

NAPA Analysis of Coastal State Mackerel Catches

Summary

The westerly migration of the mackerel stock resulted in the establishment of a new Icelandic and Greenland mackerel fishery in their respective exclusive economic zones (EEZs) in 2007/08 and 2017 respectively. As the mackerel stock has once again migrated easterly these fisheries have increasingly been prosecuted in international waters (NEAFC zone).

NAPA has previously called for a cap on international catches to limit overfishing of mackerel. Our latest analysis suggests that such a cap could do more than simply restrict overfishing – but could act to reduce catches. Annex 6 provides a range of scenarios; including one that suggest a 20% cap on mackerel catches in international waters could address the current fishing beyond scientific advice.

Introduction

NAPA aims to secure an agreement on total allowable catches for Northeast Atlantic mackerel, Norwegian Spring Spawning (Atlanto-scandian) herring, and Northeast Atlantic blue whiting in line with scientific advice, and the implementation of a long-term science-based management agreement.

Our primary means for achieving this is through the fishery improvement project (FIP) for Northeast Atlantic mackerel and Atlanto-scandian herring and a MarinTrust improvement project for blue whiting. However, the original NAPA Action plan also concluded that a cap on catching in international waters be explored to determine whether this should be included as an additional focus in achieving our goals.

In February 2022 NAPA published a [position paper](#) proposing recommendations for North East Atlantic Coastal States and/or the North East Atlantic Fisheries Commission (NEAFC) to improve sustainable management of these fisheries. These included consideration of a cap on catching in international waters to constrain further overfishing.

This paper further explores individual Coastal State mackerel catches from 2010 to 2021. The original data were retrieved from NEAFC catch statistics¹ and are listed in Annex 1 and shown graphically in Annex 2. Annex 3 and 4 shows the same data but as catch percentages.

Background

There has been an increase in the percentage of mackerel caught from international waters in the last decade (Figures 1 & 2; tables 1 & 2).

The volume of mackerel caught in international waters has steadily increased from 48,141mt in 2010 to 311,423mt in 2021; the percentage of total catch caught in international waters has increased from 7% to 36%.

¹ <https://www.neafc.org/catch>

Table 1: Location of Coastal State mackerel catches (mt) from 2010-2021

Year	Own EEZ	Other EEZ	NEAFC
2010	524,204	135,551	48,141
2011	693,476	138,557	57,948
2012	664,646	72,316	62,124
2013	666,783	98,273	68,320
2014	956,229	140,899	128,028
2015	879,524	86,382	147,465
2016	804,794	70,400	124,044
2017	780,830	107,249	223,078
2018	580,354	204,385	199,001
2019	455,315	174,483	202,230
2020	552,210	227,073	249,825
2021	375,585	167,759	311,423

Figure 1: Location of Coastal State mackerel catches (mt) from 2010-2021

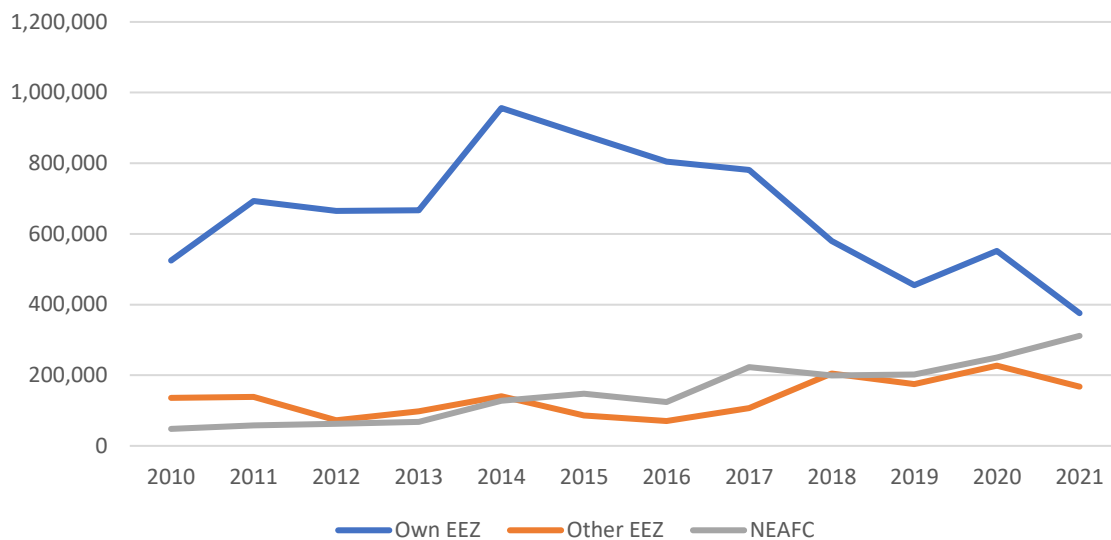


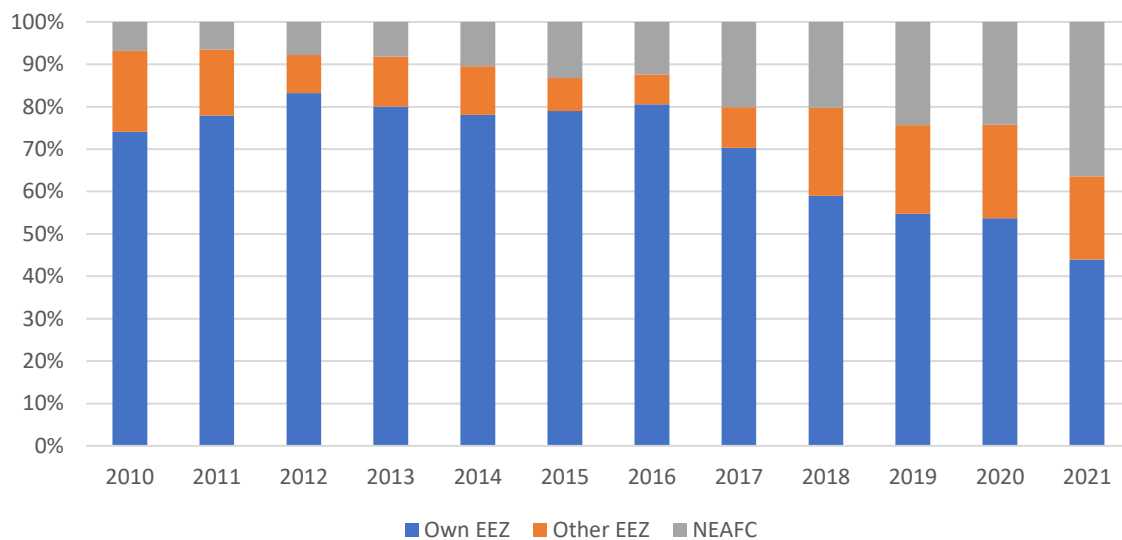
Figure 2 shows that there has been a decrease in the percentage of mackerel catch from Coastal States own EEZs since 2016, which followed a relatively stable period of 74-81% own EEZ catch. By 2021, own EEZ catch had decreased to 44% of mackerel catch.

This has been offset by an increase in international waters catch (as noted above). The catch of mackerel from fishing in other Coastal State's EEZs has remained steady at around 20%, with a dip to around 10% from 2012-2017.

Table 2: Location of Coastal State mackerel catches (%) from 2010-2021

Year	Own EEZ	Other EEZ	NEAFC
2010	74%	19%	7%
2011	78%	16%	7%
2012	83%	9%	8%
2013	80%	12%	8%
2014	78%	12%	10%
2015	79%	8%	13%
2016	81%	7%	12%
2017	70%	10%	20%
2018	59%	21%	20%
2019	55%	21%	24%
2020	54%	22%	24%
2021	44%	20%	36%

Figure 2: Location of Coastal State mackerel catches (%) from 2010-2021



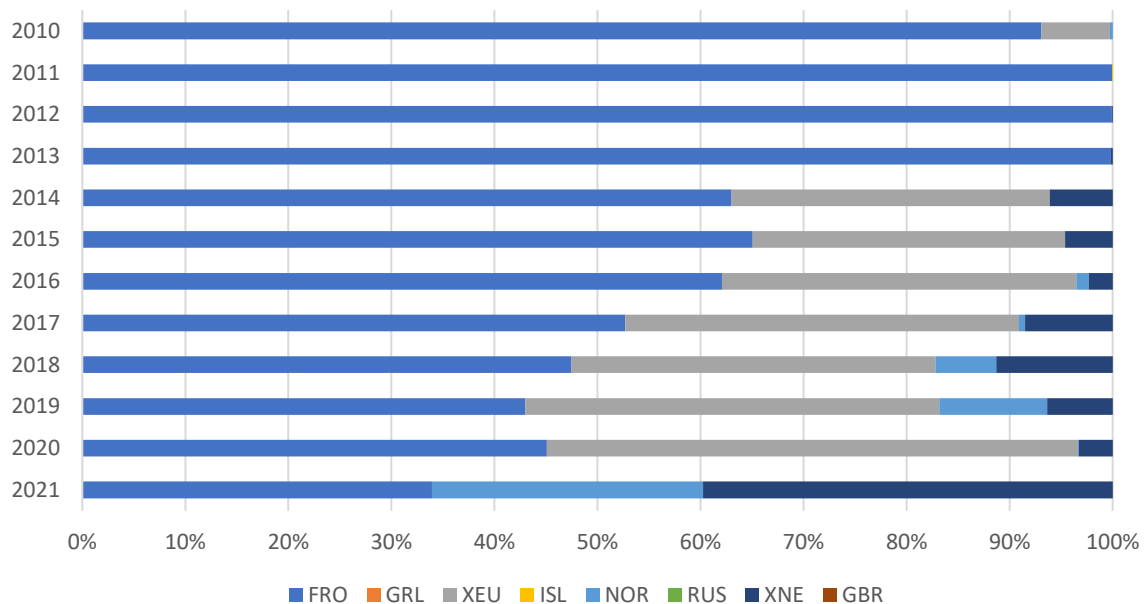
Coastal State Mackerel Catches

This section analyses individual Coastal State mackerel catches; in particular the reported location of catch from 2010 to 2021. Annex 5 contains the individual 2010-2021 Coastal State mackerel catches by region (by volume and percentage), and the proportion of mackerel catch by own EEZ, other Coastal State EEZ or NEAFC area from 2010-2021.

Faroese

Table 46 (Annex 5) and Figure 3 reveal that the Faroese mackerel catch increasing originated from EU waters until 2021. From 2011-2013 it was almost exclusively from the Faroese EEZ, but from 2014 the EU EEZ catch leapt to 30% to over half in 2020. In 2021, the EU catch dropped to zero. This can be explained by a lack of agreement to fish in EU (and UK post-Brexit) waters. Instead, nearly 40% of the Faroese mackerel catch came from international waters in 2021.

Figure 3: Faroese mackerel catches (%) by region 2010-2021²

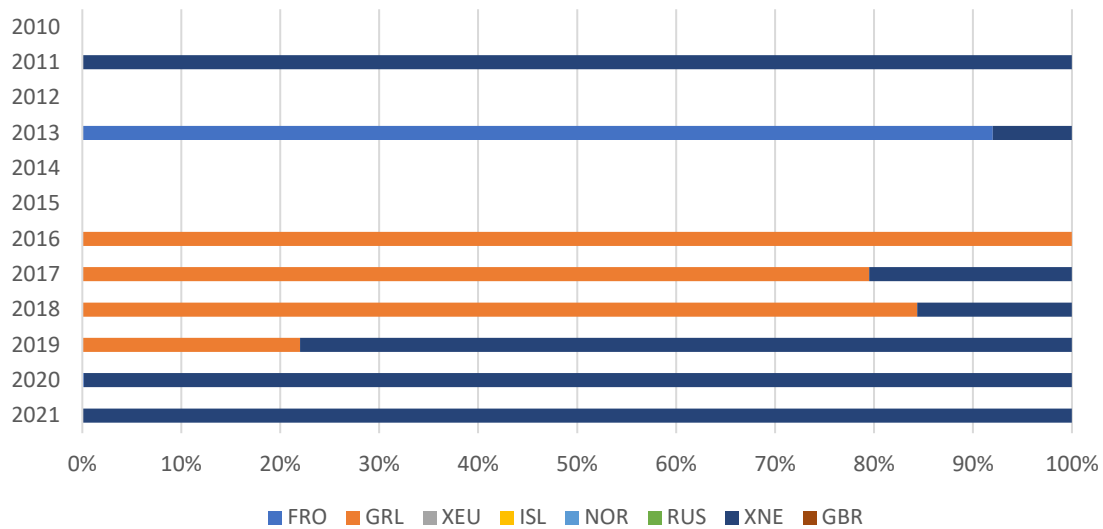


Greenland

Table 6 (Annex 5) shows that the Greenland mackerel catch was negligible until 2017, when the catch went to over 46,000mt from 145mt. Initially, that catch was entirely in the Greenland EEZ, but the proportion of catch from international waters has increased reaching 99.83% in 2020 and 100% in 2021. (Figure 4).

² FRO = Faroes; GRL = Greenland; XEU = European Union; ISL = Iceland; NOR = Norway; RUS = Russian Federation; XNE = NEAFC Area; GBR = United Kingdom

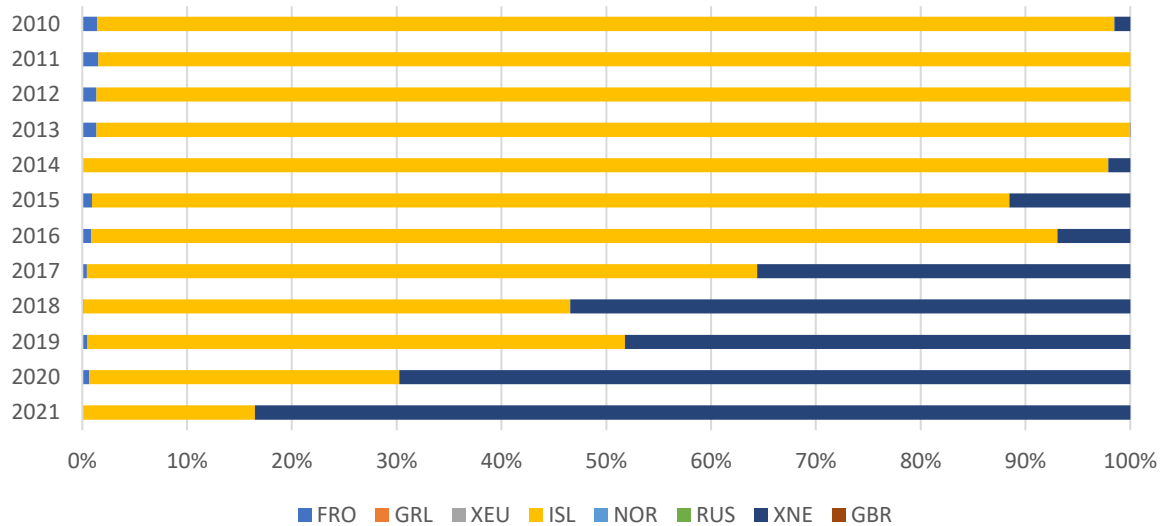
Figure 4: Greenland mackerel catches (%) by region 2010-2021



Iceland

Table 10 (Annex 5) and Figure 5 reveal that the proportion of Icelandic mackerel catch has decreased from the Icelandic EEZ from over 97% from 2010-2014 to less than 20% in 2021. With the exception of less than 1% of catch from the Faroese EEZ, this has been replaced by increasing catch from international waters. (Table 9; Annex 5).

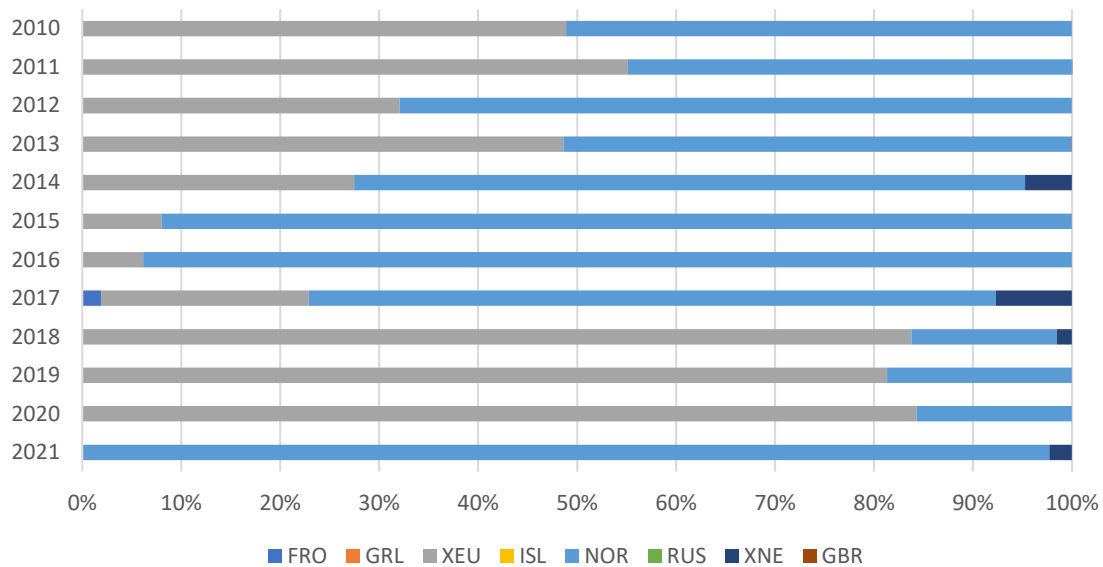
Figure 5: Icelandic mackerel catches (%) by region 2010-2021



Norway

The Norwegian mackerel catch has predominantly been from either the Norwegian or EU EEZ with minor catches from the Faroes EEZ (<2%) and international waters (maximum of 7.69% in 2017) (Table 12; Annex 5). Over time the proportion has changed from predominantly Norwegian EEZ catches, to over 80% in the EU EEZ from 2018. However, in 2021 the catch was almost entirely (97.73%) from the Norway EEZ. This can be partly explained by a lack of access agreement to post-Brexit UK waters (Figure 6).

