Orange roughy in all other areas.

Given the scarcity of spatial fisheries data, biological and genetics data, WGDEEP have not altered these assessment units.

Orange roughy is an aggregating species and the spatial scale of current management units would not prevent sequential depletion of local aggregations. Such local aggregations may not represent different biological populations, i.e. a biological population may comprise several local aggregations. However, the sequential depletion of local aggregations could lead to depletion at stock level. Therefore, ICES has recommended that where the small-scale distribution is known, this should be used to define smaller and more meaningful management units. In other words, where aggregations are known, their biomass should be estimated to derive small-scale catch levels that can be sustained at aggregation level. Nevertheless, the methodology to do that is hardly available.

7.2 Orange roughy (*Hoplostethus Atlanticus*) in Subarea 6

7.2.1 The fishery

There was a French target fishery, centred on spawning aggregations around the Hebrides Terrace Seamount in the early 1990s. Irish vessels exploited aggregations further south in divisions 7c and 7k in the early 2000, but directed fisheries had ceased by 2006. No fishing and no catch were reported for years 2017-2021. From 2017, following the ban of trawling deeper than 800 m in EU waters and for EU vessels in international waters (EU regulation 2016/2336 of 14 December 2016), catch by EU vessels are expected to be negligible or none.

7.2.2 Landings trends

Table 7.2.1 and Figure 7.2.1 show the landings (ICES estimates) data for orange roughy for ICES Subarea 6 as reported to ICES or as reported to the WGDEEP. In recent years, only a small landing, 700 kg rounded to 1 tonne (Table 7.2.1) was landed by the Faroe Islands in 2016. The cumulative landings in Subarea 6 since 1988 were 7188 tonnes. There were no landings in 2017–2022.

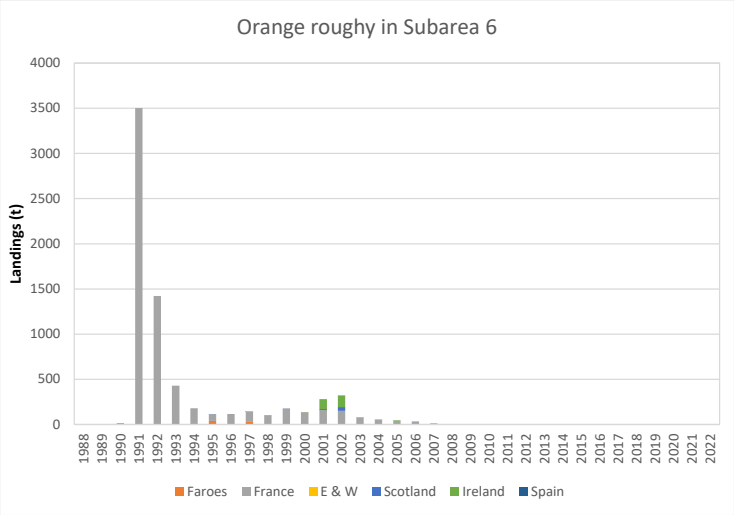

Figure 7.2.1. Time-series of orange roughy landings by country in ICES Subarea 6.

7.2.3 ICES Advice

The ICES advice was published in 2020 for **2021–2024**. It applies to orange roughy in the North-east Atlantic and states that when the precautionary approach is applied, there should be zero catches in each of the years 2021–2024.

7.2.4 Management

In 2003 a TAC was introduced for orange roughy in Subarea 6, this TAC remained at 88 tonnes until 2006. In order to align the TAC with landings, the TAC for EU vessels in Area 6 was reduced annually between 2007 and 2009. Zero TACs have been set for orange roughy in all EU waters since 2010. In recent years, the species is prohibited in all EU waters.

Landings in relation to TAC are displayed in Table 7.2.2.

Table 7.2.2. EU TACs and landings in EU and international waters of 6.

		Landing (t)	
Year	TAC (t)	EU vessels	Total
2003	88	81	81
2004	88	56	56
2005	88	45	45
2006	88	33	33
2007	51	12	12
2008	34	5	5
2009	17	2	2
2010	0	0	0

	Landing (t)		
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	1
2017	0	0	0
2018	0	0	0
2019	0	0	0
2020	0	0	0
2021	0	0	0
2022	0	0	0

7.2.5 Data available

7.2.5.1 Landings and discards

Landings are in Table 7.2.1.

Raised discard weights were not available for 2014 and 2015. For 2016 and 2017, discards were estimated to 0 (zero). In 2018-2022 there was no reported landings nor discards to ICES.

7.2.5.2 Length compositions

Length distributions are available from historical observer programmes and current deep-water surveys. Available information can be found in the stock annex.

