

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

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**Research for PECH
Committee -
Common Fisheries Policy
and BREXIT**

WORKSHOP



DIRECTORATE-GENERAL FOR INTERNAL POLICIES
Policy Department for Structural and Cohesion Policies

FISHERIES

**Research for PECH Committee -
Common Fisheries Policy and BREXIT**

WORKSHOP

This document was requested by the European Parliament's Committee on Fisheries.

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LINGUISTIC VERSIONS

Original: EN

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Manuscript completed in June 2017.

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Print	ISBN 978-92-846-0758-7	doi: 10.2861/670902	QA-01-17-230-EN-C
PDF	ISBN 978-92-846-0757-0	doi: 10.2861/621765	QA-01-17-230-EN-N

This document is available on the internet at:

[http://www.europarl.europa.eu/RegData/etudes/STUD/2017/585912/IPOL_STU\(2017\)585912_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2017/585912/IPOL_STU(2017)585912_EN.pdf)

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DIRECTORATE-GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES

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**Research for PECH Committee -
Common Fisheries Policy and BREXIT**

WORKSHOP

Abstract

This is the reference document of the Workshop on "Common Fisheries Policy and BREXIT" of 21th June 2017, organised by the Committee on Fisheries (COMPECH) and the Policy Department B (PECH Research) of the European Parliament.

It is structured in three parts:

1. Legal framework for governance
2. Trade and economic related issues
3. Resources and fisheries

June 2017

Table of Contents

Common Fisheries Policy and BREXIT - Legal framework for governance	5
Common Fisheries Policy and BREXIT - Trade and economic related issues	45
Common Fisheries Policy and BREXIT Resources and Fisheries: a Case Study	105

DIRECTORATE-GENERAL FOR INTERNAL POLICIES
Policy Department for Structural and Cohesion Policies

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**Research for PECH Committee -
Common Fisheries Policy and BREXIT -
Legal framework for governance**

STUDY

Abstract

This study identifies and describes the main aspects of the CFP, both internal and external, that could potentially be legally affected by Brexit. It assesses the legal framework for governance between the EU and the UK and analyses, in broad terms, previous exits from the EU and the Preferential Agreements between the EU and third countries covering fisheries matters. It also examines possible future EU-UK agreements on fisheries issues.

This document was requested by the European Parliament's Committee on Fisheries.

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Manuscript completed in May 2017
© European Union, 2017

Please use the following reference to cite this study:

Sobrino Heredia, J M, 2017, Research for PECH Committee – Common Fisheries Policy and BREXIT - Legal framework for governance, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

Please use the following reference for in-text citations:

Sobrino Heredia (2017)

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Contents

LIST OF ABBREVIATIONS	9
EXECUTIVE SUMMARY	11
GENERAL INFORMATION	13
1. LEGAL IMPACT ON THE INTERNAL/EXTERNAL FISHERIES POLICY	15
1.1 Access to fishing grounds in UK and EU waters and relative stability	15
1.2 EU investments in fisheries in the UK	19
1.3 Free movement of fishermen	21
1.4 Sustainable fisheries partnership agreements with third countries, in particular neighbouring northern countries	23
1.5 Participation in regional and international fisheries bodies and organisms with competence in fisheries	27
1.6 The role of the Court of Justice of the European Union in the solution of future conflicts	28
2. LEGAL FRAMEWORK FOR GOVERNANCE BETWEEN THE EU-27 AND THE UK	31
2.1 Legal procedure for Brexit and previous exits from the EU: the specific case of fisheries	31
2.2 Preferential agreements between the EU and third countries including fisheries matters	33
2.3 Future EU-UK agreements for the governance of fisheries issues	38
CONCLUSIONS	41
REFERENCES	44

LIST OF ABBREVIATIONS

CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CETA	EU-Canada Comprehensive Economic and Trade Agreement
CFP	Common Fisheries Policy
CJEU	Court of Justice of the European Union
EEA	European Economic Area
EEC	European Economic Community
EC	European Community
EFTA	European Free Trade Association
EU	European Union
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organisation of the United Nations
ICJ	International Court of Justice
IUU	Illegal, Unreported, Unregulated
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	North East Atlantic Fisheries Commission
RFMO	Regional Fisheries Management Organisation
TAC	Total Allowable Catch
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
UNCLOS	United Nations Convention on the Law of the Sea
UK	United Kingdom
UNFSA	1995 Fish Stocks Agreement

EXECUTIVE SUMMARY

Background

The notification by the British government, on 29 March 2017, of its decision to withdraw from the EU was the first step in a process that will lead to the UK's disengagement from EU law, the internal market and other European policies, including the Common Fisheries Policy.