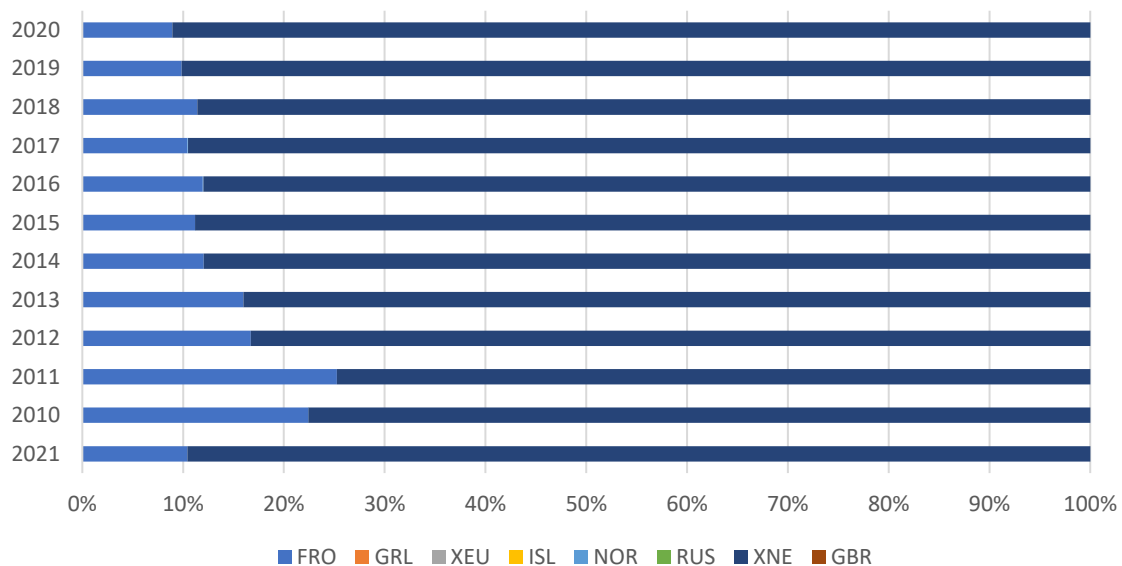
Figure 6: Norwegian mackerel catches (%) by region 2010-2021



Russian Federation

The location of the Russian Federation mackerel catch has remained relatively constant from 2010-2021 (Figure 16) with the majority from international waters and the remainder almost exclusively from the Faroese EEZ (Figure 7). The Russian Federation is not a Coastal State for mackerel so the high proportion of international catch is to be expected. The Faroese catch is through bilateral fishing agreements³.

Figure 7: Russian mackerel catches (%) by region 2010-2021

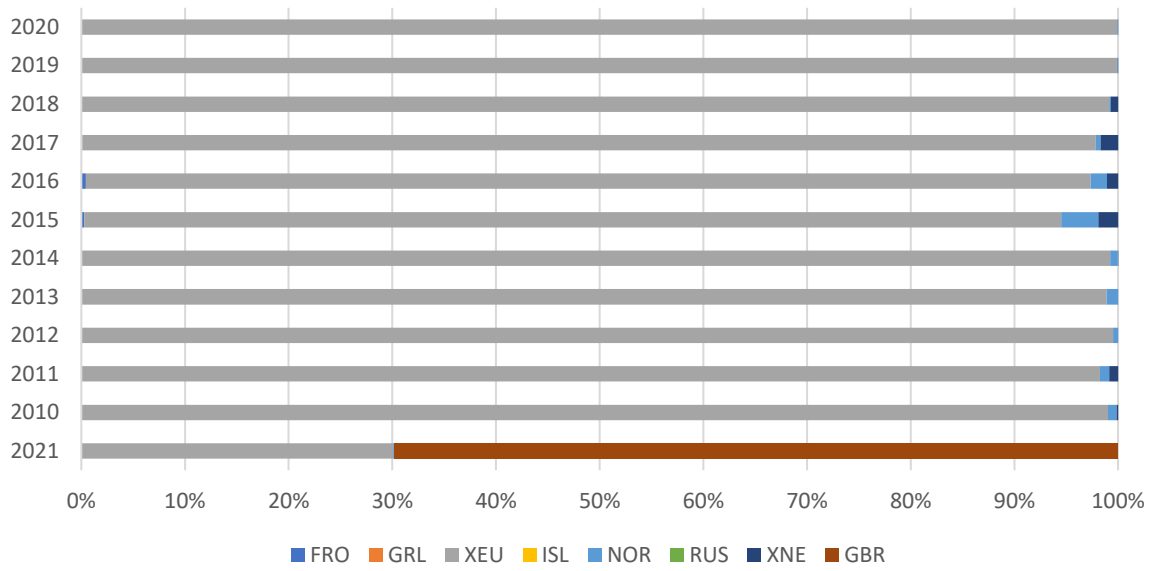


³ <https://fishingnews.co.uk/news/faroe-issues-exemption-for-russian-fishing-vessels/>

European Union

Up until Brexit, the European Union catch of mackerel was almost exclusively from the EU EEZ⁴ (Table 18; Annex 5) Between 2010 and 2020 the proportion from the EU EEZ has not dropped below 94%, with the remainder from the Norwegian, Faroese EEZs or International waters (Table 19; Annex 5 and Figure 8). In 2021, nearly 70% of the mackerel catch came from UK water – where they had previously occurred, albeit in community waters pre-Brexit.

Figure 8: EU mackerel catches (%) by region 2010-2021

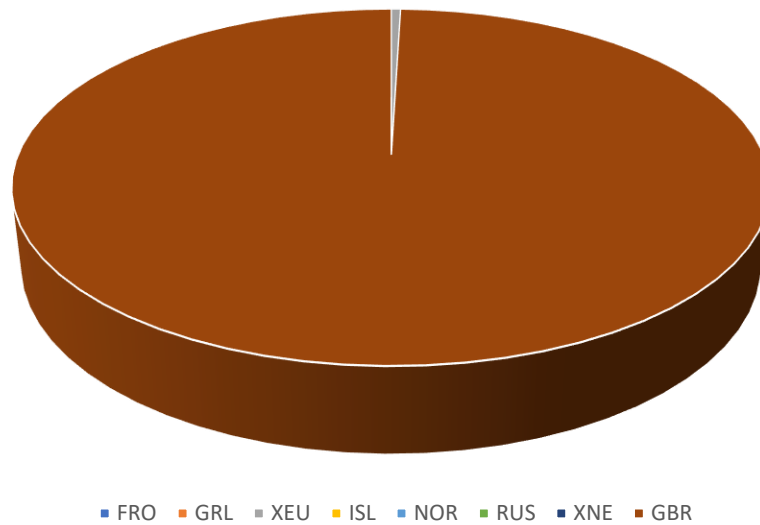


United Kingdom

Post-Brexit, the UK mackerel catch was almost entirely (99.53%) from the UK EEZ – with 1,049mt from the EU EEZ.

⁴ These figures will likely change when the UK component is removed; with the UK catch occurring almost exclusively in the UK EEZ.

Figure 9: UK mackerel catches (%) by region 2021



Summary

Table 20: Summary of mackerel catch origin by Coastal State

Coastal State	Origin of majority of Catches (2010-2021)	Trend of Increasing Catch Origin	Current (2021) Majority of Catches
Faroes	Faroes	EU	International Waters
Greenland	Greenland	International Waters	International Waters
Iceland	Iceland	International Waters	International Waters
Norway	Norway	EU	Norway
Russian Federation	International Waters	International Waters	International Waters
EU	EU	UK	UK
United Kingdom	UK	N/A	UK

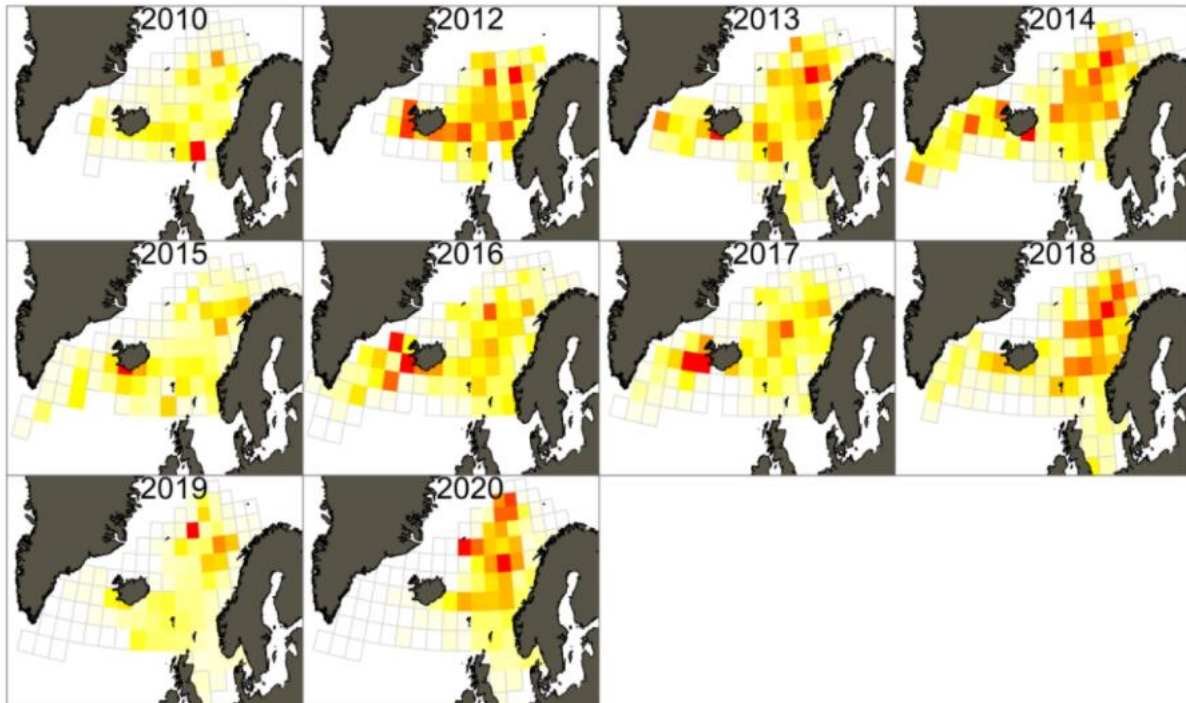
Table 20 reveals that there is a clear pattern of increased catch from international waters.

Why the Change in Catch Origins?

In February 2022, the Coastal States Mackerel Working Group published a report on the distribution of Northeast Atlantic Mackerel⁵. The key findings are summarised below:

- Nordic Seas have been the most important feeding ground for millions of tonnes of predominantly adult (> 3 years) mackerel in summer (June-August), particularly during the last 10 years from 2010 to 2020;
- The mackerel expanded fast from 2007 onwards, into northern parts of the Norwegian Sea as well as north along the Norwegian coast and westward into East Icelandic waters in 2007.
- Furthermore, the mackerel expanded westward into Southeast Greenlandic waters and north to Svalbard (78°N) from around 2013.
- There have been rapid and large changes in mackerel abundance, distribution, and migration patterns in the Nordic seas in summers 2007-2014. The stock has experienced a large-scale northward and westward expansion in the Nordic seas, particularly from 2010 to 2019.
- From 2018 onward there has been a reduction in abundance of mackerel in the western area compared to the years from 2010 to 2017 (Figure 10). This major shift in distribution of mackerel consisted of a substantial decline of mackerel in the Icelandic and Greenland waters from 2018-2020.
- The central and northern part of the Norwegian Sea experienced increased distribution, and abundance of mackerel from 2018 to 2020.
- Mackerel distribution had the highest densities recorded in the central and northern Norwegian Sea during summer 2020.

Figure 10: Annual distribution of mackerel. Colour scale goes from white (= 0) to red (= maximum value for the highest year).⁶

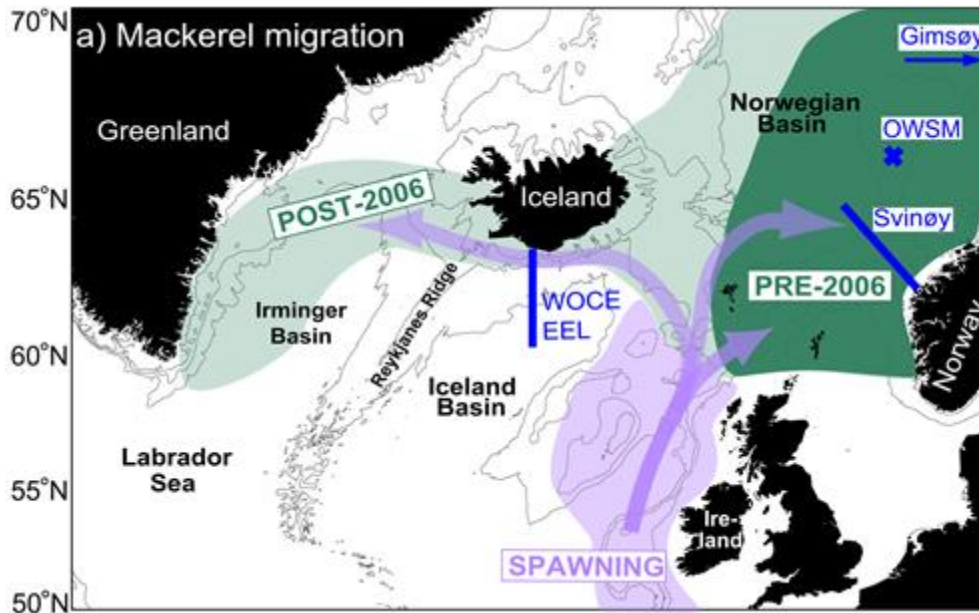


⁵ Not online – can be shared via email.

⁶ Taken from the cruise report from the International Ecosystem Summer Survey in the Nordic Seas (IESSNS) 1st July – 4th August 2020

These results correspond to a 2016 paper⁷ which also found that the Northeast Atlantic mackerel stock had increased and expanded its summer feeding migration west- and northwards since 2006 (figure 11).

Figure 11: Mackerel spawning areas (purple shading) along the European shelf and the post-spawning and summer feeding migrations (purple arrows). The pre-2006 mackerel summer feeding areas are shown as dark green with the post-2006 expansion in light green.



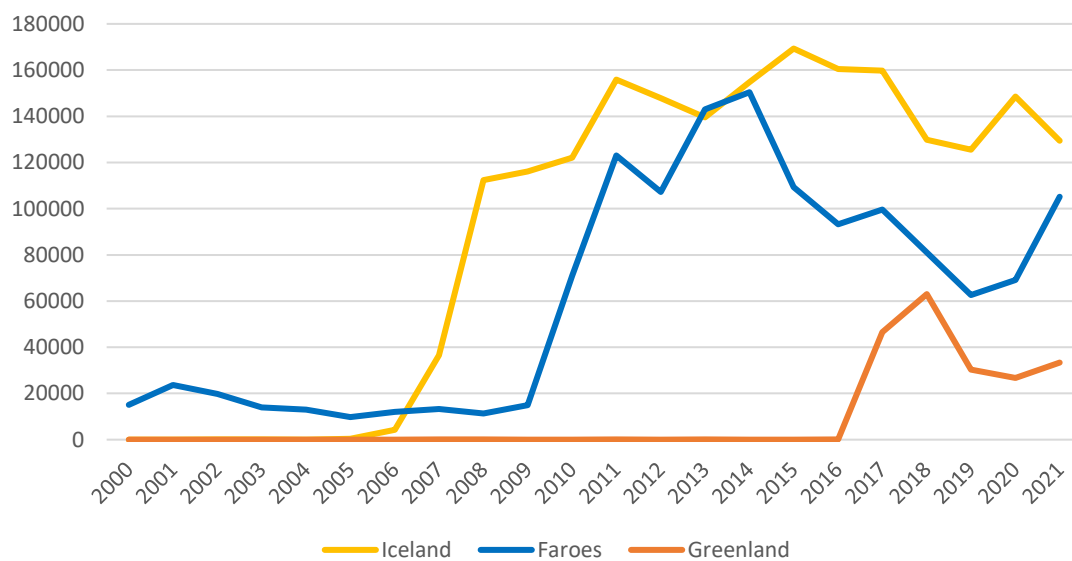
The increasing availability of mackerel in the waters of Iceland, the Faroes Islands and Greenland during the westward migration, precipitated these coastal States to increase their mackerel catches. Iceland increased their national annual quota from zero in 2004 to 112,353 tonnes in 2008, and the Faroe Islands increased theirs from a relatively stable average of 14,000mt from 2000 to 2009 to 122,985 tonnes in 2011. Greenland also saw significant shifts in fishing behaviour (Table 21; Figure 12). Greenland leapt from a negligible catch to over 46,000mt in 2017.