7.2.5.3 Age compositions

No new information. Available information can be found in the stock annex.

7.2.5.4 Weight-at-age

No information.

7.2.5.5 Maturity and natural mortality

No new information. Available information can be found in the stock annex.

7.2.5.6 Catch, effort and research vessel data

No new information. Available information can be found in the stock annex.

7.2.6 Data analyses

No new analysis was performed in 2023.

7.2.7 Management considerations

A zero TAC without allowing a bycatch can potentially lead to discarding if existing fisheries overlap with the distribution of orange roughy. However, since the ban of trawling deeper than 800 m the overlap between existing fisheries and the distribution of orange roughy might be minimal in EU waters of Subarea 6.

Due to the closure of the fishery in subareas 6 and 7 and trawling ban deeper than 800 m there are no fishery-dependent data to evaluate the status of the stocks.

PSA assessment of the susceptibility of orange roughy populations in Subareas 6 and 7 to current and deep-water trawl fisheries (see WGDEEP 2014, Section 7.3) has shown a strong reduction in risk over time when fisheries directed targeting practices stopped and continued with mixed deep-water trawl fisheries. Before the ban of trawling deeper than 800 m, some spatial overlap between the species and fisheries remained, such as on the ”flat” fishing grounds in Subarea 6 on the continental slope to the northwest of Ireland extending to the west of Scotland. Following the application of the ban of bottom trawling deeper than 800 m (EU regulation 2016/2336) this bycatch might be minor in EU fisheries because the fraction of orange rough biomass occurring shallower than 800 m is minor or inexistent.

Table 7.2.1. Orange roughy catch in Subarea 6.

Year	Faroes	France	E & W	Scotland	Ireland	Spain	Total
1988	-	-	-	-	-	-	0
1989	-	5	-	-	-	-	5
1990	-	15	-	-	-	-	15
1991	-	3502	-	-	-	-	3502
1992	-	1422	-	-	-	-	1422
1993	-	429	-	-	-	-	429
1994	-	179	-	-	-	-	179
1995	40	74	-	2	-	-	116
1996	0	116	-	0	-	-	116
1997	29	116	1	-	-	-	146
1998	-	100	-	-	-	2	102
1999	-	175	-	-	0	1	176
2000	-	136	-	-	2	-	138
2001	-	159	-	11	110	-	280
2002	n/a	152	-	41	130	-	323
2003	-	79	-	-	2	-	81
2004	-	54	-	-	2	-	56

Year	Faroes	France	E & W	Scotland	Ireland	Spain	Total
2005	-	41	-	-	6	-	47
2006		32			1		33
2007		12					12
2008		5					5
2009		3					3
2010		0					0
2011		0					0
2012		0					0
2013		1(1)					3**
2014		0					0
2015							0
2016	1						1
2017							0
2018							0
2019							0
2020							0
2021							0
2022							0

7.3 Orange roughy (*Hoplostethus atlanticus*) in Subarea 7

7.3.1 The fishery

After the first few years (1991–93) of the fishery in Subarea 6, the main fishery for orange roughy in the northern hemisphere was in Subarea 7. This fishery peaked in 2002 and rapidly declined thereafter. Some targeted fishing from a few or even one single 20–24 m trawlers was carried out until 2008 while the remaining catches were a bycatch from the mixed deep-water trawl fishery operating on the slopes.

7.3.2 Landings trends

Table 7.3.1 and Figure 7.3.1 show the landings data for orange roughy as reported to ICES or as reported to the Working Group.

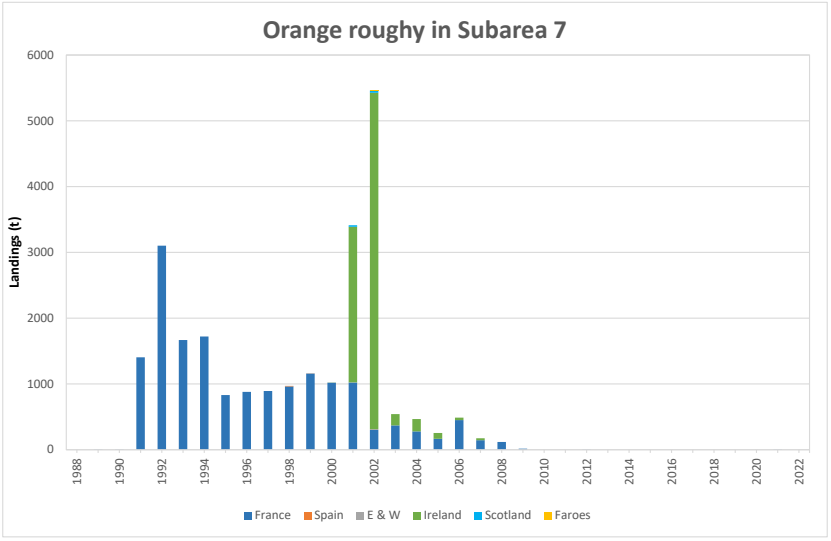

Figure 7.3.1. Time-series of orange roughy landings by country in ICES Subarea 7.

