It's there for a reason: Why Ministers must not exceed scientific advice on fishing quota

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Summary

In 2013 there was a sea change in EU fisheries. Hundreds of diverse interest groups and millions of citizens asked EU lawmakers for an ambitious revision of the Common Fisheries Policy (CFP) to ensure sustainable, healthy oceans in EU waters. The reformed CFP, while not perfect in anyone's eyes, was celebrated for delivering on this ambition by putting in place a central objective to end overfishing by 2015 where possible and by 2020 at the latest.

Unfortunately, implementation has not followed through on this ambition and the majority of EU fish stocks are still overfished. Now, with 2020 just months away, a huge push must be made in the final year to reach the deadline.

Past inaction by fishing Ministers has come at a cost. Through their delay, Ministers have reduced the environmental and socio-economic benefits that will result from ending overfishing. If we had more abundant fish populations, fewer fishing trips are required – lowering costs – as waters become more plentiful and fish easier to catch. More abundant fish populations would also mean that, perhaps counter-intuitively, future harvests from sustainable populations would be larger than current catches – increasing revenues – like interest payments on a larger bank account.

It is also important to recognise that ending overfishing and allowing fish populations to reach greater abundance is not just smart management of a renewable resource, but also an important pillar of ecosystem-based management. More abundant fish populations create a healthy ecosystem where there is resilience to climate change and other stressors such as pollution. A healthy ecosystem – like our body – is better able to withstand new threats.

Despite these facts, the power of political inertia has meant that large quota cuts are now required for fish that have not recovered. Inaction also undermines the power of EU legislation – fisheries or beyond – that sets deadlines to motivate action. While the economic case demonstrates a clear 'should', the legal status of the Common Fisheries Policy requires sustainable fishing limits in 2020 as a 'must'.

Worryingly, some of the 2020 fishing limits that were agreed in October for the Baltic Sea were knowingly set above scientific advice and now there are calls to do the same in the North Sea and Northeast Atlantic. This briefing describes why these calls should be resisted.

A sea change in the policy, but what about implementation?

In 2013 the Common Fisheries Policy (CFP) underwent a major reform. After decades of overfishing and mismanagement, the reformed CFP was widely celebrated for its ambition to deliver healthy ocean ecosystems and a sustainable fishing industry. Central to this reform was the commitment to end overfishing "by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks".[1] With 2020 just around the corner, we've reached the deadline set in the reformed Common Fisheries Policy (CFP) to end overfishing. With four out of ten stocks still being overfished in the Northeast Atlantic and nine out of ten in the Mediterranean and Black Sea [2], the celebration, it seems, was premature.

For most EU commercial fish stocks, fishing pressure is managed through quota limits – a maximum quantity of fish that can be caught. These annual fishing quotas are distributed to Member States in fixed shares and then distributed by Member States to their fishing fleet according to national legislation. Each year the International Council for Exploration of the Sea (ICES) is commissioned to provide scientific advice on the level of catches that is consistent with the CFP's objective to end overfishing.[3] Unfortunately, the Council of Ministers which has the ultimate say in setting fishing quota has exceeded scientific advice in every six out of ten cases since the CFP reform. With the upcoming quota negotiations for 2020, this practice must end for the CFP objective to be met.

A greater abundance of marine life in a more resilient ecosystem: The environmental benefits of ending overfishing

By limiting the amount of fish that can be caught, fishing quotas allow fish populations to reproduce and grow in size. These controls are hugely important at a time when many fish populations are at a fraction of their historical levels. Indeed, research has shown that when fishing quotas are set appropriately – for example where EU Ministers follow scientific advice – increases in abundance follow.[4;5]

There is also a growing recognition that it is difficult to manage fish populations separately and instead a multispecies or 'ecosystem-based approach' should be employed to reflect predator-prey relationships and other ecosystem dynamics. Studies using a multispecies approach show that for some populations to be caught at their maximum yield, others must be caught below their maximum yield [6;7;8] – meaning quotas below the scientific advice which is currently provided as an upper limit for each species individually.