⁷ <https://online.ucpress.edu/elementa/article/doi/10.12952/journal.elementa.000105/112913/Nutrient-driven-poleward-expansion-of-the>

Table 21: Mackerel catches of Iceland, Faroes and Greenland (mt) from 2000-2021

Year	Iceland	Faroes	Greenland
2000	0	15,122	0
2001	0	23,684	0
2002	53	19,768	0
2003	122	14,014	0
2004	0	13,030	0
2005	363	9,770	0
2006	4,222	12,067	0
2007	36,489	13,339	144
2008	112,353	11,290	40
2009	116,160	14,912	0
2010	122,034	70,954	0
2011	155,844	122,985	100
2012	147,876	107,204	0
2013	139,532	143,001	50
2014	154,790	150,419	0
2015	169,337	109,334	0
2016	160,443	93,266	145
2017	159,834	99,667	46,569
2018	129,822	81,078	63,021
2019	125,516	62,662	30,263
2020	148,502	69,063	26,657
2021	129,481	105,096	33,360

Figure 12: Mackerel catches of Iceland, Faroes and Greenland (mt) from 2000-2021



It has been proposed that the increase in international catches (Figures 4 & 5), primarily by Iceland and Greenland has been driven by the retreat of mackerel eastwards from 2017 (figure 9); with the fisheries followed into international waters.

The increase in proportion of mackerel caught in EU waters by the Faroes and Norway (Figures 3 & 6) is likely more a result of the trilateral mackerel agreement (2014-2020).

Conclusion

The westerly migration of the mackerel stock led to the establishment of new mackerel fisheries in Iceland and Greenland's EEZ. These Icelandic and Greenland mackerel fisheries contributed 162,841mt (or 15%) to the total 2021 catch (1,077,349mt).

However, with the more recent eastward migration, these fisheries are now predominantly targeted in international waters (83.51% of Icelandic catch and 100% of Greenland catch in 2021).

There is an argument that the mackerel allocations of these Coastal States (and the Russian Federation) should better reflect the distribution of the mackerel stock (i.e. through zonal allocation).

In our recent [position paper](#), NAPA recommends that an allocation mechanism is urgently needed to be agreed and utilised by the Coastal States and NEAFC. Success will be founded on cooperation, with agreed processes and procedures for TAC-setting and quota allocation that can respond to shifts in stock distribution and biomass, coupled with quota trading and exchange mechanisms to balance quota availability with need (with built-in review periods), strong implementation and enforcement of regulations, an effective and responsive dispute resolution procedure, and supported by a strong science–policy interface.

Annex 1 NEAFC Mackerel Catch (mt) Data 2010-2020

2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE ⁸	GBR ⁹	Total
FRO ¹⁰	35,674	0	0	0	27,657	0	41,765	0	105,096
GRL ¹¹	0	0	0	0	0	0	33,360	0	33,360
ISL ¹²	83	0	0	21,263	0	0	108,135	0	129,481
NOR ¹³	0	0	12	0	264,540	0	6,123	0	270,675
RUS ¹⁴	14,192	0	0	0	0	0	122,011	0	136,203
XEU ¹⁵	0	0	54,108	0	265	0	29	125,550	179,952
GBR	0	0	1,049	0	0	0	0	221,533	222,582
Total	49,949	0	55,169	21,263	292,462	0	311,423	347,083	1,077,349

2020

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	31,131	0	35,597	0	65	0	2,270	69,063
GRL	43	1	0	0	0	0	26,613	26657
ISL	965	0	0	43,970	0	0	103,567	148,502
NOR	0	0	178,385	0	33,244	0	0	211,629
RUS	11,515	0	0	0	0	0	117,311	128,826
XEU	169	0	443,864	0	334	0	64	444,431
Total	43,823	1	657,846	43,970	33,643	0	249,825	1,029,108

2019

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	26,939	0	25,178	0	6,559	0	3,986	62,662
GRL	4	6,651	0	0	0	0	23,608	30,263
ISL	605	0	0	64,376	0	0	60,535	125,516
NOR	0	0	129,355	0	29,729	0	0	159,084
RUS	12,462	0	0	0	0	0	114,082	126,544
XEU	2	0	327,620	0	318	0	19	327,959
Total	40,012	6651	482,153	64,376	36,606	0	202,230	832,028

2018

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	38,494	0	28,639	0	4,778	0	9,167	81,078
GRL	2	53,171	0	0	0	0	9,848	63021
ISL	186	0	0	60,248	0	0	69,388	129,822
NOR	0	0	156,884	0	27,496	0	2,843	187,223
RUS	13,492	0	0	0	0	0	104,763	118,255
XEU	15	0	400,945	0	389	0	2,992	404,341
Total	52,189	53171	586,468	60,248	32,663	0	199,001	983,740

⁸ XNE = NEAFC Area

⁹ GBR = United Kingdom

¹⁰ FRO = Faroes

¹¹ GRL = Greenland

¹² ISL = Iceland

¹³ NOR = Norway

¹⁴ RUS = Russian Federation

¹⁵ XEU = European Union

2017

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	52,517	0	38,093	0	575	0	8,482	99,667
GRL	0	37,033	0	0	0	0	9,536	46,569
ISL	692	0	0	102,215	0	0	56,927	159,834
NOR	4,221	0	46,661	0	154,413	0	17,102	222,397
RUS	14,405	0	0	0	57	0	123,600	138,062
XEU	473	0	434,652	0	2,072	0	7,431	444,628
Total	72,308	37033	519,406	102,215	157,117	0	223,078	1,111,157

2016

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	57,894	0	32,081	0	1,140	0	2,151	93,266
GRL	0	145	0	0	0	0	0	145
ISL	1,403	0	0	147,911	0	0	11,129	160,443
NOR	0	0	12,933	0	197,412	0	0	210,345
RUS	14,447	0	0	0	87	0	106,380	120,914
XEU	1,787	0	401,432	0	6,522	0	4,384	414,125
Total	75,531	145	446,446	147,911	205,161	0	124,044	999,238

2015

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	71,149	0	33,149	0	0	0	5,036	109,334
GRL	0	0	0	0	0	0	0	0
ISL	1,549	0	0	148,280	0	0	19,508	169,337
NOR	5	0	19,438	0	222,544	0	0	241,987
RUS	14,374	0	0	0	3	0	114,030	128,407
XEU	1,263	0	437,551		16,601		8,891	464,306
Total	88,340	0	490,138	148,280	239,148	0	147,465	1,113,371

2014

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	94,801	0	46,450	0	0	0	9,168	150,419
GRL	0	0	0	0	0	0	0	0
ISL	72	0	0	151,472	0	0	3,246	154,790
NOR	383	0	75,924	0	188,221	0	13,185	277,713
RUS	14,021	0	0	0	0	0	102,420	116,441
XEU	73	0	521,735	0	3,976	0	9	525,793
Total	109,350	0	644,109	151,472	192,197	0	128,028	1,225,156

2013

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	142,735	0	0	0	0	0	266	143,001
GRL	46	0	0	0	0	0	4	50
ISL	1,901	0	0	137,610	0	0	21	139,532
NOR	0	0	80,079	0	84,573	0	76	164,728
RUS	12,909	0	0	0	0	0	67,907	80,822
XEU	0	0	301,865	0	3,338	0	0	305,203
Total	157,591	0	381,944	137,610	87,911	0	68,274	833,336

2012

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	107,115	0	0	0	0	0	89	107,204
GRL	0	0	0	0	0	0	0	0
ISL	1,987	0	0	145,889	0	0	0	147,876
NOR	0	0	56,452	0	119,654	0	0	176,109
RUS	12,460	0	0	0	0	0	62,035	74,587
XEU	0	0	291,988	0	1,417	0	0	293,405
Total	121,562	0	348,440	145,889	121,071	0	62,124	799,181

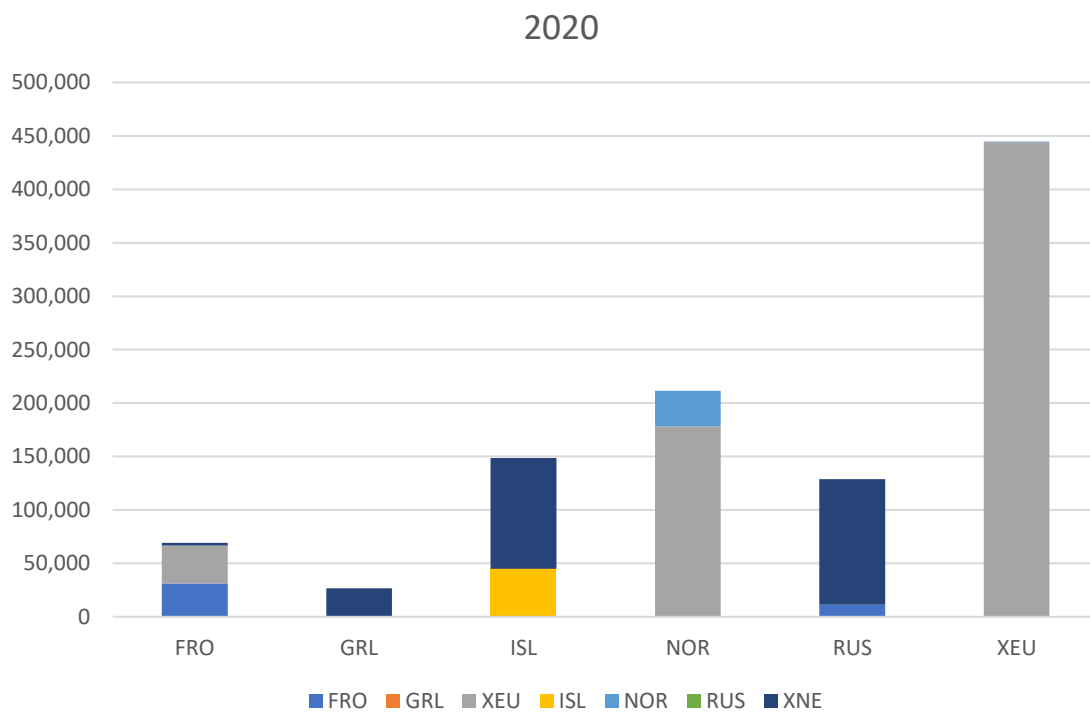
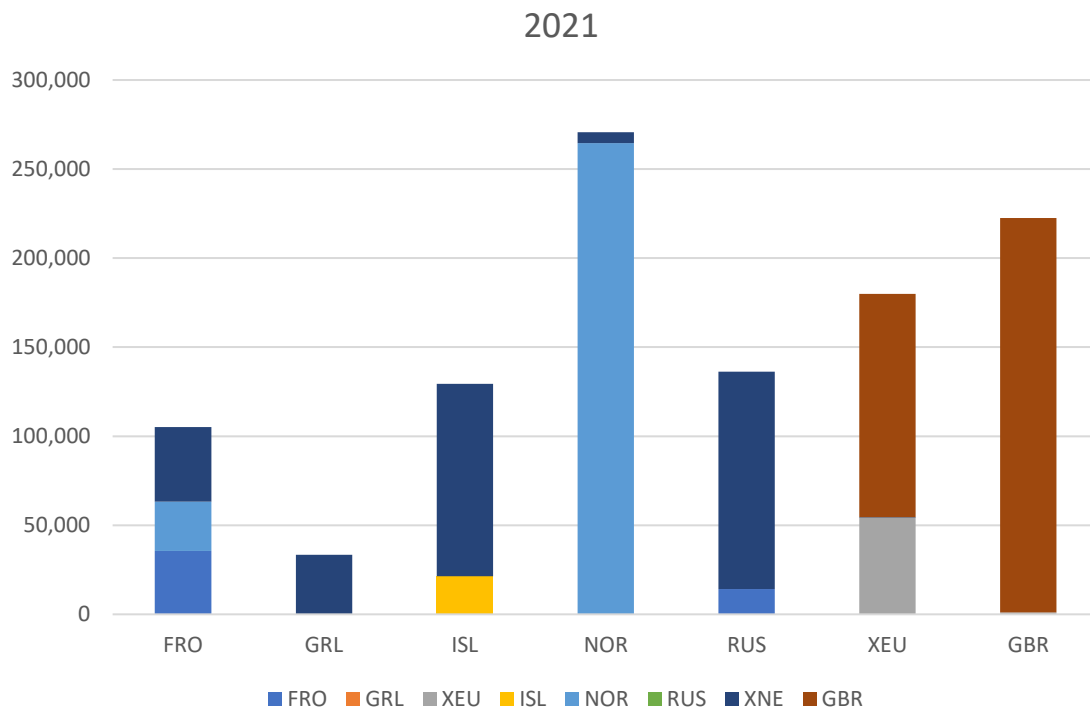
2011

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	122,984	0	0	1	0	0	0	122,985
GRL	0	0	0	0	0	0	100	100
ISL	2,412	0	0	153,432	0	0	0	155,844
NOR	0	0	114,624	0	93,329	0	1	207,955
RUS	18,584	0	0	0	0	0	55,019	73,603
XEU	0	0	323,731	0	2,936	0	2,828	329,495
Total	143,980	0	438,355	153,433	96,265	0	57,948	889,982

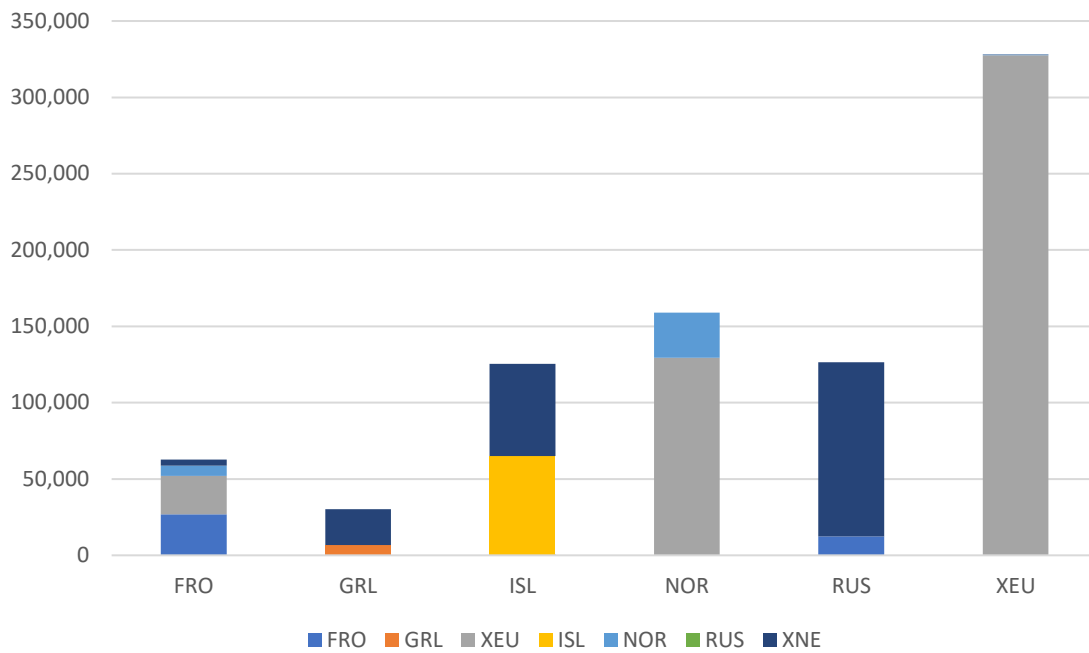
2010

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	66,039	0	4,722	0	193	0	0	70,954
GRL	0	0	0	0	0	0	0	0
ISL	1,707	0	0	118,488	0	0	1,839	122,034
NOR	0	0	113,787	0	118,934	0	0	232,721
RUS	13,301	0	0	0	1	0	45,999	59,309
XEU	0	0	220,743	0	1,840	0	303	222,886
Total	81,047	0	339,252	118,488	120,968	0	48,141	707,904

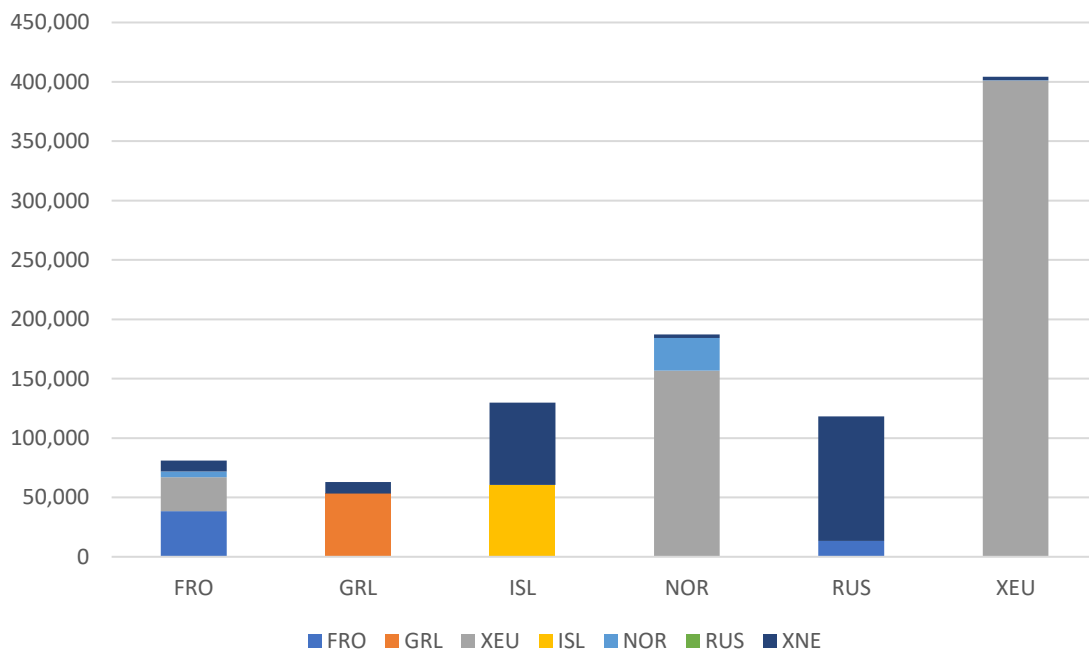
Annex 2: Location of Mackerel Catches (mt) by NEAFC Coastal State over time