7.3.3 ICES Advice

The ICES advice was published in 2020 for **2021–2024**. It applies to orange roughy in the North-east Atlantic and states that when the precautionary approach is applied, there should be zero catch in each of the years 2021–2024.

7.3.4 Management

A TAC for orange roughy in Subarea 7 was first introduced in 2003. Landings in relation to TAC are displayed in the table below:

Table 7.3.2. EU TACs and landings in EU and international waters of Subarea 7.

		Landing (t)	
Year	**TAC (t)**	**EU vessels**	**Total**

2003	1349	541	541
2004	1349	467	467
2005	1149	255	255
2006	1149	489	489
2007	193	172	172
2008	130	118	118
2009	65	15	15
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	0
2017	0	0	0
2018	0	0	0
2019	0	0	0
2020	0	0	0
2021	0	0	0
2022	0	0	0

The TAC for orange roughy in Subarea 7 was set to 0 t for 2022. No catch was reported.

7.3.5 Data available

7.3.5.1 Landings and discards

Landings are shown are in Table 7.3.1.

There were no landings since 2010 until 2021 where 0.003 tonnes were reported from France in InterCatch from Division 7.e, which should be considered as an error in landings statistics as orange roughy does not occur in 7.e, which does not include depth suitable to the species. Discards of orange roughy from the French mixed deep-water fishery in Subareas 6 and 7 were estimated from observer data. In recent years, discards estimated at fleet level have been calculated for total discards and by species. In 2012, the estimated discards of orange roughy was 400

kg. More recent discards are lesser because the main depth range of the species is no longer accessible to bottom trawlers in EU and UK waters.

7.3.5.2 Length compositions

No new information available. Historic information can be found in the stock annex.

7.3.5.3 Age compositions

No new information available. Historic information can be found in the stock annex.

7.3.5.4 Weight-at-age

No data.

7.3.5.5 Maturity and natural mortality

No new information available. Historic information can be found in the stock annex.

7.3.5.6 Catch, effort and research vessel data

No new information. Available information can be found in the stock annex.

7.3.6 Management considerations

See section 6.1.1. Management considerations.

Table 7.3.1. Working Group estimates of landings of orange roughy, *Hoplostethus atlanticus,* by country in Subarea 7. Reported landings after 2012 have been 0 and the table was not expanded for these years.

Year	France	Spain	E & W	Ireland	Scotland	Faroes	Total
1988	-	-	-	-	-	-	0
1989	3	-	-	-	-	-	3
1990	2	-	-	-	-	-	2
1991	1406	-	-	-	-	-	1406
1992	3101	-	-	-	-	-	3101
1993	1668	-	-	-	-	-	1668
1994	1722	-	-	-	-	-	1722
1995	831	-	-	-	-	-	831
1996	879	-	-	-	-	-	879
1997	893	-	-	-	-	-	893
1998	963	6	-	-	-	-	969
1999	1157	4	-	-	-	-	1161
2000	1019	-	-	1		-	1020
2001	1022	-	1	2367	22	-	3412
2002	300		14	5114	33	4	5465

Year	France	Spain	E & W	Ireland	Scotland	Faroes	Total
2003	369			172			541
2004	279			188			467
2005	165			90			255
2006	451			37			489
2007	145			28			164
2008	118						118
2009	15						15
2010							0
2011							0
2012	2						2

7.4 Orange Roughy (*Hoplostethus atlanticus*) in subareas 1, 2, 4, 5, 8, 9, 10, 12 and 14 and Division 3.a

7.4.1 The fishery

Fisheries have been conducted in Divisions 5.a–b and Subareas 8, 10 and 12. Most started in the early 1990s, the exception being Subarea 10 which started in 1996. Since 2010, fisheries are mainly occurring in subareas 10 and 12, with sporadic catches in 5.a, 5.b and 9. In the period 2011-2019, one Faroese trawler operated a small directed fishery in ICES Subareas 10 and 12 (Ofstad, 2020). In recent years, Iceland had catches in 5a.