The EU and the UK will thereupon have to negotiate and choose a **legal formula** to enable subsequent cooperation between them. In these bilateral negotiations with the UK, now as a third country, what place will fisheries hold? In the author's view, although they will not be a central issue in and of themselves, they will be strongly conditioned by the terms of any agreements on other core issues such as **the internal market** or **fundamental freedoms**. For that is where the fate of British fishery products' access to the EU market (and vice versa), the free movement of seafarers, and the freedom to set up fishery businesses in the UK will be decided. A separate matter is that of access to fisheries resources in British or EU waters, which will need to be dealt with specifically, probably through an **ad hoc fisheries agreement** between the EU and the UK.

The fact that these issues will be negotiated in separate legal frameworks should not lead to the fragmentation of fisheries issues, which should be addressed in their entirety and together, so as to ensure that the **free movement of fishery products** is linked to **free access to waters and resources** and vice versa.

In the meantime, until the UK's exit from the Union is legally complete, European law will continue to apply in that country. Therefore, the rules comprising the CFP will remain in force. This interim situation generates uncertainty with regard to the EU fisheries legislation to be drafted and implemented during this period and beyond.

Aim

Following its effective withdrawal from the Union, the UK will become a third country for the purposes of the CFP. What consequences will that have? How will it affect the legal framework for fisheries governance? The present study aims to examine these questions.

To this end, **the first chapter** identifies and analyses different internal and external **areas of the CFP** that might be **legally impacted** by the UK's withdrawal from the Union. In particular, it examines:

- access to fishing grounds in UK and EU waters and relative stability (the obligation to negotiate as provided for under international law, taking historical catches into account);
- EU investments in fisheries in the UK ('substantive legitimate expectation');
- the free movement of fishermen ('vested or acquired rights');
- fisheries agreements (outstanding financial commitments);
- participation in regional and international fisheries bodies and organisms with competence in fisheries (loss by the UK of its Member State status and possible new partnerships);
- the role of the CJEU in the solution of future conflicts (pending cases, the UK's rejection of the CJEU's jurisdiction, the nature of the conflicts, the Court's residual role, and the search for other settlement mechanisms).

The second chapter of this study analyses the legal framework for **governance** between the EU and the UK in the area of fisheries with a view to answering the question: how will the future relations with the UK – now a third country – be channelled and to what extent will it affect fisheries? To this end:

- first, it offers an overview of the few precedents of withdrawal in the history of the EU and the role played by fisheries in them;
- it then offers a non-exhaustive overview of some of the preferential agreements between the EU and third countries covering fisheries issues;
- finally, it addresses the question of future EU-UK agreements for the governance of fisheries issues.

This study begins with the finding that **the preferential agreements** concluded to date by the EU exclude the CFP and that this will most likely be the case with regard to EU-UK relations too. Hence, the need for a **fisheries agreement** that will enable the continuity of both parties' fisheries activities at a level and under conditions similar to those currently in place. This would require an agreement with certain specific features to enable, if not equal access to waters and resources, then at least preferential access. Given that the negotiation of such an agreement could take time, and in order to prevent the potential harm of such a delay, this paper proposes **transitional measures** based on precedents or the relative effect of **treaties** and the existence of '**collateral agreements**'. The agreement should also be supplemented with **other agreements and protocols**, concerning matters ranging from purely technical issues to dispute settlement mechanisms.

The main objective of these agreements, which would lay the foundations for the construction of **fisheries governance**, would be to guarantee a situation as close as possible to the *status quo ante* based on reciprocity and increased legal certainty for both parties.

GENERAL INFORMATION

On 23 June 2016, the citizens of the UK decided, by referendum, to leave the EU, which their country had been a member of since 1973.¹ Following this outcome, the British government initiated the internal procedure for the country's withdrawal from the EU in accordance with Art. 50 TEU.

Under this provision, any Member State may decide, voluntarily and unilaterally, to withdraw from the Union in accordance with its own constitutional requirements. This can happen in two ways:

1. Through the conclusion of **an international agreement** between the Union and the Member State in question. The Member State deciding to withdraw shall notify the European Council of its intention. The Union shall negotiate and conclude an agreement with that state, setting out the arrangements for the withdrawal, taking into account the framework of the state's future relationship with the Union.
2. Two years after the Member State in question notifies the European Council of its decision to withdraw (except where the European Council extends this period).