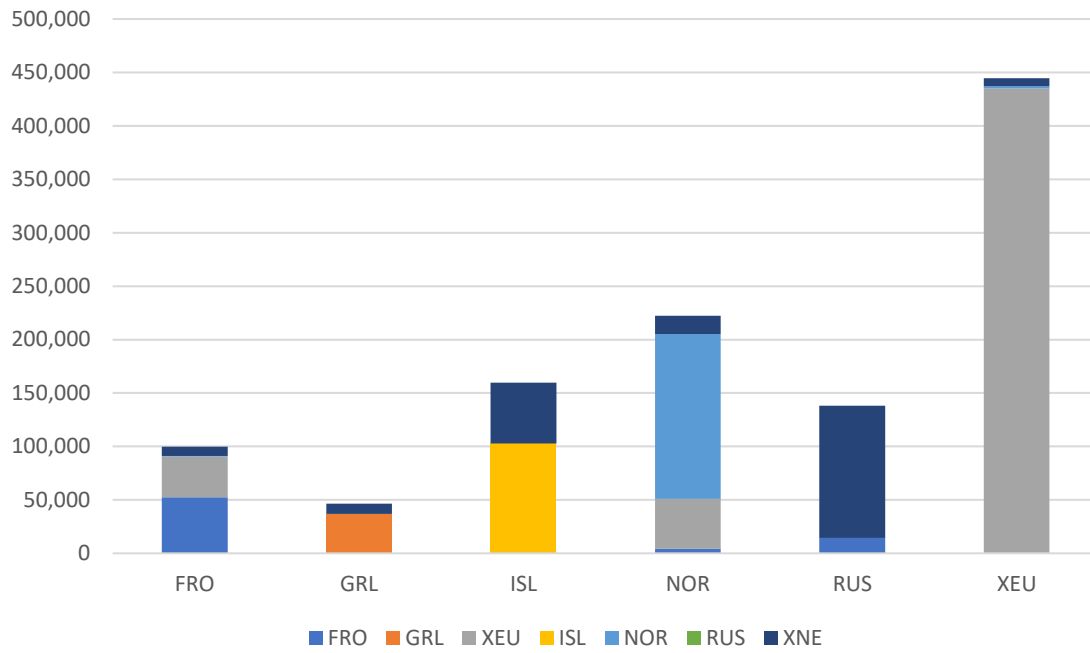
2019



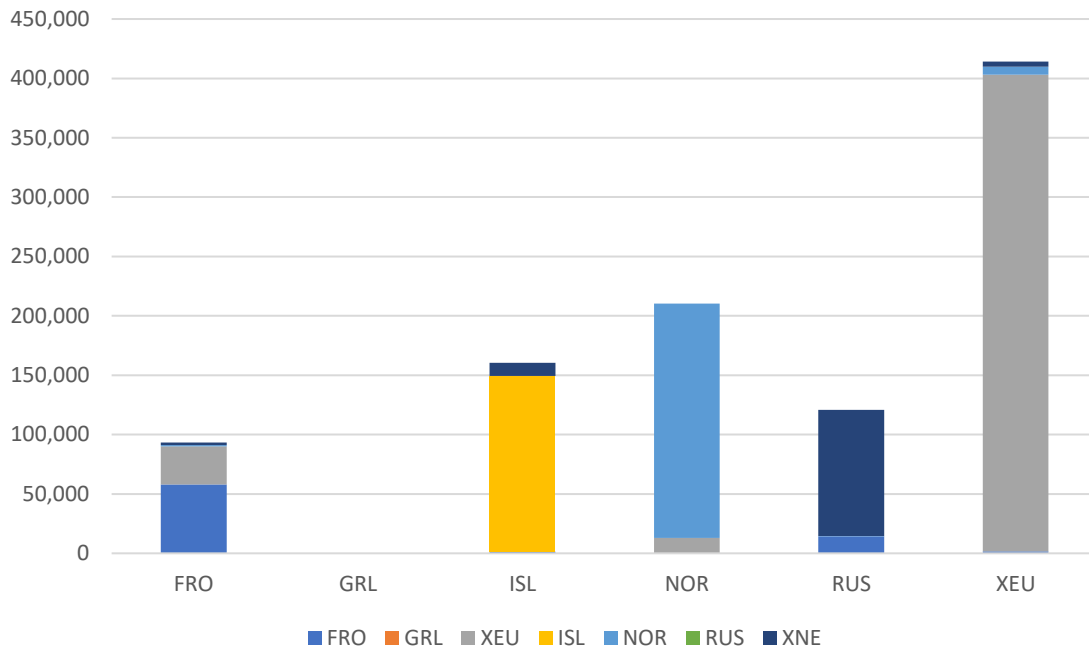
2018



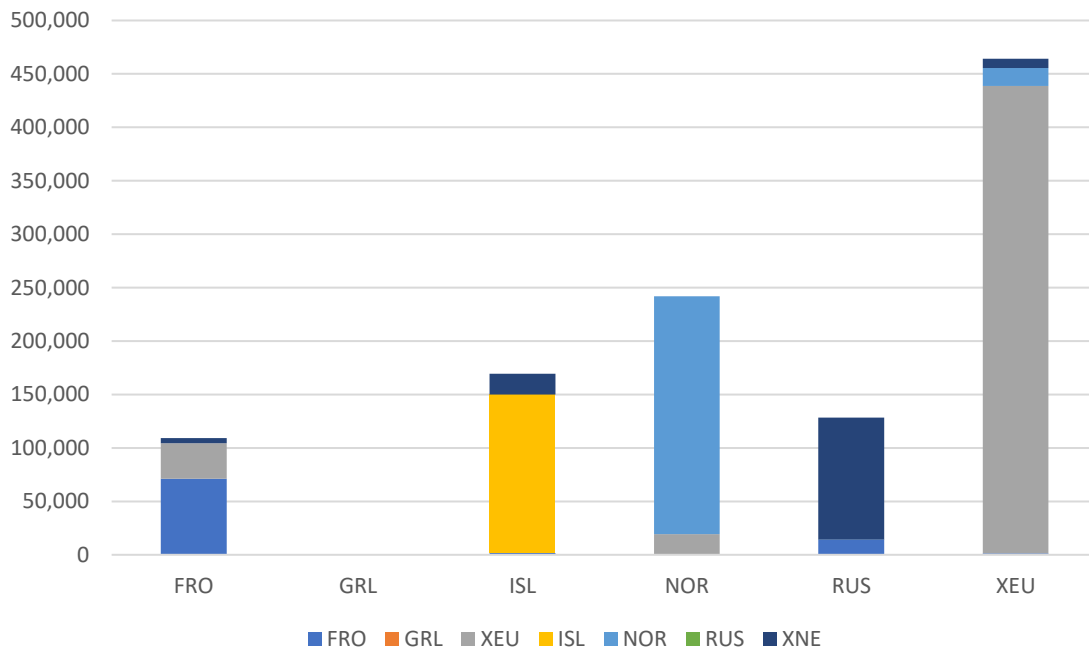
2017



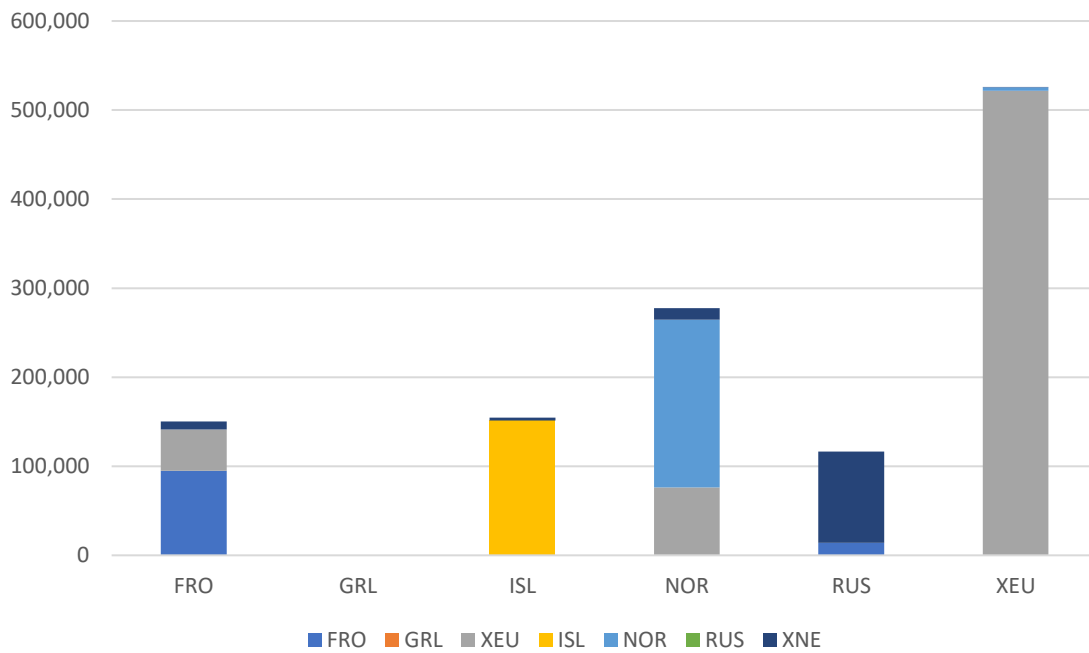
2016



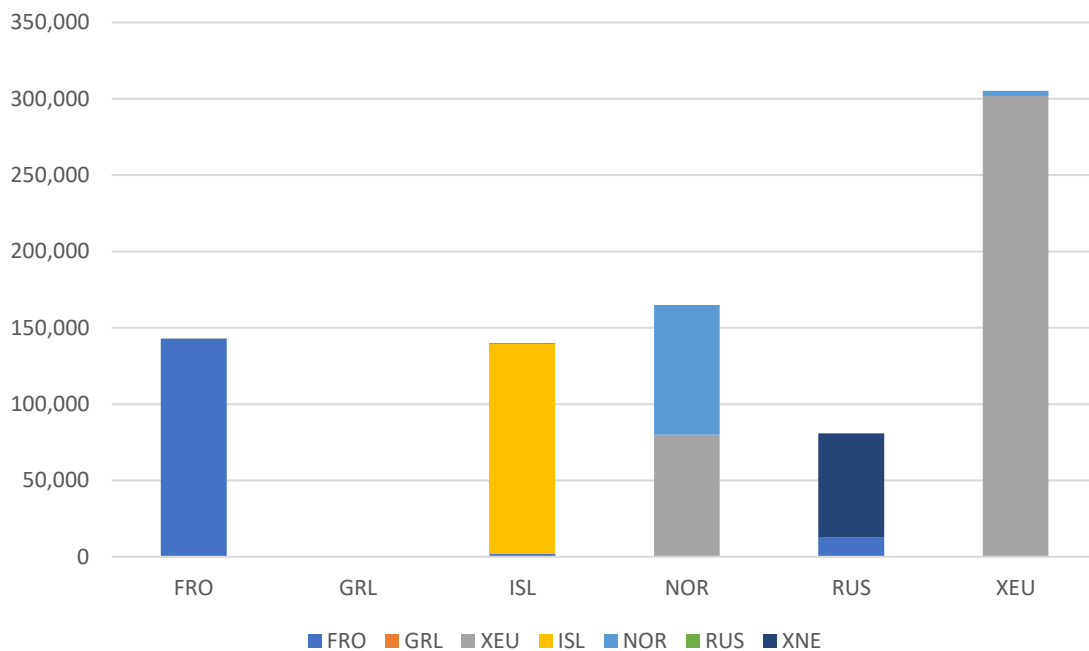
2015



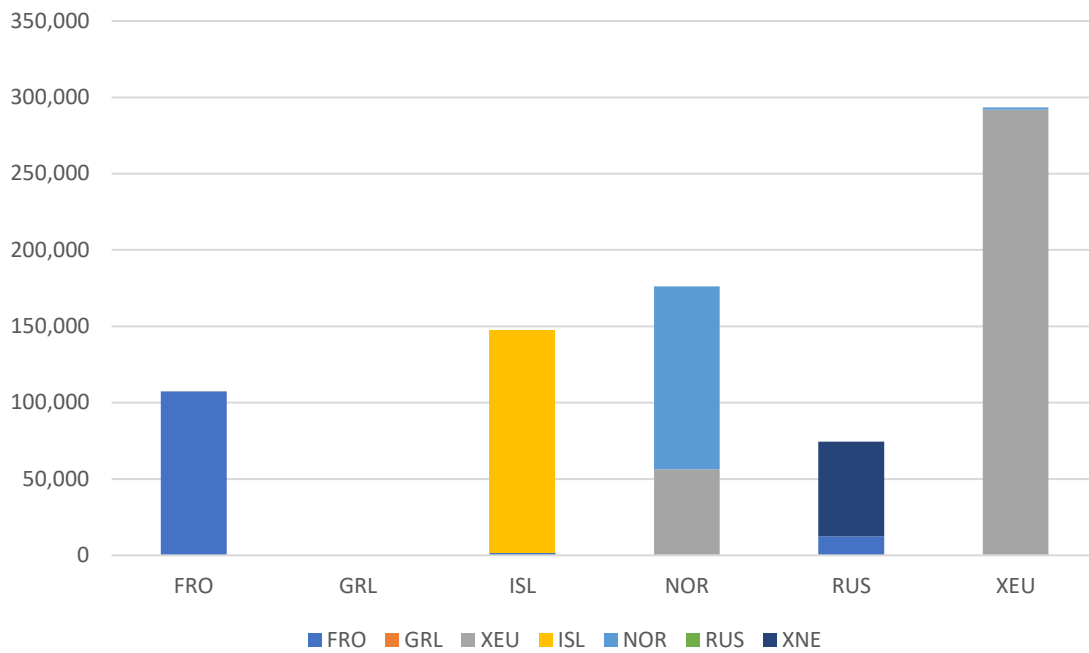
2014



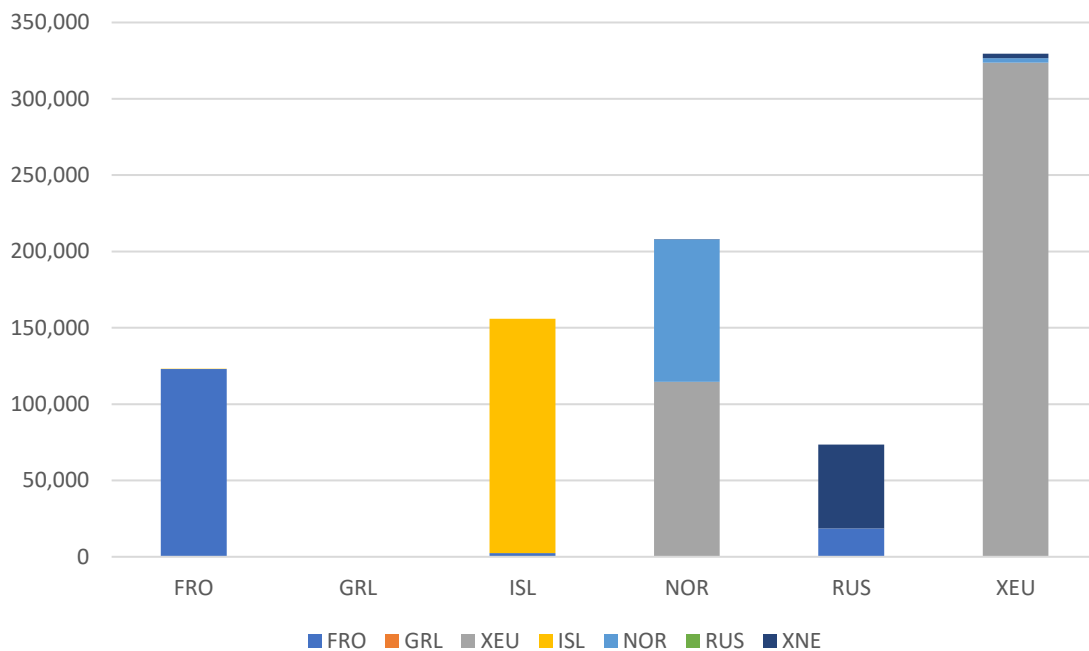
2013



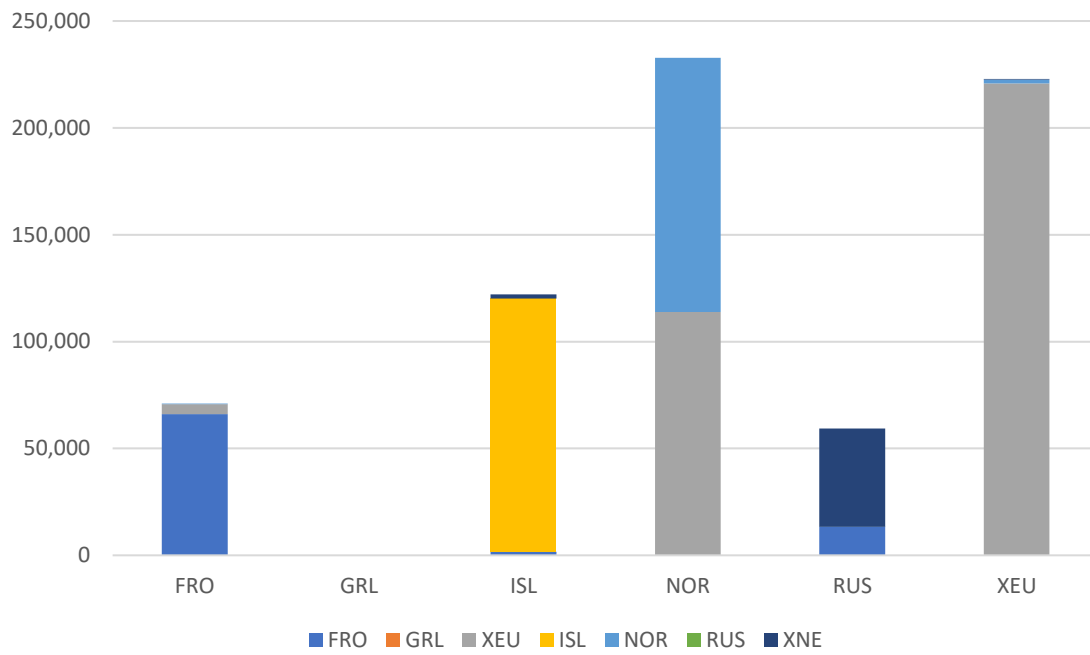
2012



2011



2010



Annex 3 NEAFC Mackerel Catch (%) Data 2010-2020

2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	Total
FRO	33.94%	0.00%	0.00%	0.00%	26.32%	0.00%	39.74%	0.00%	100%
GRL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100%
ISL	0.06%	0.00%	0.00%	16.42%	0.00%	0.00%	83.51%	0.00%	100%
NOR	0.00%	0.00%	0.00%	0.00%	97.73%	0.00%	2.26%	0.00%	100%
RUS	10.42%	0.00%	0.00%	0.00%	0.00%	0.00%	89.58%	0.00%	100%
XEU	0.00%	0.00%	30.07%	0.00%	0.15%	0.00%	0.02%	69.77%	100%
GBR	0.00%	0.00%	0.47%	0.00%	0.00%	0.00%	0.00%	99.53%	100%

2020

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	45.08%	0.00%	51.54%	0.00%	0.09%	0.00%	3.29%	100%
GRL	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	99.83%	100%
ISL	0.65%	0.00%	0.00%	29.61%	0.00%	0.00%	69.74%	100%
NOR	0.00%	0.00%	84.29%	0.00%	15.71%	0.00%	0.00%	100%
RUS	8.94%	0.00%	0.00%	0.00%	0.00%	0.00%	91.06%	100%
XEU	0.04%	0.00%	99.87%	0.00%	0.08%	0.00%	0.01%	100%

2019

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	42.99%	0.00%	40.18%	0.00%	10.47%	0.00%	6.36%	100%
GRL	0.01%	21.98%	0.00%	0.00%	0.00%	0.00%	78.01%	100%
ISL	0.48%	0.00%	0.00%	51.29%	0.00%	0.00%	48.23%	100%
NOR	0.00%	0.00%	81.31%	0.00%	18.69%	0.00%	0.00%	100%
RUS	9.85%	0.00%	0.00%	0.00%	0.00%	0.00%	90.15%	100%
XEU	0.00%	0.00%	99.90%	0.00%	0.10%	0.00%	0.01%	100%

2018

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	47.48%	0.00%	35.32%	0.00%	5.89%	0.00%	11.31%	100%
GRL	0.00%	84.37%	0.00%	0.00%	0.00%	0.00%	15.63%	100%
ISL	0.14%	0.00%	0.00%	46.41%	0.00%	0.00%	53.45%	100%
NOR	0.00%	0.00%	83.80%	0.00%	14.69%	0.00%	1.52%	100%
RUS	11.41%	0.00%	0.00%	0.00%	0.00%	0.00%	88.59%	100%
XEU	0.00%	0.00%	99.16%	0.00%	0.10%	0.00%	0.74%	100%

2017

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	52.69%	0.00%	38.22%	0.00%	0.58%	0.00%	8.51%	100%
GRL	0.00%	79.52%	0.00%	0.00%	0.00%	0.00%	20.48%	100%
ISL	0.43%	0.00%	0.00%	63.95%	0.00%	0.00%	35.62%	100%
NOR	1.90%	0.00%	20.98%	0.00%	69.43%	0.00%	7.69%	100%
RUS	10.43%	0.00%	0.00%	0.00%	0.04%	0.00%	89.52%	100%
XEU	0.11%	0.00%	97.76%	0.00%	0.47%	0.00%	1.67%	100%

2016