7.4.2 Landing trends

Table 7.4.0 and Figure 7.4.1 show ICES estimates of landings of orange roughy from ICES subareas 1, 2, 4, 5, 8, 9, 10, 12 and 14 and Division 3.a. Landings from the single trawler fishing in subareas 10 and 12 were between 50 and 150 tonnes per year in 2014 to 2019. They amounted to 150 tonnes in 2017. There were no catch of orange roughy in 2020. In 2021, around 4 tonnes were landed, mainly in Subdivision 5a and in 2022 this increased to 19 tonnes landed in 5a.

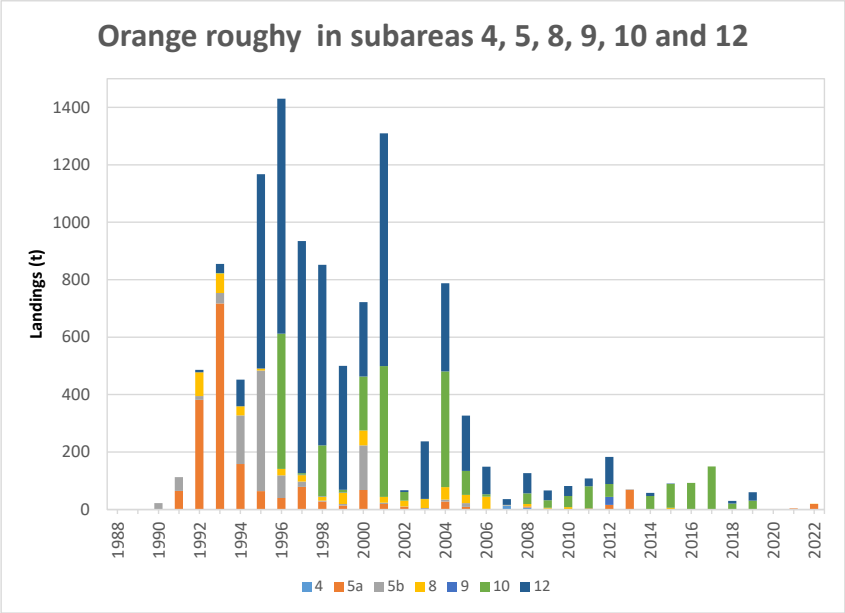

Figure 7.4.1. Time-series of orange roughy landings by subarea in all ICES areas (except subareas 6 and 7).

7.4.3 ICES Advice

The ICES advice was published in 2020 for **2021–2024.** It applies to orange roughy in the Northeast Atlantic and states that when the precautionary approach is applied, there should be zero catch in each of the years 2021–2024.

7.4.4 Management measures

The EU TAC is set to for 0. The TAC applies to Community waters and EC vessels in international waters. Landings in relation to EU TAC are shown in Table 7.4.1.

In the NEAFC Regulatory Area, targeted fisheries for orange roughy are not permitted to vessels of the contracting parties, which must take measures to decrease bycatch (Recommendation 6: 2016).

In addition, there are a number of management measures that are currently in place in the NEAFC regulatory area in relation to bottom trawling in known VMEs and outside existing fishing areas.

Table 7.4.1. EU TACs and landings in Community waters and waters not under the sovereignty or jurisdiction of third countries of 1, 2, 3, 4, 5, 8, 9, 10, 11, 12 and 14.

		Landing (t)	
Year	EU TAC (t)	EU vessels	Total
2005	102	71	278
2006	102	58	149
2007	44	16	36
2008	30	8	112
2009	15	5	62
2010	0	<1	83
2011	0	4	124
2012	0	28	167
2013	0	0	57
2014	0	0	58
2015	0	0	84
2016	0	0	0
2017	0	0	0
2018	0	0	0
2019	0	0	0
2020	0	0	0
2021	0	0	0
2022	0	0	0

7.4.5 Data available

7.4.5.1 Landings and discards

Landings are in Table 7.4.0. In recent years, Iceland had a fishery for orange roughy in 5a. No Faroese fishery in Subarea 10 since 2019. The Faroese catches were 93 and 150 tonnes in Subarea 10, respectively in 2016 and 2017. In 2016 and 2017, small discards were reported by Spain in

divisions 8.c and 9.a, 500 and 225 kg respectively in 2016 and 2017. In 2018 reported discards were 120 kg by Spain from Division 8.c. The Faroese catches were 21 tons in Subarea 10 and 9 tons in Subarea 12 in 2018 and 31 tons in area 10 and 29 tons in Subarea 12 in 2019. There were no catch of orange roughy in 2020. In 2021, 0.070 tonnes were reported from Scotland for Subdivision 4a and 3.587 tonnes from Iceland for Subdivision 5a. In 2022, 19 tonnes were reported from Iceland in 5a, 0.0034 tonnes from ES in 8c and 0.026 tonnes from France in 8b.