Ending overfishing and rebuilding fish populations would also end the 'boom and bust' of current management. With many fish populations still in a fragile state of recovery, fishing at the limit of scientific advice can risk overfishing. This has led to a recent certification and subsequent removal for important commercial fish stocks like North Sea cod.[9] The Celtic Sea herring fishery was closed in September this year as too many juvenile species were being caught even though the quota was set at the maximum level of scientific advice.[10] Like the multispecies approach, this 'boom and bust' concern highlights the problem of fishing at the limit and why even more precaution should be applied in setting fishing quotas – a major departure from the current practice of exceeding scientific advice in six out of ten cases.

A third relevant concept is the objective of ecosystem resilience. Fishing is not the only stressor in marine ecosystems and increasingly climate change is being cited as a major stressor as fish populations shift poleward. ***Ending overfishing can help mitigate this problem by building resilience through larger and more abundant marine life.*** As a recent paper on climate change and fisheries observed, "Our findings suggest that fish are no different from people in that a healthy person is more likely to survive an epidemic than a person who is less healthy."[11]

More catches and fewer trips: The socio-economic benefits of ending overfishing

Often policies to protect the environment are contrasted with their economic costs as doing the right thing for the environment comes at some financial cost. This is not the case for overexploited renewable resources – a unique classification for resource economists due to their win-win potential. Allowing fish populations to recover increases the abundance and thus a sustainable level of harvesting (for example 10% of the population) comes from a larger base (for example 100,000 tonnes instead of 20% from 20,000 tonnes). It might seem counter-intuitive, but doing the right thing environmentally and protecting fish populations, means we can fish more in the future with more income for fishers and coastal communities.

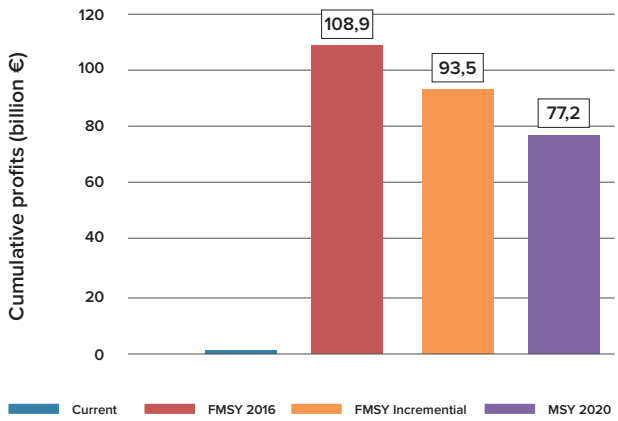
Fishing from more abundant fish populations not only increases income, but it also reduces costs as abundant populations are easier to harvest (you can haul the same amount of fish in a smaller area and in less time). The implication is that the amount of fishing can be reduced which directly lowers fishing costs such as fuel usage. This is why to maximise profits (income minus costs), fishing quotas should be set even lower than scientific advice, which is designed to maximise just income. This 'maximum economic yield' – the fisheries objective of Australia – uses a fishing pressure below the 'maximum sustainable yield' that is permitted in the CFP.[12]

In ***Sustainability now or later? Estimating the benefits of pathways to maximum sustainable yield for EU Northeast Atlantic fisheries, Guillen et al. (2016)*** find that ***if fish populations were rebuilt they could deliver an estimated €4.64 billion rather than €0.1 billion (at the time of writing).***[13]

Of this gain, 63% comes from the value of increased landings and 37% comes from reduced harvesting costs. These returns to fishing can occur as profits or alternatively as jobs or wages depending on how the fleet is structured and labour policy. Other studies have estimated the additional jobs you get from fishing at a maximum sustainable yield at 20,000.
[14] Regardless of how these gains are distributed, they are there for the taking if fish populations are managed sustainably.

Guillen et al. (2016) also measure this economic potential in terms of different pathways of quota setting and find that ***"by delaying the reduction in fishing mortality to FMSY until 2020 instead of 2016, more than 31% of the potential operating profit is lost"*** – illustrated in Figure 1.

Figure 1: Net present value of MSY pathways under the proportional cost assumption (2016-2035)



Source: Using the proportional costs assumption from Guillen, J. et al. (2016). Sustainability now or later? Estimating the benefits of pathways to maximum sustainable yield for EU northeast Atlantic fisheries. Marine Policy 72: 40-47.