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	62.07%	0.00%	34.40%	0.00%	1.22%	0.00%	2.31%	100%
GRL	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100%
ISL	0.87%	0.00%	0.00%	92.19%	0.00%	0.00%	6.94%	100%
NOR	0.00%	0.00%	6.15%	0.00%	93.85%	0.00%	0.00%	100%
RUS	11.95%	0.00%	0.00%	0.00%	0.07%	0.00%	87.98%	100%
XEU	0.43%	0.00%	96.93%	0.00%	1.57%	0.00%	1.06%	100%

2015

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	65.07%	0.00%	30.32%	0.00%	0.00%	0.00%	4.61%	100%
GRL								
ISL	0.91%	0.00%	0.00%	87.57%	0.00%	0.00%	11.52%	100%
NOR	0.00%	0.00%	8.03%	0.00%	91.97%	0.00%	0.00%	100%
RUS	11.19%	0.00%	0.00%	0.00%	0.00%	0.00%	88.80%	100%
XEU	0.27%	0.00%	94.24%	0.00%	3.58%	0.00%	1.91%	100%

2014

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	63.02%	0.00%	30.88%	0.00%	0.00%	0.00%	6.09%	100%
GRL								
ISL	0.05%	0.00%	0.00%	97.86%	0.00%	0.00%	2.10%	100%
NOR	0.14%	0.00%	27.34%	0.00%	67.78%	0.00%	4.75%	100%
RUS	12.04%	0.00%	0.00%	0.00%	0.00%	0.00%	87.96%	100%
XEU	0.01%	0.00%	99.23%	0.00%	0.76%	0.00%	0.00%	100%

2013

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	99.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	100%
GRL	92.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	100%
ISL	1.36%	0.00%	0.00%	98.62%	0.00%	0.00%	0.02%	100%
NOR	0.00%	0.00%	48.61%	0.00%	51.34%	0.00%	0.05%	100%
RUS	15.97%	0.00%	0.00%	0.00%	0.00%	0.00%	84.02%	100%
XEU	0.00%	0.00%	98.91%	0.00%	1.09%	0.00%	0.00%	100%

2012

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	99.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.08%	100%
GRL								
ISL	1.34%	0.00%	0.00%	98.66%	0.00%	0.00%	0.00%	100%
NOR	0.00%	0.00%	32.06%	0.00%	67.94%	0.00%	0.00%	100%
RUS	16.71%	0.00%	0.00%	0.00%	0.00%	0.00%	83.17%	100%
XEU	0.00%	0.00%	99.52%	0.00%	0.48%	0.00%	0.00%	100%

2011

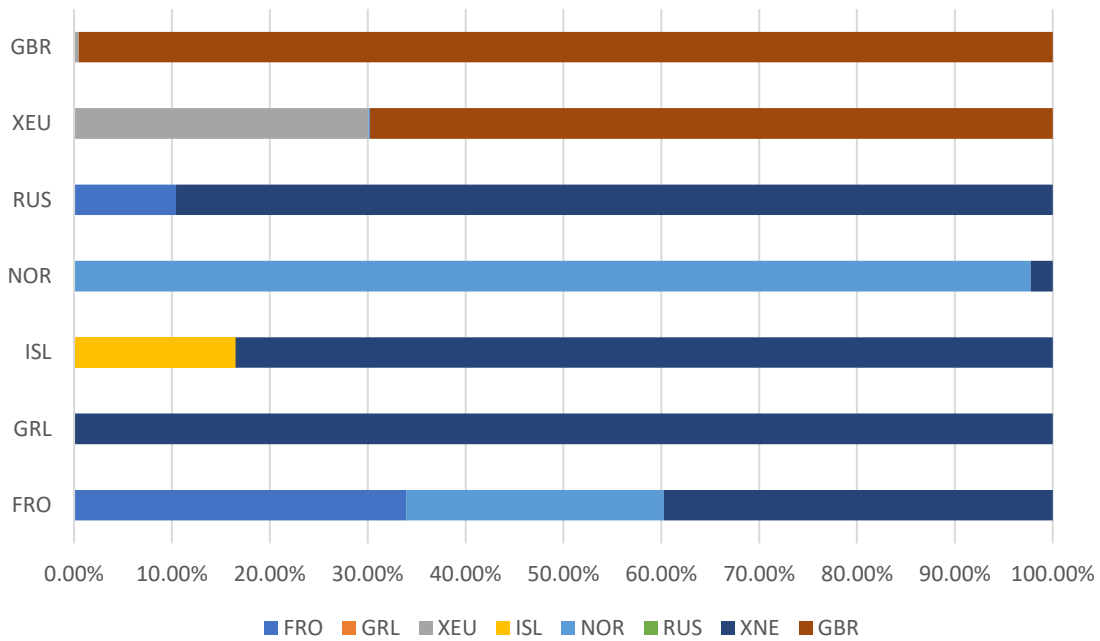
	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100%
GRL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100%
ISL	1.55%	0.00%	0.00%	98.45%	0.00%	0.00%	0.00%	100%
NOR	0.00%	0.00%	55.12%	0.00%	44.88%	0.00%	0.00%	100%
RUS	25.25%	0.00%	0.00%	0.00%	0.00%	0.00%	74.75%	100%
XEU	0.00%	0.00%	98.25%	0.00%	0.89%	0.00%	0.86%	100%

2010

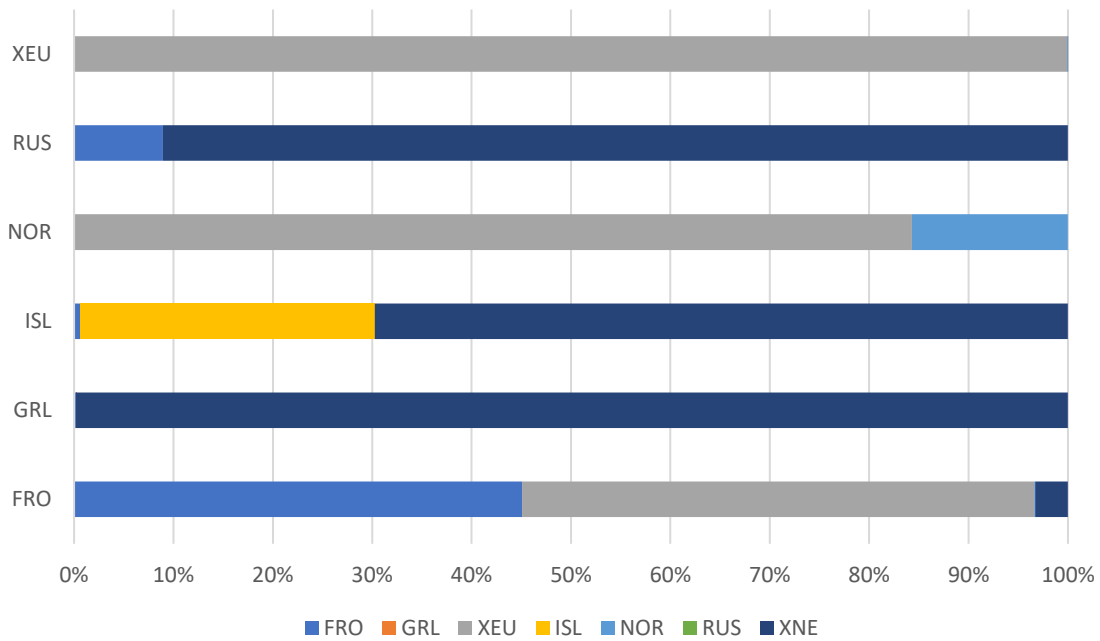
	FRO	GRL	XEU	ISL	NOR	RUS	XNE	Total
FRO	93.07%	0.00%	6.66%	0.00%	0.27%	0.00%	0.00%	100%
GRL								
ISL	1.40%	0.00%	0.00%	97.09%	0.00%	0.00%	1.51%	100%
NOR	0.00%	0.00%	48.89%	0.00%	51.11%	0.00%	0.00%	100%
RUS	22.43%	0.00%	0.00%	0.00%	0.00%	0.00%	77.56%	100%
XEU	0.00%	0.00%	99.04%	0.00%	0.83%	0.00%	0.14%	100%