7.4.5.2 Length composition

Sampling of lengths, weight and gender of orange roughy was carried out by trained crew members on board the single Faroese fishing vessel operating in this fishery. Samples were taken randomly from the catch. The length distribution of the catch is between 50–70 cm total length (Figure 7.4.1), which is the same as in the Faroese experimental fishery in the nineties (Thomsen, 1998). The average length and weight of orange roughy females and males were around the same in 2011–2019 compared with the results from the experimental fishery in 1992–1998 (Thomsen, 1998) (Table 7.4.2). In 2019, only length measurements were taken, no sex or weight measurements were available. There was no new information on length composition since 2019.

Table 7.4.2. Mean length and weight by sex and combined (comb.). From sampling by trained crew members on board the single Faroese fishing vessel targeting orange roughy. [a] Thomsen, 1998.

Year	Area	Month	Average length (cm)			Average weight (kg)	
			Female	Male	Comb.	Female	Male
1992-1998[a]	Faroe Islands		61.4	58.6		4.4	3.7
1992-1998[a]	Hatton Bank		64.6	62.8		4.9	4.3
1992-1998[a]	Reykjanes ridge		58.9	56.4		3.6	3.0
1992-1998[a]	North of Azores		60.6	59.7		3.9	3.7
2011	27.10b	Feb., Mar.	61.4	60.5	60.9	3.5	3.2
2012	27.10b	Feb.	61.4	60.8	61.0	3.5	3.2
2013	27.10b	Jan.	60.9	57.7	59.6	4.3	3.8
2014	27.10b	Jun., Jul.	62.1	58.4	60.5	4.2	3.7
2015	27.10b	Jul., Aug.	59.0	58.3	58.6	3.7	3.5
2016	27.10b	Jun., Oct., Nov.	61.4	58.7	60.1	4.3	3.7
2017	27.10b	Nov.	60.6	57.5	58.7	3.9	3.4
2018	27.10b, 27.12c	Feb.	63.4	60.1	61.5	4.2	3.8
2019	27.10b, 27.12cd	Feb., Mar.			61.4		

7.4.5.3 Age composition

No data.

7.4.5.4 Weight-at-age

No data.

7.4.5.5 Maturity and natural mortality

No data.

7.4.5.6 Catch, effort and research vessel data

Catch and effort data were collected on a haul-by-haul basis in the Faroese fishery.

Orange roughy is caught occasionally in the stratified bottom trawl survey in East Greenland (Division 14.b) (Nielsen et. al., 2019). The species was only caught in 2008, 2013, 2014 and 2015 (Figure 7.4.2). In 2014 and 2015, estimated biomass was 1.7 t and 1.1 t, respectively, and all other years it was zero or very close to. No length distributions are calculated because of too few specimens (N<20) has been caught.

There was no information available of orange roughy in ICES division 14.b in the period 1999-2019 (Nilsen, 2020).

7.4.6 Data analysis

No data analysis was carried out in 2022.

7.4.7 Management considerations

Due to its very low productivity, orange roughy can only sustain very low rates of exploitation. Currently, it is not possible to manage a sustainable fishery for this species. ICES recommends no directed fisheries for this species. Bycatches in mixed fisheries should be as low as possible.

The zero EU TAC implies that no EU fishing for the species is allowed. The application of the EU regulation 2016/2336, establishing specific conditions for fishing for deep-sea stocks in the north-east Atlantic implies that bycatch in EU trawl fisheries might be minor as a consequence of the ban of fishing deeper than 800 m with trawls in this regulation. Possible bycatch should be minor because the fraction of orange rough biomass occurring shallower than 800 m is minor or inexistent. With the exception of the black scabbardfish fishery in Subarea 9.a, where bycatch of orange roughy are not known to occur, there are no EU longline fisheries at depth where orange roughy occurs.

Concerns were raised at the WGDEEP 2020 about potential sequential depletion of orange roughy at seamounts. It was recommended to perform an analysis of available VMS-data and investigate the fishing grounds exploited by this fishery.

In 2015–2019 all landings from the stock were caught in the NEAFC RA.

7.4.8 References

ICES. 2014. Report of the Working Group on Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP), 4–11 April 2014, Copenhagen, Denmark. ICES CM 2014/ACOM:17. 862 pp.

Nilsen, J., Nogueira, A., and Christensen, H.T. 2019. Survey results of roughhead grenadier, roundnose grenadier, greater silver smelt, blue ling, tusk, black scabbardfish, ling, and orange roughy in ICES subdivision 14.b.2 in the period 1998-2016. WD05 WGDEEP 2019.

Nilsen, J. 2019. Commercial catches of roundnose grenadier, roughhead grenadier, greater silver smelt, blue ling, tusk, black scabbard fish, ling and orange roughy in ICES division 14b in the period 1999-2019. WD02 WGDEEP 2020.