On 29 March 2017, the British government officially notified the European Council of its decision to initiate the procedure to withdraw from the EU, opening the door to the negotiations for the conclusion of an international agreement defining the terms of the withdrawal and how the British **disengagement** from the European legal system, internal market and other policies, including the Common Fisheries Policy, will occur.

Faced with the new and unprecedented situation resulting from this withdrawal, the EU and the UK will thereupon have to negotiate and choose a **legal formula** that will enable subsequent **cooperation** between them. This solution will likely take the form of another international agreement, to be concluded following the UK's actual withdrawal,² although the outlines of this agreement will presumably be conditioned by the terms of the withdrawal agreement itself³.

In these future bilateral negotiations with the UK, now as a third country, what place will fisheries hold? In the author's view, although they will not be a central issue in and of themselves, they will be strongly conditioned by the terms of any agreements on the core issues: the **internal market and fundamental freedoms**. For that is where the fate of British fishery products' access to the EU market (and vice versa), the **free movement of fishermen**, the freedom to set up fishery businesses in the UK, and other issues affecting the fisheries sector will be decided. A separate matter is that of the fisheries resources in British or EU waters, which, as in past situations in which preferential agreements have been concluded

¹ The United Kingdom of Great Britain and Northern Ireland has been a member of the EU since 1 January 1973, when the Accession Treaty, concluded on 22 January 1972, entered into force (OJ L73, 27.3.1972)

² The European Council draft guidelines state that only 'an overall understanding on the framework for the future relationship' could be identified during the negotiations. The 'agreement on a future relationship between the Union and the United Kingdom as such can only be concluded once the United Kingdom has become a third country'. The EP draft resolution also insists that the relationship agreement be concluded with the UK as a third country after Brexit.

³ While an agreement on a future relationship between the Union and the United Kingdom as such can only be finalised and concluded once the United Kingdom has become a third country, Article 50 TEU requires to take account of the framework for its future relationship with the Union in the arrangements for withdrawal. To this end, an overall understanding on the framework for the future relationship should be identified during a second phase of the negotiations under Article 50 TEU. We stand ready to engage in preliminary and preparatory discussions to this end in the context of negotiations under Article 50 TEU, as soon as the European Council decides that sufficient progress has been made in the first phase towards reaching a satisfactory agreement on the arrangements for an orderly withdrawal', *European Council (Art. 50) guidelines for Brexit negotiations*, 29 April 2017.

(Greenland, EFTA countries), will need to be dealt with specifically, probably through an ***ad hoc fisheries agreement*** between the EU and the UK. The fact that these issues will be negotiated in separate legal frameworks should not lead to the fragmentation of fisheries issues, which should be addressed in their entirety and together, so as to ensure that the free movement of fishery products is linked to free access to waters and resources and vice versa.

In the meantime, until the UK's disengagement from the Union is complete, European law will continue to apply in that country. Therefore, the rules comprising the CFP will remain in force. Insofar as fisheries are concerned, this situation could be prolonged:

- as a result of a delay in concluding the international agreement for the UK's withdrawal;
- if this international agreement were to include transitional periods affecting fisheries or specific aspects thereof;
- if a transitional agreement is adopted concerning fisheries, amongst other things; or
- if the future international treaty governing the UK's relationship with the EU or a future fisheries agreement between the parties were to prolong the *status quo ante* with regard to specific fisheries issues.

Such an **interim situation** generates uncertainty with regard to the EU fisheries legislation to be drafted and implemented during this period and beyond.⁴

Only after its actual withdrawal from the Union will the UK become a third country for the purposes of the CFP. What consequences will that have? How will it affect the legal framework for fisheries governance? That is what the present paper aims to examine. To this end, it will first analyse the legal impact of Brexit on the internal/external CFP (**Chapter 1**), before looking at the possible scenarios to which it might lead, in particular, the different models of agreements that the negotiators will have to consider to regulate future EU-UK relations and their implications for fisheries (**Chapter 2**).

⁴ European law requires a certain amount of time to be developed and enacted; moreover, this enactment can extend beyond strictly annual timeframes. This is likewise true of the CFP, under which legislative work will continue over this period, concerning: fishing opportunities, technical measures, techniques, management plans for specific areas (North Sea, North-Western waters, etc.), sustainable management of external fishing fleets, deep-sea fisheries, IUU fishing, etc.