Annex 4: Percentage of Coastal State mackerel catch by Catch Area

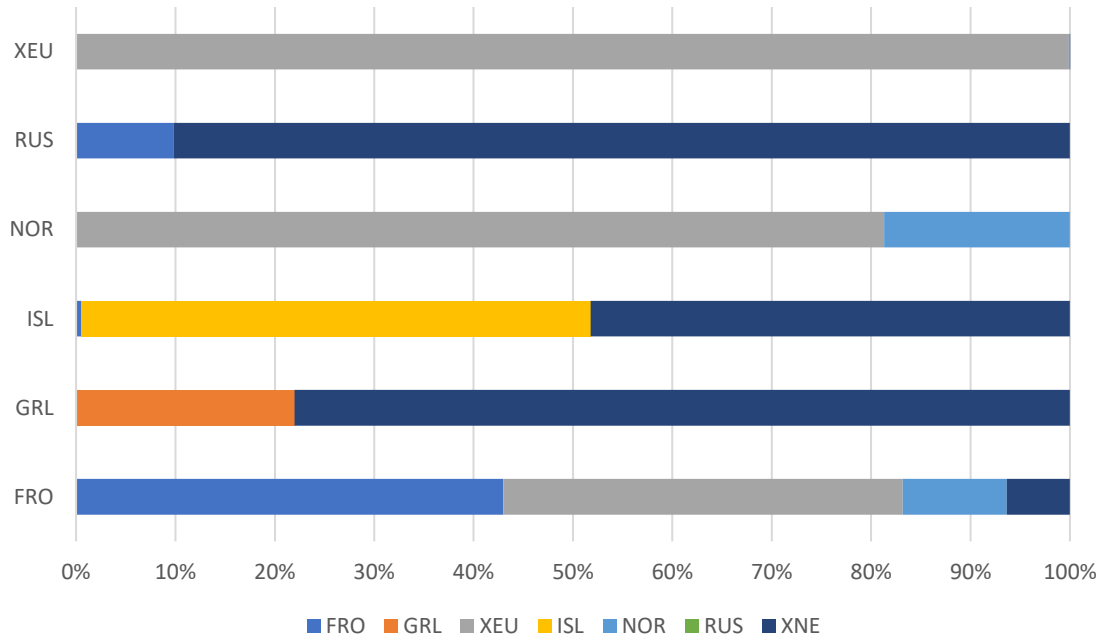
2021



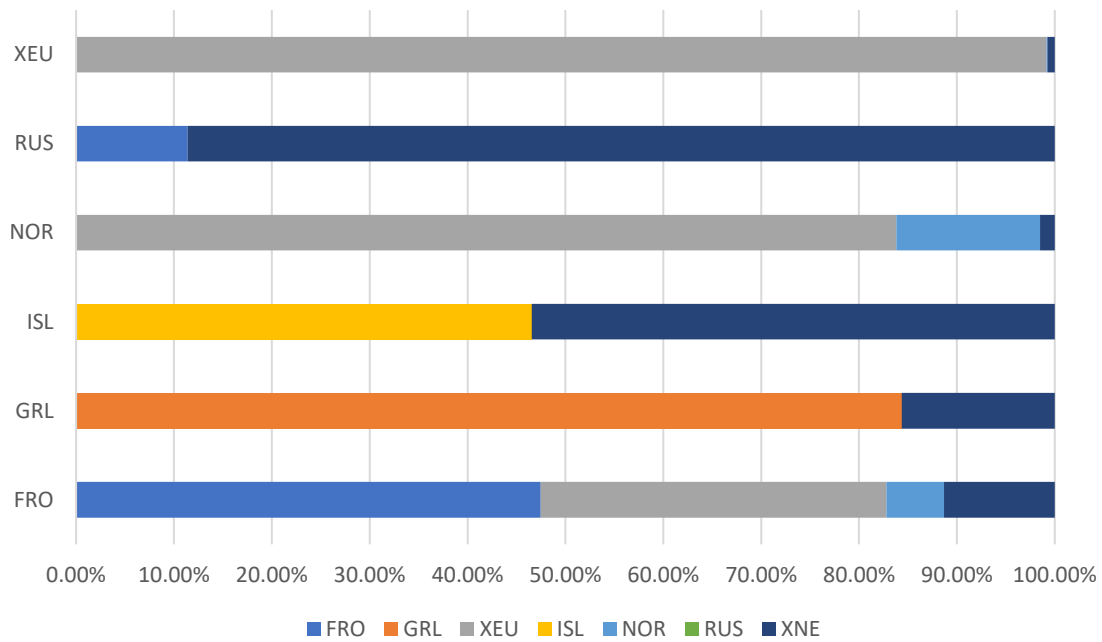
2020



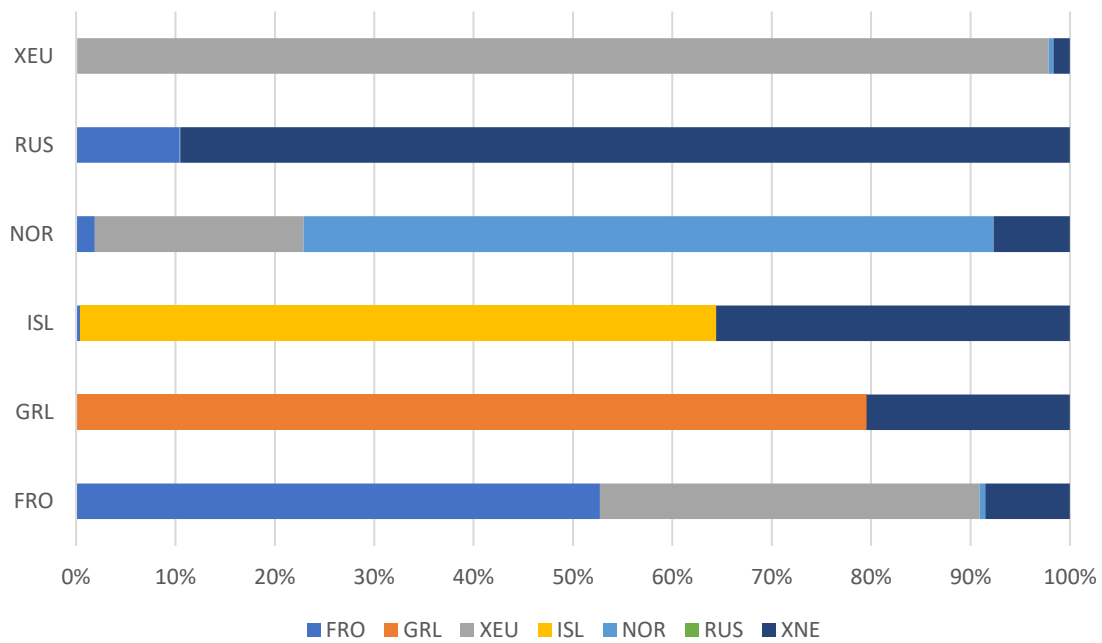
2019



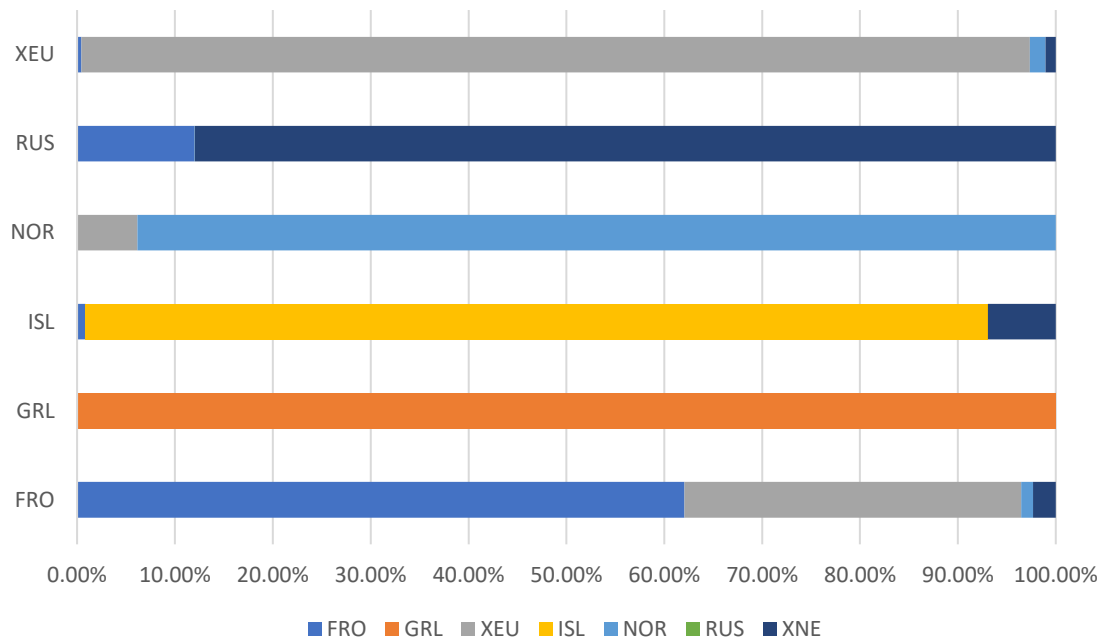
2018



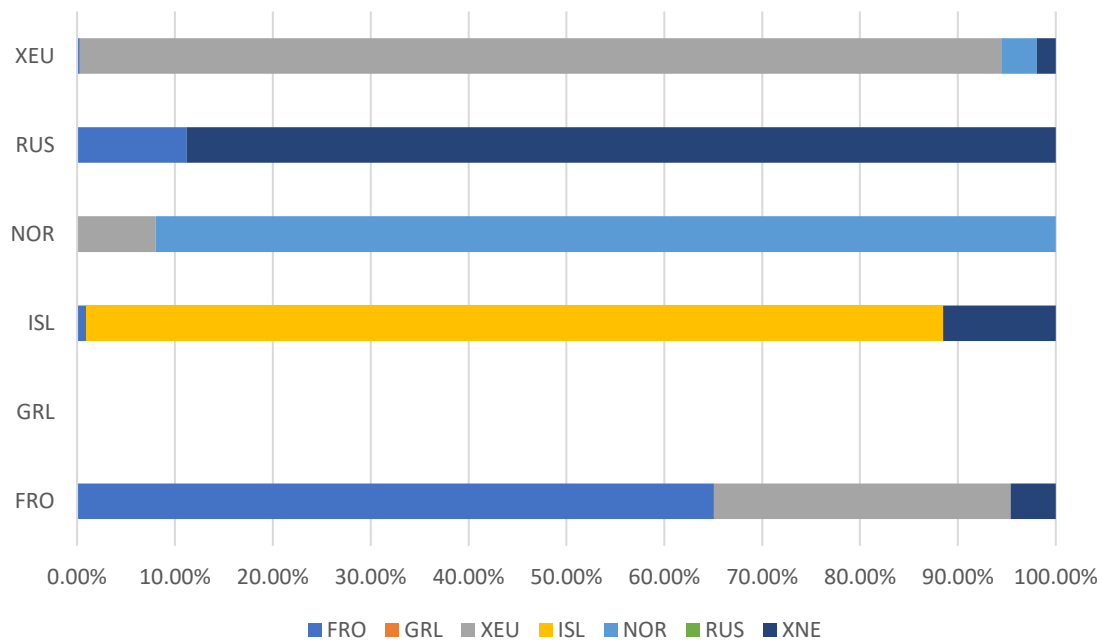
2017



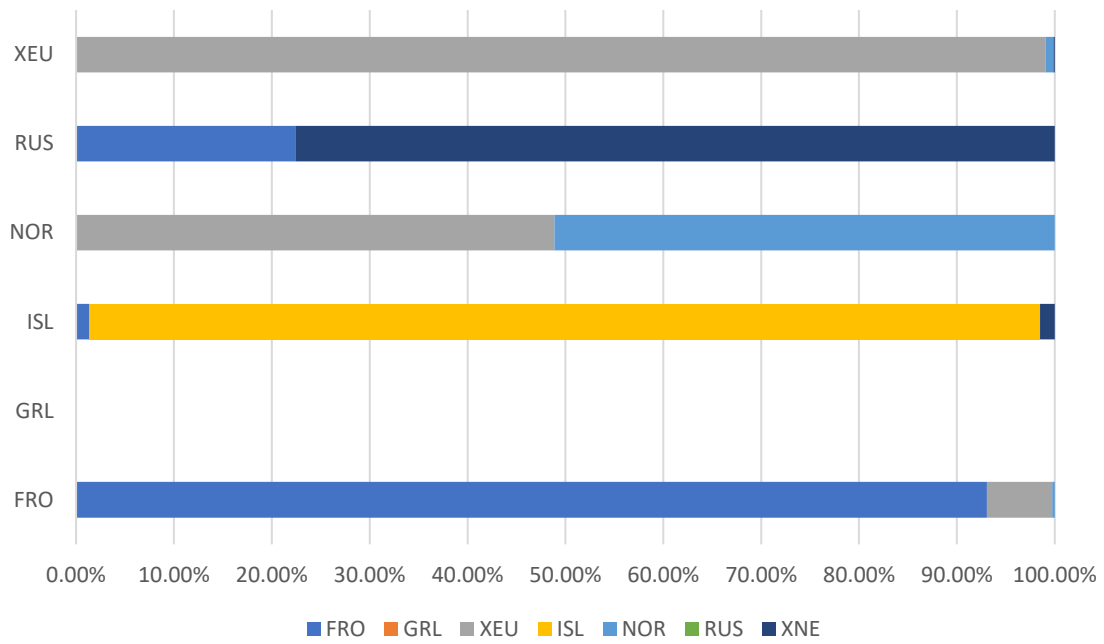
2016



2015



2010



Annex 5: Individual Coastal State Mackerel Catch Data (2010-2021)

Faroes

Table 3: Faroese mackerel catches (mt) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	66,039	0	4,722	0	193	0	0		70,954
2011	122,984	0	0	1	0	0	0		122,985
2012	107,115	0	0	0	0	0	89		107,204
2013	142,735	0	0	0	0	0	266		143,001
2014	94,801	0	46,450	0	0	0	9,168		150,419
2015	71,149	0	33,149	0	0	0	5,036		109,334
2016	57,894	0	32,081	0	1,140	0	2,151		93,266
2017	52,517	0	38,093	0	575	0	8,482		99,667
2018	38,494	0	28,639	0	4,778	0	9,167		81,078
2019	26,939	0	25,178	0	6,559	0	3,986		62,662
2020	31,131	0	35,597	0	65	0	2,270		69,063
2021	35,674	0	0	0	27657	0	41,765	0	105,096

Figure 13: Faroese mackerel catches (mt) by region 2010-2021

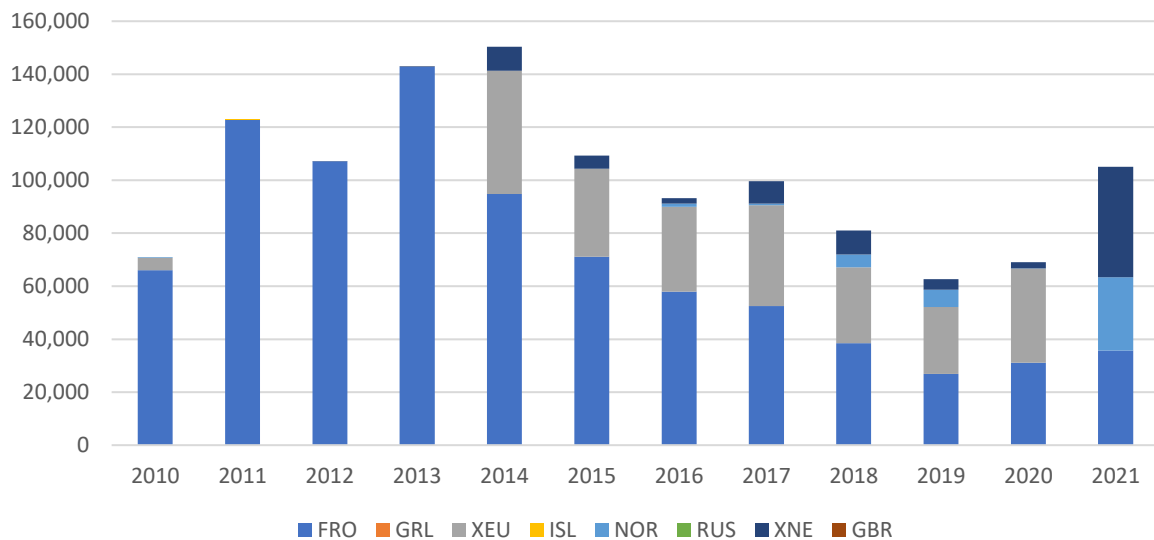


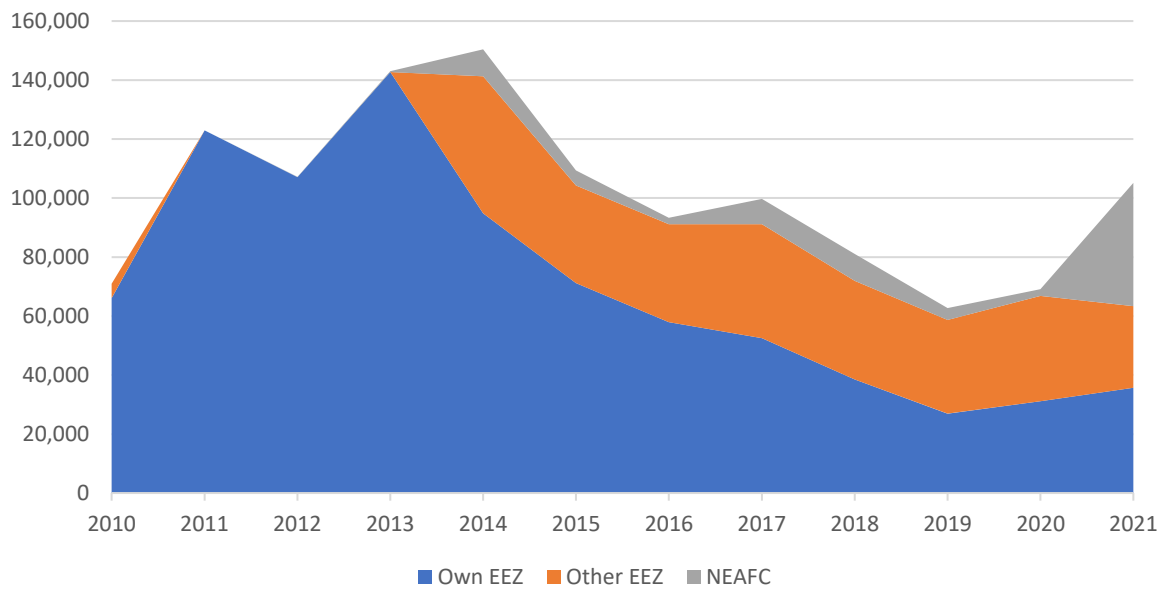
Table 4: Faroese mackerel catches (%) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	93.07%	0.00%	6.66%	0.00%	0.27%	0.00%	0.00%		100%
2011	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100%
2012	99.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.08%		100%
2013	99.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%		100%
2014	63.02%	0.00%	30.88%	0.00%	0.00%	0.00%	6.09%		100%
2015	65.07%	0.00%	30.32%	0.00%	0.00%	0.00%	4.61%		100%
2016	62.07%	0.00%	34.40%	0.00%	1.22%	0.00%	2.31%		100%
2017	52.69%	0.00%	38.22%	0.00%	0.58%	0.00%	8.51%		100%
2018	47.48%	0.00%	35.32%	0.00%	5.89%	0.00%	11.31%		100%
2019	42.99%	0.00%	40.18%	0.00%	10.47%	0.00%	6.36%		100%
2020	45.08%	0.00%	51.54%	0.00%	0.09%	0.00%	3.29%		100%
2021	33.94%	0.00%	0.00%	0.00%	26.32%	0.00%	39.74%	0.00%	100%

Table 5: Location of Faroese mackerel catches (mt) from 2010-2021

Year	Own EEZ	Other EEZ	NEAFC
2010	66,039	4915	0
2011	122,984	1	0
2012	107,115	0	89
2013	142,735	0	266
2014	94,801	46,450	9,168
2015	71,149	33,149	5,036
2016	57,894	33,221	2,151
2017	52,517	38,668	8,482
2018	38,494	33,417	9,167
2019	26,939	31,737	3,986
2020	31,131	35,662	2,270
2021	35,674	27,657	41,765

Figure 14: Location of Faroese mackerel catches (mt) from 2010-2021



Greenland

Table 6: Greenland mackerel catches (mt) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	0	0	0	0	0	0	0		0
2011	0	0	0	0	0	0	100		100
2012	0	0	0	0	0	0	0		0
2013	46	0	0	0	0	0	4		50
2014	0	0	0	0	0	0	0		0
2015	0	0	0	0	0	0	0		0
2016	0	145	0	0	0	0	0		145
2017	0	37,033	0	0	0	0	9,536		46,569
2018	2	53,171	0	0	0	0	9,848		63,021
2019	4	6,651	0	0	0	0	23,608		30,263
2020	43	1	0	0	0	0	26,613		26,657
2021	0	0	0	0	0	0	33,360	0	33,360