Ofstad, L.H. 2020. Faroese fishery of orange roughy in ICES areas 10 and 12. WD01 WGDEEP 2020.

Thomsen, B. 1998. Faroese quest of orange roughy in the North Atlantic. Copenhagen (Denmark), ICES.

7.4.9 Tables and Figures

Table 7.4.0a. Working Group estimates of landings in tonnes of orange roughy, *Hoplostethus atlanticus*, in Division 5.a.

Year	Iceland	Total
1988	-	0
1989	-	0
1990	-	0
1991	65	65
1992	382	382
1993	717	717
1994	158	158
1995	64	64
1996	40	40
1997	79	79
1998	28	28
1999	14	14
2000	68	68
2001	19	19
2002	10	10
2003	0	0
2004	28	28
2005	9	9
2006	2	2
2007	0	0
2008	4	4
2009	<1	<1
2010	<1	<1
2011	4	4
2012	16	16
2013	54	54

Year	Iceland	Total
2014	0	0
2015	0	0
2016	0	0
2017	0	0
2018	0	0
2019	0	0
2020	0	0
2021	4	4
2022	19	19

Table 7.4.0b. Working Group estimates of landings in tonnes of orange roughy, *Hoplostethus atlanticus*, in Division 5.b.

Year	Faroes	France	Total
1988	-	-	0
1989	-	-	0
1990	-	22	22
1991	-	48	48
1992	1	12	13
1993	36	1	37
1994	170	+	170
1995	419	1	420
1996	77	2	79
1997	17	1	18
1998	-	3	3
1999	4	1	5
2000	155	0	155
2001	1	4	5
2002	1	0	1
2003	2	3	5
2004		7	7

Year	Faroes	France	Total
2005	3	10	13
2006	0	0	0
2007	0	1	1
2008	0	<1	<1
2009	<1	2	2
2010	<1	<1	<1
2011	0	0	0
2012	0	0	0
2013	1		1
2014	0		0
2015	0		0
2016	0	0	0
2017	0	0	0
2018	0	0	0
2019	0	0	0
2020	0	0	0
2021			0
2022			0

Table 7.4.0c. Working Group estimates of landings in tonnes of orange roughy, *Hoplostethus atlanticus*, in Subarea 8.

Year	France	Spain	E & W	Total
1988	-	-	-	0
1989	0	-	-	0
1990	0	-	-	0
1991	0	-	-	0
1992	83	-	-	83
1993	68	-	-	68
1994	31	-	-	31
1995	7	-	-	7

Year	France	Spain	E & W	Total
1996	22	-	-	22
1997	1	22	-	23
1998	4	10	-	14
1999	33	6	-	39
2000	47	-	5	52
2001	20	-	-	20
2002	20	-	-	20
2003	31			31
2004	43			43
2005	29			29
2006	43			43
2007	1			1
2008	8			8
2009	13			13
2010	8			8
2011	0			0
2012	0			0
2013	0			0
2014				0
2015	6			6
2016	0			0
2017	0	0	0	0
2018	0	0	0	0
2019	0	0	0	0
2020	0	0	0	0
2021				0
2022	0		0	0

Table 7.4.0d. Working Group estimates of landings in tonnes of orange roughy, *Hoplostethus atlanticus*, in Subarea 9.

Year	Portugal	Spain(1)	Total
1990	0	-	0
1991	0	-	0
1992	0	-	0
1993	0	-	0
1994	0	-	0
1995	0	-	0
1996	0	-	0
1997	0	1	1
1998	0	1	1
1999	0	1	1
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	4	0	4
2012	28		28
2013	0		0
2014			0
2015			0
2016			0
2017			0

Year	Portugal	Spain(1)	Total
2018			0
2019	0	0	0
2020			0
2021			0
2022			0

Included in landings from Subarea 9 until 2002

Table 7.4.0e. Working Group estimates of landings in tonnes of orange roughy, *Hoplostethus atlanticus*, in Subarea 10.