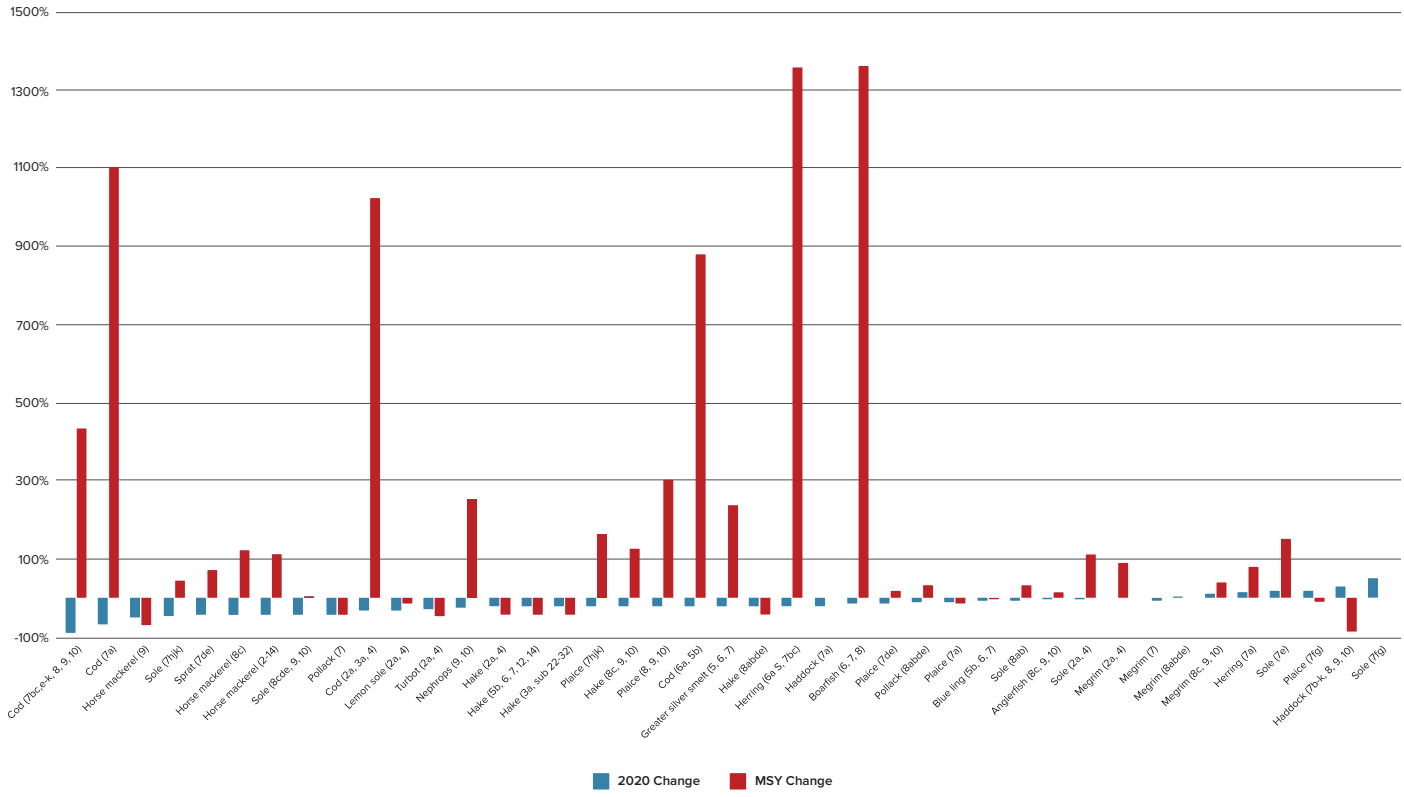
Another study puts this faster transition in EU fisheries into investment terms, finding that EU fishing ministers are 'paying' interest rates of 10 to 200% (depending on the species) by legislating for fishing today at the loss of what could be fished in the future. This conclusion that a faster transition yields larger socio-economic benefits echoes what has been found in studies outside of Europe as well.[15]

Given this evidence on increased incomes and reduced costs, it is surprising that 'socio-economic impacts' are sometimes referred to by Ministers as a reason for exceeding scientific advice. Unfortunately, these statements are rarely accompanied by evidence. Where an assessment is provided, it is often a simplistic "impact analysis" that multiplies the decrease in quota by the price of landings.

This approach is seriously flawed. It is often the case that a lower quota implies lower catches, but this is only for one year while costs reduce as well. As a minimum an impact assessment should consider both the costs and the benefits of an action. In economics, the 'net present value' of a decision captures the costs and benefits over a multi-year period – especially when the decision is specifically about a change in outcome over time. If assessing the socio-economics of quota proposals were simply multiplying the quota by the price then quotas should be increased – infinitely so – to maximise the value.