Figure 15: Greenland mackerel catches (mt) by region 2010-2021

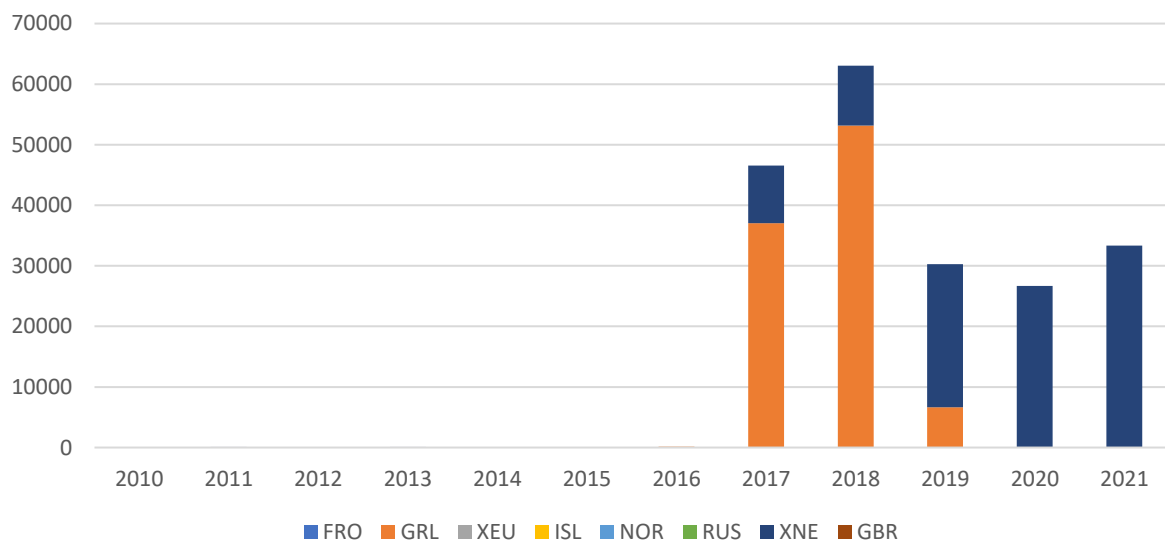


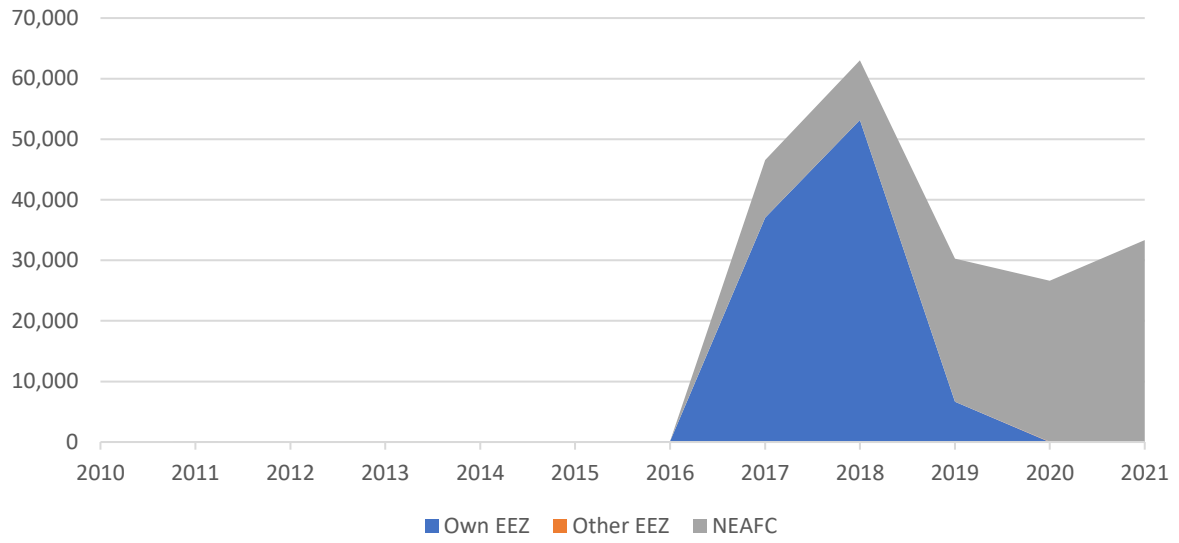
Table 7: Greenland mackerel catches (%) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010									
2011	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%		100%
2012									
2013	92.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%		100%
2014									
2015									
2016	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100%
2017	0.00%	79.52%	0.00%	0.00%	0.00%	0.00%	20.48%		100%
2018	0.00%	84.37%	0.00%	0.00%	0.00%	0.00%	15.63%		100%
2019	0.01%	21.98%	0.00%	0.00%	0.00%	0.00%	78.01%		100%
2020	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	99.83%		100%
2021	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100%

Table 8: Location of Greenland mackerel catches (mt) from 2010-2021

Year	Own EEZ	Other EEZ	NEAFC
2010	0	0	0
2011	0	0	100
2012	0	0	0
2013	0	46	50
2014	0	0	0
2015	0	0	0
2016	145	0	0
2017	37,033	0	9,536
2018	53,171	2	9,848
2019	6,651	4	23,608
2020	1	43	26,613
2021	0	0	33,360

Figure 16: Location of Greenland mackerel catches (mt) from 2010-2021



Iceland

Table 9: Icelandic mackerel catches (mt) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	1,707	0	0	118,488	0	0	1,839		122,034
2011	2,412	0	0	153,432	0	0	0		155,844
2012	1,987	0	0	145,889	0	0	0		147,876
2013	1,901	0	0	137,610	0	0	21		139,532
2014	72	0	0	151,472	0	0	3,246		154,790
2015	1,549	0	0	148,280	0	0	19,508		169,337
2016	1,403	0	0	147,911	0	0	11,129		160,443
2017	692	0	0	102,215	0	0	56,927		159,834
2018	186	0	0	60,248	0	0	69,388		129,822
2019	605	0	0	64,376	0	0	60,535		125,516
2020	965	0	0	43,970	0	0	103,567		148,502
2021	83	0	0	21,263	0	0	108,135	0	129,481

Figure 17: Icelandic mackerel catches (mt) by region 2010-2021

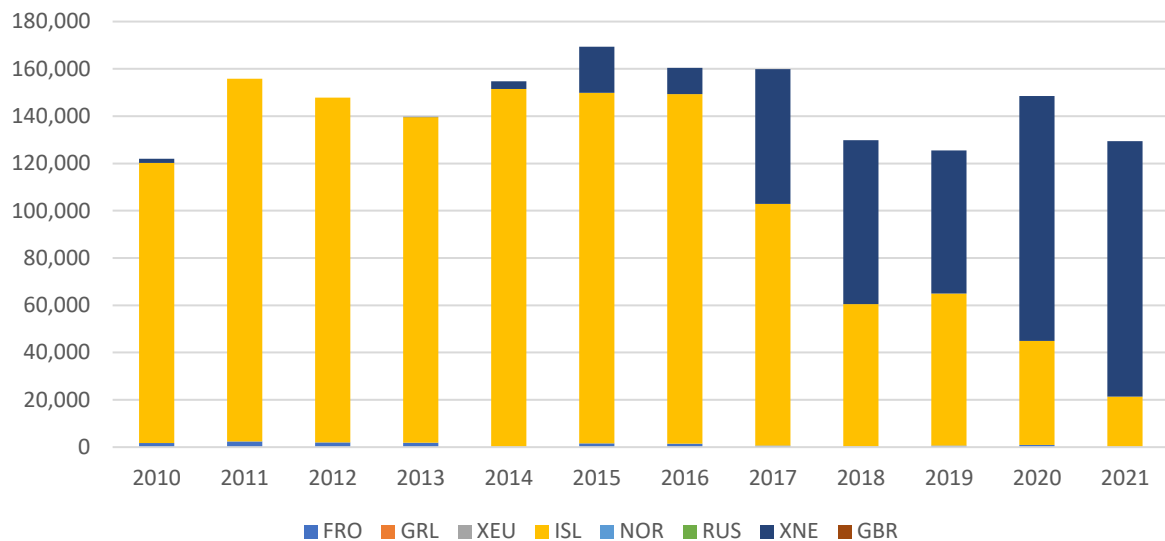


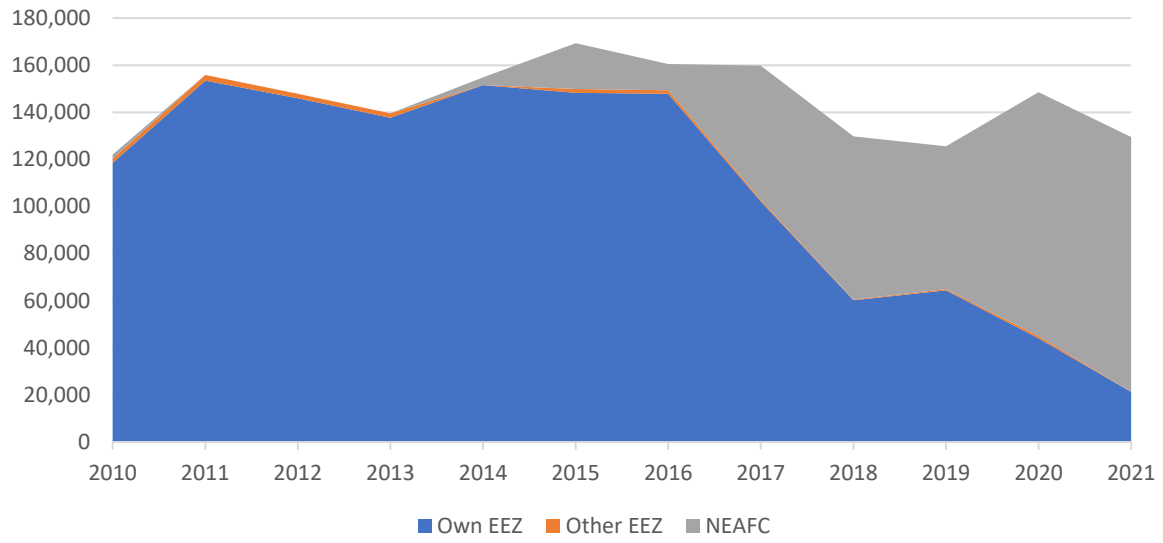
Table 10: Icelandic mackerel catches (%) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	1.40%	0.00%	0.00%	97.09%	0.00%	0.00%	1.51%		100%
2011	1.55%	0.00%	0.00%	98.45%	0.00%	0.00%	0.00%		100%
2012	1.34%	0.00%	0.00%	98.66%	0.00%	0.00%	0.00%		100%
2013	1.36%	0.00%	0.00%	98.62%	0.00%	0.00%	0.02%		100%
2014	0.05%	0.00%	0.00%	97.86%	0.00%	0.00%	2.10%		100%
2015	0.91%	0.00%	0.00%	87.57%	0.00%	0.00%	11.52%		100%
2016	0.87%	0.00%	0.00%	92.19%	0.00%	0.00%	6.94%		100%
2017	0.43%	0.00%	0.00%	63.95%	0.00%	0.00%	35.62%		100%
2018	0.14%	0.00%	0.00%	46.41%	0.00%	0.00%	53.45%		100%
2019	0.48%	0.00%	0.00%	51.29%	0.00%	0.00%	48.23%		100%
2020	0.65%	0.00%	0.00%	29.61%	0.00%	0.00%	69.74%		100%
2021	0.06%	0.00%	0.00%	16.42%	0.00%	0.00%	83.51%	0.00%	100%

Table 11: Location of Icelandic mackerel catches (mt) from 2010-2020

Year	Own EEZ	Other EEZ	NEAFC
2010	118,488	1,707	1,839
2011	153,432	2,412	0
2012	145,889	1,987	0
2013	137,610	1,901	21
2014	151,472	72	3,246
2015	148,280	1,549	19,508
2016	147,911	1403	11,129
2017	102,215	692	56,927
2018	60,248	186	69,388
2019	64,376	605	60,535
2020	43,970	965	103,567
2021			

Figure 18: Location of Icelandic mackerel catches (mt) from 2010-2021



Norway

Table 12: Norwegian mackerel catches (mt) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	0	0	113,787	0	118,934	0	0		232,721
2011	0	0	114,624	0	93,329	0	1		207,954
2012	0	0	56,452	0	119,654	0	0		176,106
2013	0	0	80,079	0	84,573	0	76		164,728
2014	383	0	75,924	0	188,221	0	13,185		277,713
2015	5	0	19,438	0	222,544	0	0		241,987
2016	0	0	12,933	0	197,412	0	0		210,345
2017	4,221	0	46,661	0	154,413	0	17,102		222,397
2018	0	0	156,884	0	27,496	0	2,843		187,223
2019	0	0	129,355	0	29,729	0	0		159,084
2020	0	0	178,385	0	33,244	0	0		211,629
2021	0	0	12	0	264,540	0	6,123	0	270,675

Figure 19: Norwegian mackerel catches (mt) by region 2010-2021

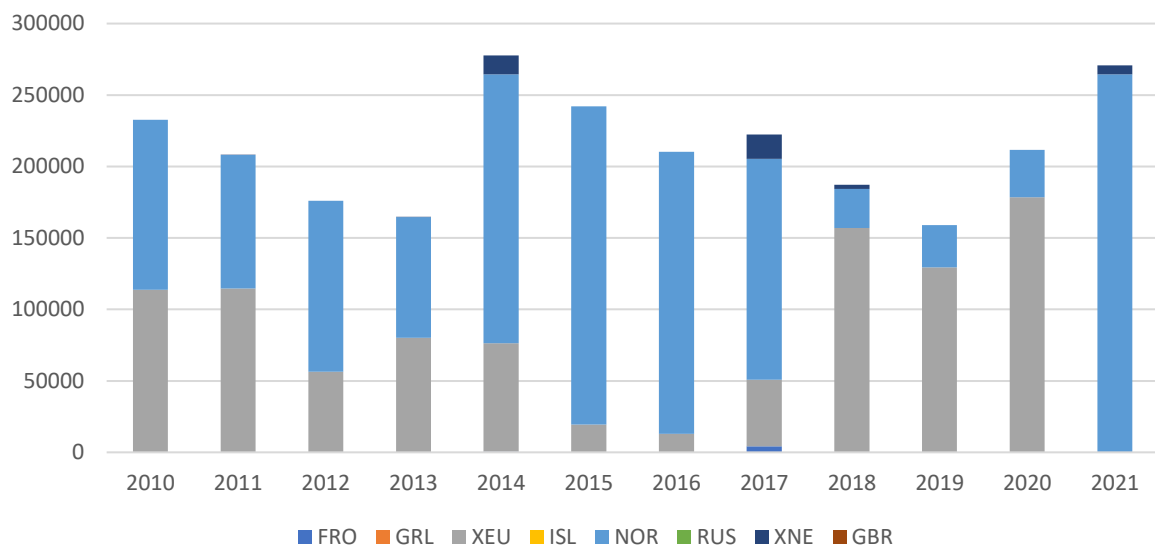


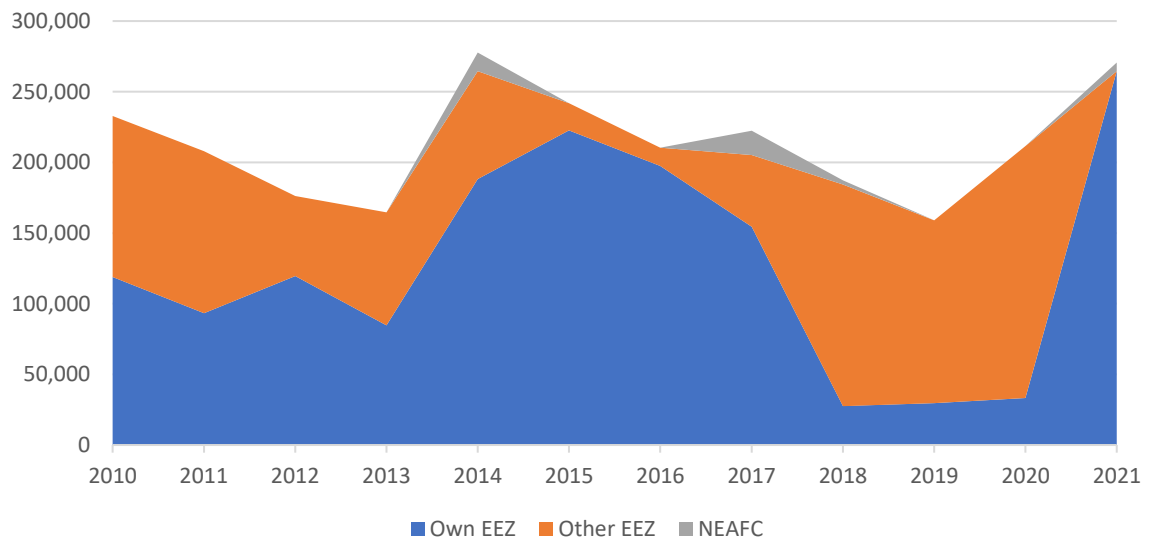
Table 13: Norwegian mackerel catches (%) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	0.00%	0.00%	48.89%	0.00%	51.11%	0.00%	0.00%		100%
2011	0.00%	0.00%	55.12%	0.00%	44.88%	0.00%	0.00%		100%
2012	0.00%	0.00%	32.06%	0.00%	67.94%	0.00%	0.00%		100%
2013	0.00%	0.00%	48.61%	0.00%	51.34%	0.00%	0.05%		100%
2014	0.14%	0.00%	27.34%	0.00%	67.78%	0.00%	4.75%		100%
2015	0.00%	0.00%	8.03%	0.00%	91.97%	0.00%	0.00%		100%
2016	0.00%	0.00%	6.15%	0.00%	93.85%	0.00%	0.00%		100%
2017	1.90%	0.00%	20.98%	0.00%	69.43%	0.00%	7.69%		100%
2018	0.00%	0.00%	83.80%	0.00%	14.69%	0.00%	1.52%		100%
2019	0.00%	0.00%	81.31%	0.00%	18.69%	0.00%	0.00%		100%
2020	0.00%	0.00%	84.29%	0.00%	15.71%	0.00%	0.00%		100%
2021	0.00%	0.00%	0.00%	0.00%	97.73%	0.00%	2.26%	0.00%	100%