Year	Faroes	France	Norway	E & W	Portugal	Ireland	Total
1989	-	-	-	-	-		0
1990	-	-	-	-	-		0
1991	-	-	-	-	-		0
1992	-	-	-	-	-		0
1993	-	-	1	-	-		1
1994	-	-	-	-	-		0
1995	-	-	-	-	-		0
1996	470	1	-	-	-		471
1997	6	-	-	-	-		6
1998	177	-	-	-	-		177
1999	-	10	-	-	-		10
2000	-	3	-	28	157		188
2001	84	-	-	28	343		455
2002	30	-	-	-	-		30
2003		1					1
2004	384					19	403
2005	128	2					130
2006	8						8
2007	0						0
2008	37						37

Year	Faroes	France	Norway	E & W	Portugal	Ireland	Total
2009	26						26
2010	39						39
2011	77						77
2012	45						45
2013	0						0
2014	47 (1)						47
2015	83 (1)						83
2016	93 (1)						93
2017	150 (1)						150
2018	21 (1)						21
2019	31 (1)						31
2020							0
2021							0
2022							0

(1) Landings 2014–2019 were from Division 10.b

Table 7.4.0f. Working Group estimates of landings in tonnes of orange roughy, *Hoplostethus atlanticus*, in Subarea 12.

Year	Faroes	France	Iceland	Spain	E & W	Ireland	New Zealand	Russia	Total
1989	-	0	-	-	-			-	0
1990	-	0	-	-	-			-	0
1991	-	0	-	-	-			-	0
1992	-	8	-	-	-			-	8
1993	24	8	-	-	-			-	32
1994	89	4	-	-	-			-	93
1995	580	96	-	-	-			-	676
1996	779	36	3	-	-			-	818
1997	802	6	-	-	-			-	808
1998	570	59	-	-	-			-	629
1999	345	43	-	43	-			-	431
2000	224	21	-	-	2			12	259

Year	Faroes	France	Iceland	Spain	E & W	Ireland	New Zealand	Russia	Total
2001	345	14	-	-	2		450	-	811
2002	+	6	-	-	-		0	-	6
2003		64				136	0	-	200
2004	176	131					0		307
2005	158	36					0		193
2006	81	15							96
2007	20								20
2008	71								71
2009	34								34
2010	35								35
2011	27								27
2012	94								94
2013	2								2
2014	11								11
2015	1								1
2016	0								0
2017	0								0
2018	9								9
2019	29								29
2020									0
2021									0
2022									0

Table 7.4.0g. Orange roughy total international landings in tonnes in the ICES area, excluding Subareas 6 and 7.

Year	4	5.a	5.b	8	9	10	12	All areas
1988		0	0	0	0	0	0	0
1989		0	0	0	0	0	0	0
1990		0	22	0	0	0	0	22
1991		65	48	0	0	0	0	113

Year	4	5.a	5.b	8	9	10	12	All areas
1992		382	13	83	0	0	8	486
1993		717	37	68	0	1	32	855
1994		158	170	31	0	0	93	452
1995		64	420	7	0	0	676	1167
1996		40	79	22	0	471	818	1430
1997		79	18	23	1	6	808	935
1998		28	3	14	1	177	629	852
1999		14	5	39	1	10	431	500
2000		68	155	52	0	188	259	722
2001		19	5	20	0	455	811	1310
2002		10	1	20	0	30	6	67
2003		+	5	31	0	1	200	237
2004		28	7	43	0	403	307	788
2005		9	13	29	0	83	193	327
2006		2	0	43	0	8	96	149
2007	14		1	1	0	0	20	36
2008	7	4	<1	8	0	37	71	127
2009	0	1	2	3	0	26	34	66
2010	0	<1	<1	8	0	39	35	82
2011	0	4	0	0	<1	77	27	108
2012		16	0	0	28	45	94	183
2013		54	1	0	0	0	2	57
2014						47	11	58
2015				6		83	1	90
2016						93		93
2017						150		150
2018						21	9	30
2019						31	29	60
2020								0