Figure 2 displays the proposed quota changes under the Commission proposal for the North Sea and Northeast Atlantic beside the MSY potential. It is clear that in the majority of cases the MSY value is many times greater than the cases where there are reductions proposed (10.3 times greater, on average). Importantly, these higher MSY values are recurring. The values are displayed in Annex A.

Figure 2: Proposed TAC changes and MSY potential



Source: European Commission. (2019). Commission proposes fishing opportunities in the Atlantic and North Sea for 2020. Retrieved from: https://ec.europa.eu/commission/presscorner/detail/en/IP_19_6151 and Froese, R. et al. (2016). Exploitation and status of European stocks. Madrid: Oceana. Retrieved from: https://eu.oceana.org/en/our-work/froese-report/overview
Note: Where stocks cover multiple TACs, conversions were made based on the current TAC proportions as in Guillen et al, 2016.

Beyond measuring benefits as well as costs and including a time pathway, impact assessment should also consider price changes (for example if lower quotas increase prices received due to scarcity), how variable costs change (for example through fewer days at sea), quota uptake (for example if a reduction will necessarily lower catches) and the current economic status of the fleet (with a profit margin of 26% the EU fishing fleet is very profitable compared over time or compared to other industries).[16]

Sometimes the opposition to quota reductions is not even about catches or anything outcome related, but simply the act of Ministers 'winning' extra quota for their fleet. Or consider the case of Celtic herring, mentioned earlier, where the quota simply cannot be caught as there are too many juvenile fish, so the fishery was closed in September 2019.

No longer a should, but a must: The legal requirement to end overfishing

The environmental and socio-economic arguments point clearly in the direction of acting sooner rather than later. Unfortunately, this has not occurred. Now, with the 2020 deadline around the corner, there is no choice but to follow the advice in order to end overfishing. The Common Fisheries Policy deadline is not simply advisory but is in fact the law. In this sense it 'trumps' the previous considerations. Deadlines to hold elections are the law and are not always easy or convenient to those the law imposes obligations on. At this point, impact assessments can (if done correctly) improve understanding of setting fishing quotas below what would deliver maximum sustainable yield, but it would be irresponsible to assess options for fishing quotas above the legal limit.

The fact that Ministers are indicating that they are considering setting fishing quotas above scientific advice is an admission that they may not uphold the law. Already there's a danger of the policy message being sent about delay, but the consideration of breaking the law completely is a whole new level of irresponsibility.

Putting off action for so long that it becomes ever more 'costly' to comply creates a moral hazard – where excessive risks are taken in the knowledge that the costs will be borne by someone else. ***If the landmark 2020 deadline isn't met, why would any other policy in the Common Fisheries Policy be trusted?*** Or what about other EU policies? You can be sure that other industries with something at stake in EU policy-making are watching fisheries with interest. The dangerous implications extend well beyond fisheries.

For fishing quota it's not just the size of the pie: What a just transition requires of Member States

By setting fishing quotas above scientific advice and allowing overfishing to continue, EU Ministers have delayed the recovery of fish populations, risked the health of marine ecosystems, and lost out on socio-economic gains from larger catches from fewer fishing trips. Up against the 2020 deadline, this is unfair to fishers, bad deadline management, and unfair to the millions of European citizens who demanded and secured an ambitious reform.

At the same time, just as it is irresponsible to delay quota cuts until the very end of a transition period, it is also irresponsible to make these cuts with no regard for the consequences. There are livelihoods at risk and many coastal communities are intimately tied to the fortunes of the fishing industry. National governments must therefore take action to ensure a just transition.

Frequently lost in the discussion over the size of the pie (the total amount of fishing quota), is the issue of distribution. It is up to each EU Member State to decide how quota – a public resource – is divided amongst their fishing vessels. For example, ***Member States could allocate a higher portion of quota to the coastal fleet to protect against business going completely bust, which could then be reversed when quotas rise as fish populations recover.*** This is how Norway manages their quota (the 'trawler ladder').[17]

Vulnerability is not just felt differently between fishing fleets but also within them. Across EU Member States fishers tend to be paid through a share of vessel earnings – a 'crew share'. This means that wages increase as catches increase, but the reverse is also true and a bad fishing trip could mean very little or no income at all. This need not be the case. Belgium passed a law to guarantee income security for each trip and the country now has crew wages nearly double any other EU Member State.[18] Other Member States should explore similar policies to secure good wages during the transition.