Table 14: Location of Norwegian mackerel catches (mt) from 2010-2021

Year	Own EEZ	Other EEZ	NEAFC
2010	118,934	113,787	0
2011	93,329	114,624	1
2012	119,654	56,452	0
2013	84,573	80,079	76
2014	188,221	76,307	13,185
2015	222,544	19,443	0
2016	197,412	12,933	0
2017	154,413	50,882	17,102
2018	27,496	156,884	2,843
2019	29,729	129,355	0
2020	33,244	178,385	0
2021	264,540	12	6,123

Figure 20: Location of Norwegian mackerel catches (mt) from 2010-2021



Russian Federation

Table 15: Russian mackerel catches (mt) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	13,301	0	0	0	1	0	45,999		59,301
2011	18,584	0	0	0	0	0	55,019		73,603
2012	12,460	0	0	0	0	0	62,035		74,495
2013	12,909	0	0	0	0	0	67,907		80,816
2014	14,021	0	0	0	0	0	102,420		116,441
2015	14,374	0	0	0	3	0	114,030		128,407
2016	14,447	0	0	0	87	0	106,380		120,914
2017	14,405	0	0	0	57	0	123,600		138,062
2018	13,492	0	0	0	0	0	104,763		118,255
2019	12,462	0	0	0	0	0	114,082		126,544
2020	11,515	0	0	0	0	0	117,311		128,826
2021	14,192	0	0	0	0	0	122,011	0	136,203

Figure 21: Russian mackerel catches (mt) by region 2010-2021

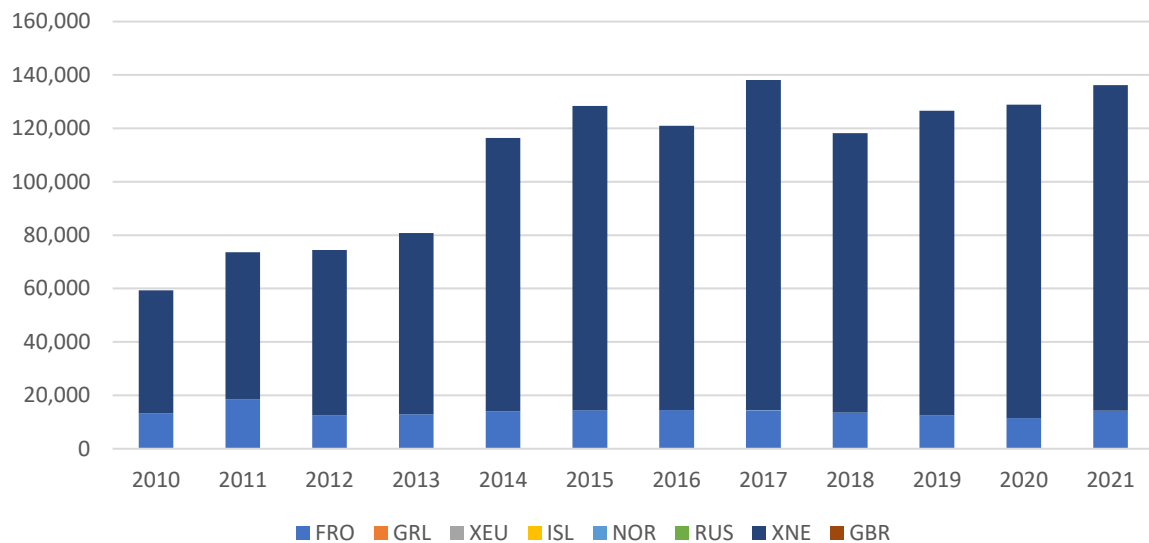


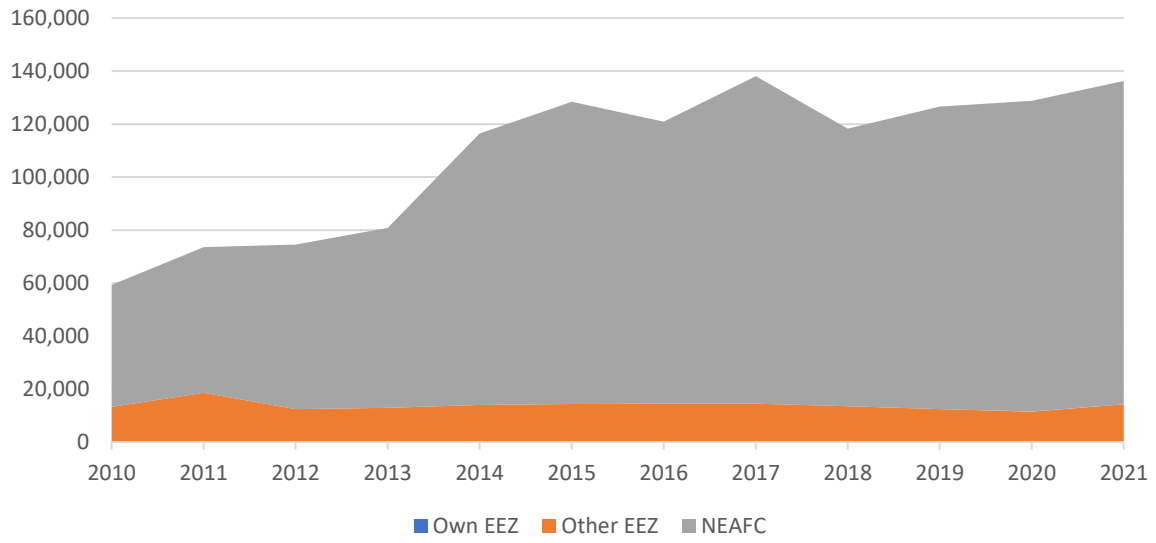
Table 16: Russian mackerel catches (%) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	22.43%	0.00%	0.00%	0.00%	0.00%	0.00%	77.56%		100%
2011	25.25%	0.00%	0.00%	0.00%	0.00%	0.00%	74.75%		100%
2012	16.71%	0.00%	0.00%	0.00%	0.00%	0.00%	83.17%		100%
2013	15.97%	0.00%	0.00%	0.00%	0.00%	0.00%	84.02%		100%
2014	12.04%	0.00%	0.00%	0.00%	0.00%	0.00%	87.96%		100%
2015	11.19%	0.00%	0.00%	0.00%	0.00%	0.00%	88.80%		100%
2016	11.95%	0.00%	0.00%	0.00%	0.07%	0.00%	87.98%		100%
2017	10.43%	0.00%	0.00%	0.00%	0.04%	0.00%	89.52%		100%
2018	11.41%	0.00%	0.00%	0.00%	0.00%	0.00%	88.59%		100%
2019	9.85%	0.00%	0.00%	0.00%	0.00%	0.00%	90.15%		100%
2020	8.94%	0.00%	0.00%	0.00%	0.00%	0.00%	91.06%		100%
2021	10.42%	0.00%	0.00%	0.00%	0.00%	0.00%	89.58%	0.00%	100.00%

Table 17: Location of Russian mackerel catches (mt) from 2010-2021

Year	Own EEZ	Other EEZ	NEAFC
2010	0	13,302	45,999
2011	0	18,584	55,019
2012	0	12,460	62,035
2013	0	12,909	67,907
2014	0	14,021	102,420
2015	0	14,377	114,030
2016	0	14,534	106,380
2017	0	14,462	123,600
2018	0	13,492	104,763
2019	0	12,462	114,082
2020	0	11,515	117,311
2021	0	14,192	122,011

Figure 22: Location of Russian mackerel catches (mt) from 2010-2021



European Union

Table 18: EU mackerel catches (mt) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	0	0	220,743	0	1,840	0	303		222,886
2011	0	0	323,731	0	2,936	0	2,828		329,495
2012	0	0	291,988	0	1,417	0	0		293,405
2013	0	0	301,865	0	3,338	0	0		305,203
2014	73	0	521,735	0	3,976	0	9		525,793
2015	1,263	0	437,551	0	16,601	0	8,891		464,306
2016	1,787	0	401,432	0	6,522	0	4,384		414,125
2017	473	0	434,652	0	2,072	0	7,431		444,628
2018	15	0	400,945	0	389	0	2,992		404,341
2019	2	0	327,620	0	318	0	19		327,959
2020	169	0	443,864	0	334	0	64		444,431
2021	0	0	54,108	0	265	0	29	125,550	179,952

Figure 23: EU mackerel catches (mt) by region 2010-2021

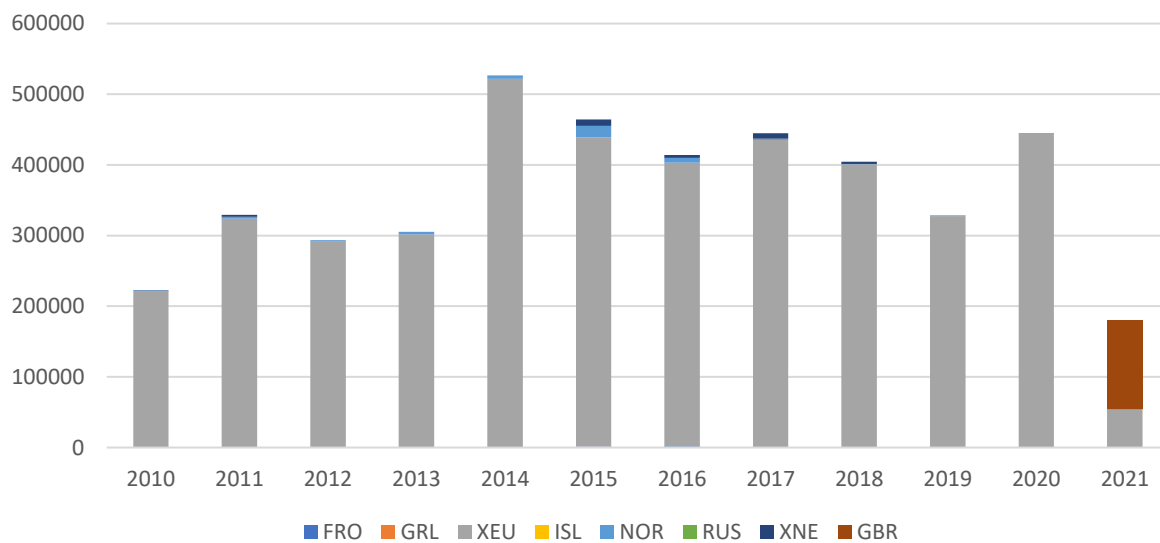


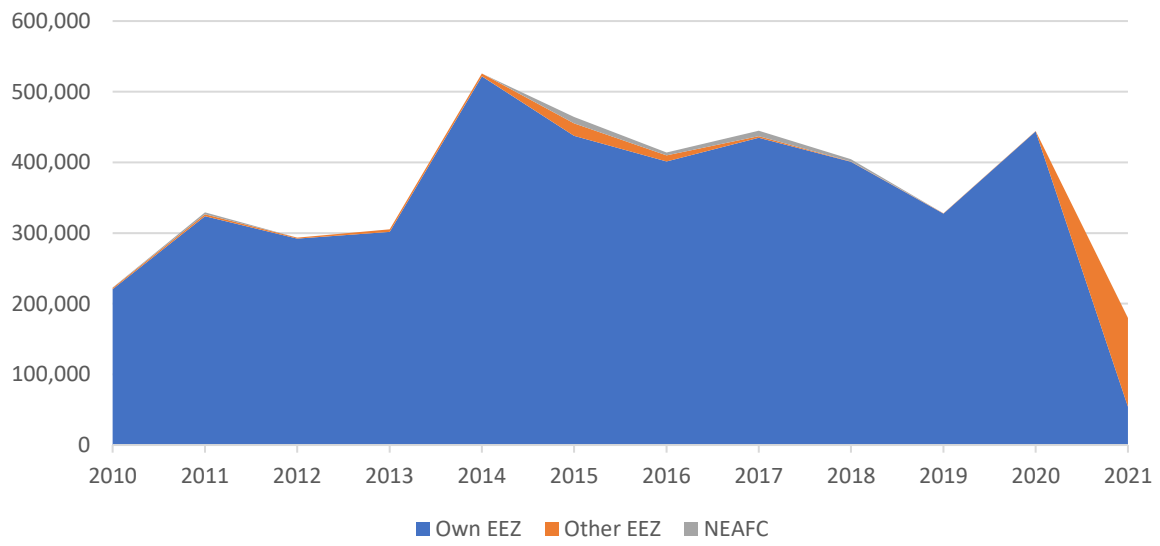
Table 19: EU mackerel catches (%) by region 2010-2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2010	0.00%	0.00%	99.04%	0.00%	0.83%	0.00%	0.14%		100%
2011	0.00%	0.00%	98.25%	0.00%	0.89%	0.00%	0.86%		100%
2012	0.00%	0.00%	99.52%	0.00%	0.48%	0.00%	0.00%		100%
2013	0.00%	0.00%	98.91%	0.00%	1.09%	0.00%	0.00%		100%
2014	0.01%	0.00%	99.23%	0.00%	0.76%	0.00%	0.00%		100%
2015	0.27%	0.00%	94.24%	0.00%	3.58%	0.00%	1.91%		100%
2016	0.43%	0.00%	96.93%	0.00%	1.57%	0.00%	1.06%		100%
2017	0.11%	0.00%	97.76%	0.00%	0.47%	0.00%	1.67%		100%
2018	0.00%	0.00%	99.16%	0.00%	0.10%	0.00%	0.74%		100%
2019	0.00%	0.00%	99.90%	0.00%	0.10%	0.00%	0.01%		100%
2020	0.04%	0.00%	99.87%	0.00%	0.08%	0.00%	0.01%		100%
2021	0.00%	0.00%	30.07%	0.00%	0.15%	0.00%	0.02%	69.77%	100.00%

Table 20: Location of EU mackerel catches (mt) from 2010-2021

Year	Own EEZ	Other EEZ	NEAFC
2010	220,743	1,840	303
2011	323,731	2,936	2,828
2012	291,988	1,417	0
2013	301,865	3,338	0
2014	521,735	4,049	9
2015	437,551	17,864	8,891
2016	401,432	8,309	4,384
2017	434,652	2,545	7,431
2018	400,945	404	2,992
2019	327,620	320	19
2020	443,864	503	64
2021	54,108	125,815	29

Figure 24: Location of EU mackerel catches (mt) from 2010-2021



United Kingdom

Table 21: UK mackerel catches (mt) by region 2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2021	0	0	1,049	0	0	0	0	221,533	222,582

Table 22: UK mackerel catches (%) by region 2021

	FRO	GRL	XEU	ISL	NOR	RUS	XNE	GBR	TOTAL
2021	0.00%	0.00%	0.47%	0.00%	0.00%	0.00%	0.00%	99.53%	100.00%

Table 23: Location of UK mackerel catches (mt) 2021

Year	Own EEZ	Other EEZ	NEAFC
2021	221,533	1,049	0

Annex 6: Possible Mackerel Catch Scenario (using 2021 Catch Data):

	2021 Own EEZ catch	2021 Other EEZ catch	2021 Catch in NEAFC ¹⁶ waters	Total	Calculated Total Mackerel Catch with Cap on Catch in International Waters			
					5% Cap	10% Cap	15% Cap	20% Cap
FRO	35,674	27657	41,765	105,096	68,586	73,841	79,095	84,350
GRL	0	0	33360	33,360	1,668	3,336	5,004	6,672
ISL	21,263	83	108,135	129,481	27,820	34,294	40,768	47,242
NOR	264,540	12	6,123	270,675	270,675	270,675	270,675	270,675
RUS	0	14,192	122,011	136,203	21,002	27,812	34,622	41,433
XEU	54,108	125,815	29	179,952	179,952	179,952	179,952	179,952
GBR	221,533	1,049	0	222,582	222,582	222,582	222,582	222,582
				1,077,349	792,285	812,492	832,698	852,906

Assumptions:

1. Coastal States will not catch extra mackerel in their own EEZ, or in other Coastal State's EEZs to 'make up the difference'.
2. Coastal States will not *increase* catches to achieve the maximum allowance in international waters (i.e. they will not expand their fisheries into international waters).

Consequences:

1. Faroes, Greenland and Russia would be the 'losers'.
2. UK, EU and Norway would maintain catch levels.
3. Total mackerel catch would decrease by 26% (5% cap) to 21% (20% cap).
4. In this scenario, the ICES advice for 2021 (852,284 tonnes) would be met by a 20% cap on mackerel catch in international waters.

¹⁶ International Waters