1. LEGAL IMPACT ON THE INTERNAL/EXTERNAL FISHERIES POLICY

1.1 Access to fishing grounds in UK and EU waters and relative stability

KEY FINDINGS

The founding principle of the CFP is **free and equal access** by European fishermen to all the Union's waters. The criterion used to allocate fishing opportunities is that of **relative stability**, which is based on historical catches. The UK's withdrawal opens different scenarios, including:

- That concerning the UK's current **fishing opportunities**, which, unless otherwise subsequently agreed, will have to be **redistributed** amongst the Member States. The allocation of these new fishing opportunities should also take into account the criterion of **relative stability**. However, the application of this essentially **political criterion**, adopted in a specific historical context in which the UK's presence was a determinant factor, should be reviewed as the circumstances that justified it will have dramatically changed, and efforts should be made to introduce greater **flexibility** and adapt it to the **discard ban**;
- That referring to **access to fishing grounds** in UK and EU waters. This access will no longer be regulated by European law but rather international law. Consequently, the principle of equal access and use will be replaced by the criteria set out in **UNCLOS** (sovereignty of the UK over its fisheries resources, determination of its harvesting capacity, and access by third countries to the **surplus**, in particular, by those that have habitually fished in the zone):
 - These historical fishing rights should be taken into account in the negotiations to facilitate preferential access by Member State fleets to the resources in British waters and vice versa.
 - With regard to **straddling and highly migratory fish stocks**, international law includes the obligation to cooperate, directly or through RFMOs; thus, the UK's exit will not eliminate its need to negotiate fishing quotas or any transfers or exchanges thereof.
 - All of these issues should be addressed in the **agreement regulating EU-UK fisheries** relations. However, prior to that, the withdrawal agreement or an **ad hoc agreement** should include **clauses** establishing transitional periods to enable a progressive and gradual transition from a regime of equal access to waters and resources to a preferential regime based on historical rights and reciprocity (which could be quite similar to the current regime).
- That concerning **access to the Union's waters** by British-flagged vessels owned by companies set up in the UK but belonging to **Member State nationals**, which could be denied access to the waters and, moreover, whose British nationality could be questioned by the UK itself.
- That related to **Falkland Island-flagged vessels** belonging to joint ventures with capital from business owners from Member States, who may face tougher conditions at the vessel register and tariff and quota-related barriers to the EU market.

Equal access to waters and resources is the central point of the regulation of fisheries activities under the CFP. The UK's transformation into a third country, following its withdrawal from the EU, could bring about a major, albeit difficult to calibrate now, change in this regard, as it will depend on the agreements the EU and UK reach on their future fisheries relations. However, **several scenarios** should be considered:

1. **The first** refers to the **British fleet's** current fishing opportunities in **EU waters**. Unless an agreement is reached that would allow it to retain them, following the UK's withdrawal, these fishing opportunities will be redistributed amongst the interested Member States. In this regard, it is worth recalling that Art. 16(1) of Regulation (EU) No 1380/2013 provides: 'Fishing opportunities allocated to Member States shall ensure **relative stability** of fishing activities of each Member State for each fish stock or fishery. The **interests** of each Member State shall be taken into account when new fishing opportunities are allocated.'⁵ Therefore, the allocation of new fishing opportunities to Member States should also take into account the criterion of relative stability. This is a 'political' criterion, used since 1983, for the distribution of the EU's TACs. It consists of the maintenance of a fixed percentage for each Member State with regard to each specific species found in a given geographic region based on **historic catches (1973-1978)**, with the '**Hague Preferences**' system allowing for an increase in the percentage when the allocation in absolute terms does not reach a certain threshold (which has historically benefitted the UK).

Should the UK complete its withdrawal, it would profoundly change the circumstances that justified relative stability and enabled its continued application over time. Such a change in circumstances would justify a change in the law. In other words, *pacta sunt servanda rebus sic stantibus*, or promises must be kept, provided things remain as they were, i.e. as long as the circumstances existing at the time an agreement is concluded do not change.⁶ But the circumstances will change, affecting the economic balance that this criterion sought to ensure, opening the possibility of **reviewing** its application on the **following grounds**:

- The change will affect the circumstances existing at the time of the adoption of the criterion of relative stability.
- The change will be fundamental.
- The change was not foreseen by the affected parties.
- The existence of the circumstances in question has constituted an essential basis for the establishment of the criterion of relative stability.