A third area of policy to utilise is the direct role of the state to invest in the long-term sustainability of the industry and this is particularly necessary at a time of quota reductions. There are already billions of euros set aside for fisheries through the European Maritime and Fisheries Fund. Member States should be making investments that respect and utilise the experience of fishers; with skills at sea and a huge gap in our understanding about our marine ecosystems the programmes practically write themselves.

What is expected at the December Council meeting

On December 16 and 17, EU fisheries ministers will set fishing quotas for the North Sea and Northeast Atlantic. This meeting, and the negotiations with Norway and other third countries that precede it, will largely determine whether the reform of the EU's Common Fisheries Policy will succeed or fail in the objective to end overfishing in EU waters. It would be a disappointment and frustration to the millions of EU citizens who put their hopes in the CFP reform to come up short in this objective. And let us not forget that out at sea EU fishers depend on sustainable catch limits. In fact, in many quota systems, fishers lose access to their share of the national quota if they do not use all of the available quota. It is imperative that the scientific advice is followed.

It is a difficult position holding the baton in this final leg of the race to end overfishing, but EU ministers cannot affect what happened before, only what happens next. The legacy of ministers is now dependent on the final sprint to the finish line. We watch with great hope and expectation.

Annex A

Table 1: Proposed TAC changes and MSY potential

TAC	2019 TAC	2020 PROPOSAL	Long-term MSY	2020 CHANGE	MSY CHANGE
Cod (7bc,e-k, 8, 9, 10)	1,610	189	8,546	-88%	431%
Cod (7a)	807	257	9,706	-68%	1103%
Horse mackerel (9)	94,017	46,659	30,710	-50%	-67%
Sole (7hjk)	382	213	548	-44%	43%
Sprat (7de)	2,637	1,506	4,577	-43%	74%
Horse mackerel (8c)	18,858	11,179	42,005	-41%	123%
Horse mackerel (2-14)	119,118	70,617	255,964	-41%	115%
Sole (8cde, 9, 10)	1,072	643	1,131	-40%	6%
Pollack (7)	12,163	7,298	7,294	-40%	-40%
Cod (2a, 3a, 4)	24,433	17,103	275,129	-30%	1026%
Lemon sole (2a, 4)	7,874	5,580	6,773	-29%	-14%
Turbot (2a, 4)	8,122	5,876	4,376	-28%	-46%
Nephrops (9, 10)	401	309	1,412	-23%	252%
Hake (2a, 4)	4,994	3,940	2,938	-21%	-41%
Hake (5b, 6, 7, 12, 14)	79,762	63,325	47,094	-21%	-41%
Hake (3a, sub 22-32)	4,286	3,403	2,518	-21%	-41%
Plaice (7hjk)	109	87	288	-20%	164%
Hake (8c, 9, 10)	9,258	7,406	20,974	-20%	127%
Plaice (8, 9, 10)	395	316	1,590	-20%	303%
Cod (6a, 5b)	1,735	1,388	17,055	-20%	883%
Greater silver smelt (5, 6, 7)	4,661	3,729	15,790	-20%	239%
Hake (8abde)	52,118	42,235	31,396	-19%	-40%
Herring (6a S, 7bc)	1,630	1,360	23,754	-17%	1357%
Haddock (7a)	3,739	3,156	3,856	-16%	3%
Boarfish (6, 7, 8)	3,739	19,152	89,359	-12%	309%
Plaice (7de)	21,830	9,114	12,417	-12%	20%
Pollack (8abde)	10.354	1,334	1,983	-10%	34%
Plaice (7a)	1,482	2,790	2,646	-9%	-14%
Blue ling (5b, 6, 7)	3,075	11,150	11,417	-5%	-3%
Sole (8ab)	11,778	3,666	5,220	-5%	35%
Anglerfish (8c, 9, 10)	3,872	4,023	4,844	-3%	16%
Sole (2a, 4)	4,166	12,317	26,788	-2%	113%
Megrim (2a, 4)	12,555	2,922	5,542	1%	92%
Megrim (7)	2,887	18,732	17,324	3%	-4%
Megrim (8abde)	18,132	1,794	1,714	5%	1%
Megrim (8c, 9, 10)	1,872	2,089	2,652	12%	42%