Year	4	5.a	5.b	8	9	10	12	All areas
2021	0	4						4
2022		19		0				19

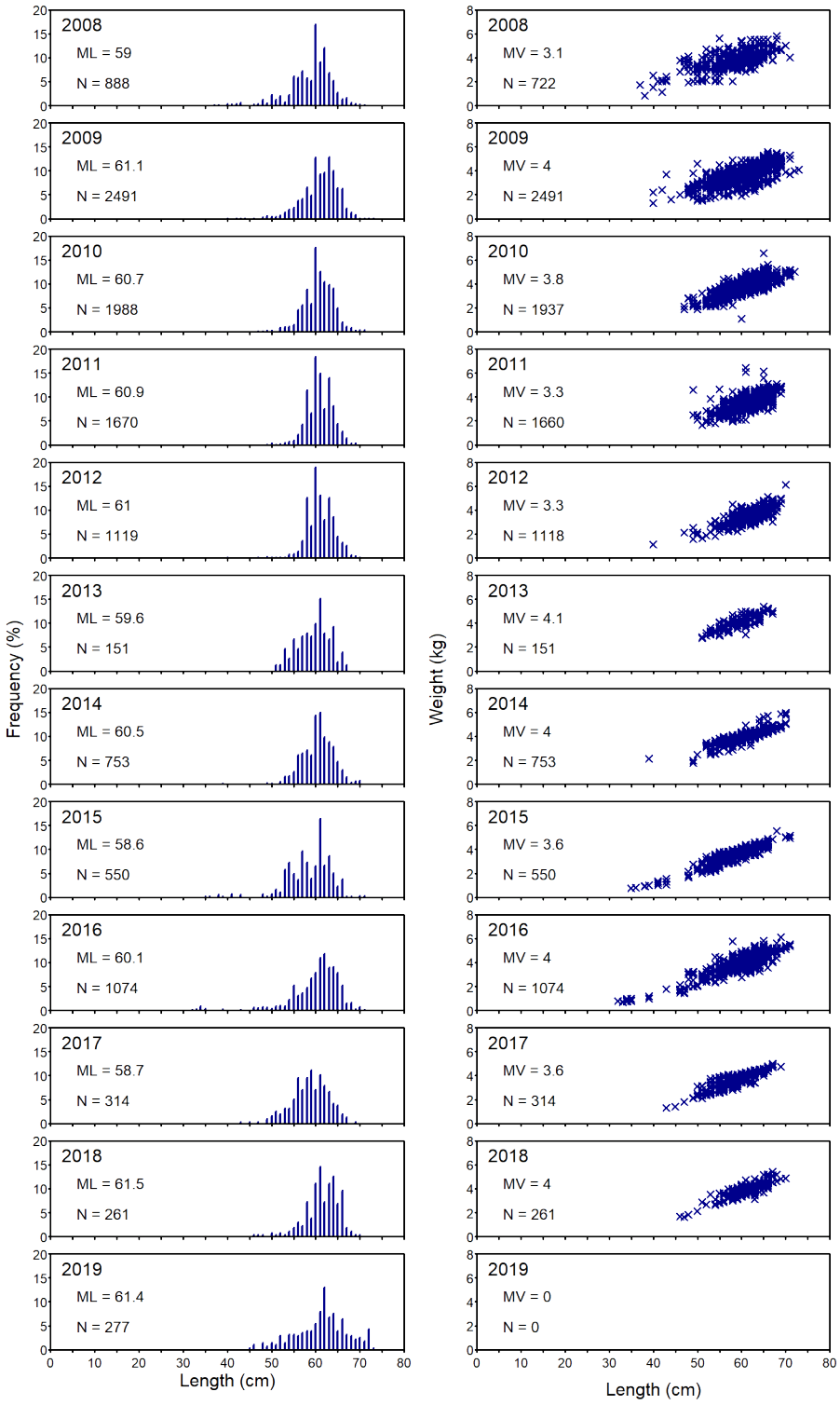

Figure 7.4.1. Length composition and length–weight relation of orange roughy in Faroese catches 2008–2019. There were no weight measurements of orange roughy in 2019. No catches since 2019.

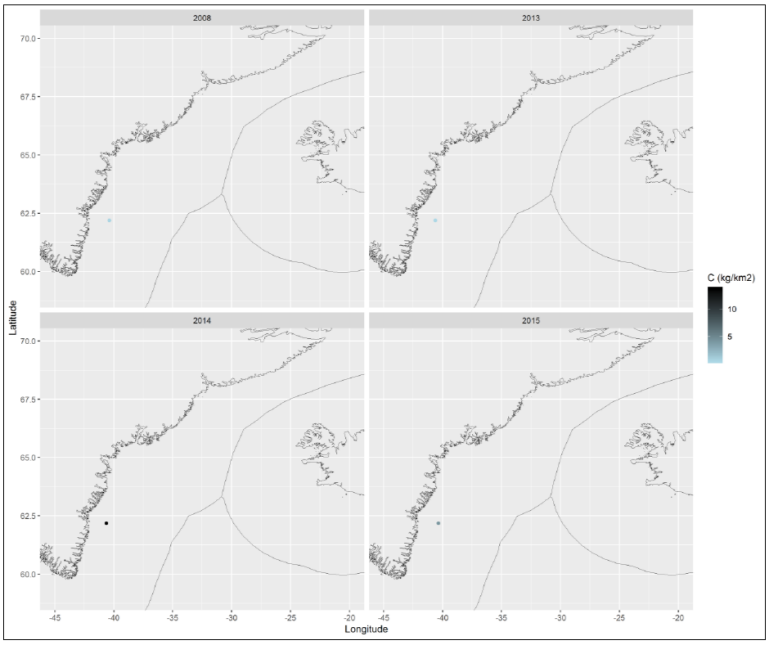

Figure 7.4.2. Distribution of survey catches of orange roughy at East Greenland in 1998–2016. No survey in 2001, 2017.