Such a **revision** could take into account the consequences of the **discards ban**, with a view to examining certain **distribution keys** so as to try to solve the problem of choke species. That is, it could introduce elements of flexibility in the application of the criterion of relative stability.⁷

⁵ OJ L354, 29.12.2013, p. 22.

⁶ The *rebus sic stantibus* clause is found in Art. 62 of the 1969 Vienna Convention on the Law of Treaties. ICJ, in the case concerning Fisheries Jurisdiction (Judgment of 25 July 1974 (Merits), United Kingdom v Iceland, ICJ, Rec-1974). CJEU [Case A. Racke GmbH & Co. v Hauptzollamt Mainz (C- 162/96)].

⁷ SOBRINO HEREDIA, J.M. and SOBRIDO, M. (2017), "The Common Fisheries Policy: A Difficult Compromise Between Relative Stability and the Discard Ban", Andreone, G. (Ed.), The Future of the Law of the Sea, Ed. Springer, London, pp.23-43.

2. **The second scenario** concerns access to **fishing grounds in UK and EU waters**.⁸ In this regard, following its withdrawal, the UK will have sovereign control over the resources in its waters:

- The exercise of its sovereign rights in these waters for the purposes of exploring, exploiting, conserving and managing fisheries resources must be done in accordance with the principles of international law;
- With regard to access to resources, the principle of **equal access** will no longer apply, and it will fall to the UK to determine the allowable catch of the living resources in its EEZ (Art. 61 UNCLOS). However, it will have to do this with the objective of **optimum utilisation**, determined by its harvesting capacity. Moreover, where it does not have the capacity to exploit the entire allowable catch, it will give other states access to the **surplus**, having particular regard to the need to minimise economic dislocation in those states whose nationals have habitually fished in the zone (Art. 62 UNCLOS). It is this historic and habitual fishing that should be taken into account in the negotiations to facilitate preferential access by EU Member State fleets to resources in British waters and vice versa.
- These **historic catches**, which were taken into account when relative stability was defined, should also be taken into consideration to establish the new fishing opportunities, subject to the principles of sustainable fisheries⁹ and bearing in mind that the UK and other EU Member States share more than **100 fish stocks** ('shared TACs').
- With regard to the specific situation **of straddling and highly migratory fish stocks**, not only will the interests of the UK and EU come into play, but also those of the other Northeast Atlantic coastal states and of the competent regional fisheries management organisations (**NEAFC and ICCAT**).¹⁰ In this regard, international law includes the obligation to cooperate, directly or through the appropriate organisations, with regard to these fish stocks (Arts. 63(1) and (2) and 64 UNCLOS; Arts. 5 and 8 UNFSA).
- Withdrawal from the EU will not eliminate the UK's need/obligation to negotiate fishing quotas or possible transfers or exchanges thereof, but rather will increase it.

With regard to these issues, the international agreement regulating the UK's withdrawal and/or any subsequent agreements concerning fisheries activities following the UK's exit:

- should contain **clauses** establishing **transitional periods** that enable a progressive and gradual transition from a regime of equal access to waters and resources to a preferential regime based on historical rights and reciprocity (therefore, close to the current one);

⁸ The European Fisheries Alliance (made up of organisations from the sector in Spain, France, Belgium, Ireland, the Netherlands, Poland, Sweden and Denmark) believes that the UK and EU are deeply interdependent in this area. Pointing to data from 2015, it notes that fisheries in British waters accounted for 33% of all EU fleet landings, although in some cases the figure was as high as 60%.

⁹ Introducing, where applicable, provisions concerning the obligation to land all catches without discarding and compliance with fishing capacity ceilings to prevent overfishing.

¹⁰ In the case of the resources shared by the UK and the EU, they should agree the TACs through negotiations. These would either be bilateral, in the case of stocks shared solely between the EU and the UK, or through the NEAFC, with regard to resources shared with other countries (as is currently the case with mackerel, negotiated between the EU, Norway, Iceland and the Faroe Islands).

- should seek a **temporary solution** to mitigate the consequences of Brexit;¹¹ and
 - should prevent **dissonance** between the regime for access to waters and resources and the regime for free access to markets for fishery products.
3. Access of **British-flagged vessels** owned by parties from **EU Member States** (with UK-based businesses) to EU and British waters (both European and off the Falkland Islands) could be severely hampered:
- by the loss of their access to the Union's waters as a result of their status as British-flagged vessels; and
 - as their British nationality could be questioned were the UK to amend, as it likely will, its law regulating ship registration.