Herring (7a)	6,896	8,064	12,512	17%	81%
Sole (7e)	1,242	1,478	9,706	-68%	1103%
Plaice (7fg)	1,662	7,003	3,145	19%	153%
Haddock (7b-k, 8, 9, 10)	8,329	10,859	1,147	-30%	-83%
Sole (7fg))	1,009	1,528	1,012	51%	0%
Nephrops (2a, 4)	22,103	22,077	NA	0%	NA
Horse mackerel (4b, 4c, 7d)	15,179	13,763	NA	-9%	NA
Pollack (9, 10)	282	254	NA	-10%	NA
Pollack (8c)	231	208	NA	-10%	NA
Whiting (8)	2,540	2,203	NA	-13%	NA
Herring (5b, 6a N, 6b)	4,170	3,480	NA	-17%	NA
Plaice (Kattegat)	1,705	1,141	NA	-33%	NA
Blue ling (3a)	8	5	NA	-38%	NA
Blue ling (2, 4)	53	32	NA	-40%	NA
Pollack (5b, 6, 12, 14)	397	238	NA	-40%	NA
Blue ling (12)	229	137	NA	-40%	NA
Anglerfish (7)	32,999	35,299	NA	7%	NA
Anglerfish (8abde)	8,371	9,008	NA	8%	NA
Sole (3a, sub 22-24)	502	533	NA	6%	NA
Sole (7a)	414	457	NA	10%	NA

Source: European Commission. (2019). Commission proposes fishing opportunities in the Atlantic and North Sea for 2020. Retrieved from: https://ec.europa.eu/commission/presscorner/detail/en/IP_19_6151 and Froese, R. et al. (2016). Exploitation and status of European stocks. Madrid: Oceana. Retrieved from: https://eu.oceana.org/en/our-work/froese-report/overview

Note: Where stocks cover multiple TACs conversions were made past on the current TAC proportions as in Guillen et al, 2016.

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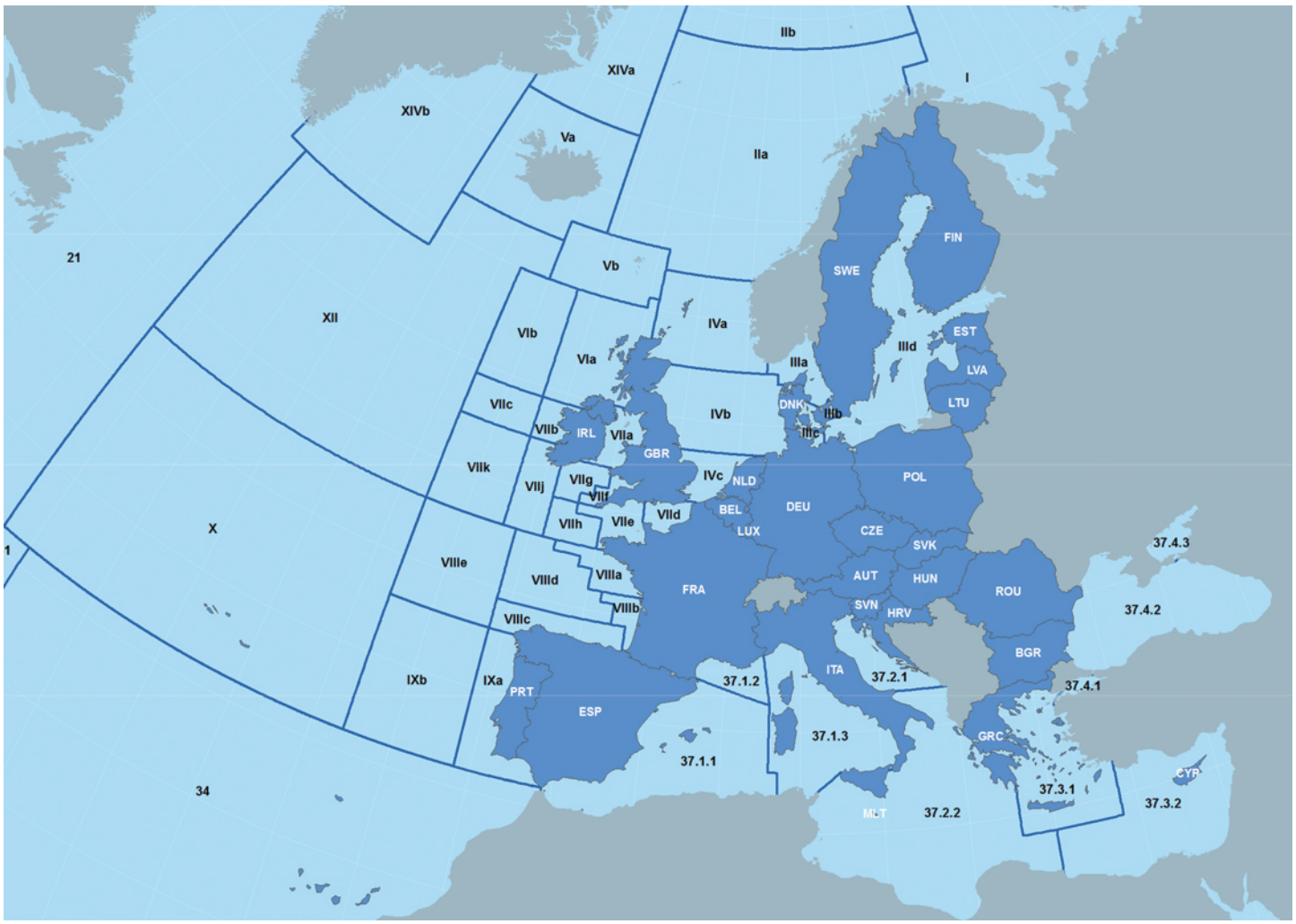
Annex B

Figure 3: Names of Sub-areas and Divisions of FAO fishing areas 27 and 37

Source: European Commission. (2019). Retrieved from: https://ec.europa.eu/fisheries/sites/fisheries/files/docs/body/fishing_areas_en.pdf



Names of Sub-areas and Divisions of FAO fishing areas 27 and 37 NORTH-EAST ATLANTIC

Subarea I	**Barents Sea**
Subarea II	**Norwegian Sea, Spitzbergen, and Bear Island**
Division II a	Norwegian Sea
Division II b	Spitzbergen and Bear Island
Subarea III	**Skagerrak, Kattegat, Sound, Belt Sea, and Baltic Sea; the Sound and Belt together known also as the Transition Area**
Division III a	Skagerrak and Kattegat
Division III b,c	Sound and Belt Sea or Transition Area
Division III b (23)	Sound
Division III c (22)	Belt Sea
Division III d (24-32)	Baltic Sea
Subarea IV	**North Sea**
Division IV a	Northern North Sea
Division IV b	Central North Sea
Division IV c	Southern North Sea
Subarea V	**Iceland and Faroes Grounds**
Division V a	Iceland Grounds
Division V b	Faroes Grounds
Subarea VI	**Rockall, Northwest Coast of Scotland and North Ireland, the Northwest Coast of Scotland and North Ireland also known as the West of Scotland**

Division VI a	Northwest Coast of Scotland and North Ireland or West of Scotland
Division VI b	Rockall
Subarea VII	**Irish Sea, West of Ireland, Porcupine Bank, Eastern and Western English Channel, Bristol Channel, Celtic Sea North and South, and Southwest of Ireland - East and West**
Division VII a	Irish Sea
Division VII b	West of Ireland
Division VII c	Porcupine Bank
Division VII d	Eastern English Channel
Division VII e	Western English Channel
Division VII f	Bristol Channel
Division VII g	Celtic Sea North
Division VII h	Celtic Sea South
Division VII j	South-West of Ireland - East
Division VII k	South-West of Ireland - West
Subarea VIII	**Bay of Biscay**
Division VIII a	Bay of Biscay - North
Division VIII b	Bay of Biscay - Central
Division VIII c	Bay of Biscay - South
Division VIII d	Bay of Biscay - Offshore
Division VIII e	West of Bay of Biscay
Subarea IX	**Portuguese Waters**
Division IX a	Portuguese Waters - East
Division IX b	Portuguese Waters - West
Subarea X	**Azores Grounds**
Subarea XII	**North of Azores**
Subarea XIV	**East Greenland**
Division XIV a	North-East Greenland
Division XIV b	South-East Greenland