The remainder of this section will examine the first of these aspects, leaving the second one for the next section.

As a result of the UK's withdrawal, these British-flagged fishing vessels will come to be considered **third-country vessels** and, therefore, will not be able to fish in EU waters unless otherwise provided for under a future fisheries agreement. Consequently, they would conduct their activities according to the terms of that agreement rather than as provided for by the CFP. Should the **future agreement** introduce a system of **reciprocity**, that system would also apply to these vessels. Additionally, some vessels in the EU Member States' **high-seas fleet** that have been seeking new fishing grounds in the Southwest Atlantic have transferred their flags to the UK's second register in the Falkland Islands, which allows the registration of fishing vessels.¹² This possibility has been widely used by ship-owners from Member State since the 1980s.¹³ The UK's withdrawal could have two negative consequences for these business owners:

- first, the imposition of tougher conditions by the **Falkland Islands Register**, and
- second, the consideration of their fishery products as having originated in a third country and the consequent loss of the tariff and quota facilities they currently enjoy.

To prevent these consequences, future EU-UK agreements would need to consider the status of products originating in these islands.

¹¹ Perhaps through the provisional application of the main regulations comprising the CFP (the CFP Regulation, CMO Regulation, EMFF, Control Regulation, Technical Measures Regulation, IUU Regulation, New Deep-Sea Regulation, etc.).

¹² The Falkland Island register has existed since 1861 and is part of the Second Category of the so-called Red Ensign Group, the group of registers of vessels authorised to fly the British flag and, therefore, with British nationality. In 2003, the register regulations were revised to make them more similar to those governing the UK's ordinary register through the adoption of Parts I and II of the 1995 Merchant Shipping Act, with certain adaptations, by the Falkland Islands.

¹³ These are vessels, owned by mixed companies set up with capital from Member States in the Atlantic archipelago. The crews of these fishing vessels are estimated to include between 500 and 600 EU Member State nationals.

1.2 EU investments in fisheries in the UK

KEY FINDINGS

The **freedom** to conduct **business** that enabled the creation of the current fishery companies in the UK is an essential element of the **internal market**. The freedoms of the internal market should be negotiated as an integrated whole, based on fair balance and reciprocity. The UK's withdrawal from the EU could have the **following implications** for the segment of the fisheries industry that owns this fleet:

- **Real possibility of loss of the British flag**; greater complexity and higher costs due to the differences between UK and EU regulations; increased work due to taxation, regulations and systems; difficult in cooperating or merging with British companies.
- **Impact on their legal certainty**: these companies made investments in the past based on a set of expectations and a legal scenario that could now be shaken up. These reasonable legitimate expectations should be **protected from changes** in public policy, a fact that British case law seems to recognise. The denial of such protection could give rise to numerous lawsuits in which these business owners sue for jurisdictional protection of their **substantive legitimate expectation**.

The existence of a large number of vessels flying the UK flag but **originating** in other **Member States** whose owners have established their businesses in the UK is the result of the former British policy requiring only that a vessel be owned by a subject or by a company incorporated and headquartered in the UK for it to be registered in a British register.

However, due to a **variety of circumstances** (allegations of quota hopping), the British authorities tightened the conditions for granting British registration to a fishing vessel, requiring 75% of the capital and 75% of the crew to be British or a Member State national, excluding **the nationals** of certain Member States subject to a transitional period (Merchant Shipping Act, 1988). This decision led to a legal battle that reached the CJEU, involving both the affected companies and the European Commission. Amongst the European Court's judgments, attention should be called to those referring to the Factortame cases, which found that British law to be contrary to European law.¹⁴

This resulted in **changes to British law** (the 1995 Merchant Shipping Act and the 1993 Merchant Shipping (Registration of Ships) Regulations), such that today a large number of vessels with capital from EU Member States now operate under the British flag. The UK's withdrawal would dramatically change the circumstances under which these registrations have taken place to date:

- Given that current regulations require the **ship-owners** to be British or EU Member State nationals, provided the latter are established in the UK. Obviously, this provision cannot be maintained once the UK is no longer part of the EU.
- Additionally, the **registration** must be renewed every five years. Due to the change in circumstances, this renewal may not be possible or, on the contrary, because the negotiations for the UK's actual exit could take months or even years to make complete, perhaps it could.

¹⁴ Amongst them, the Judgment of 4 October 1991, Commission v United Kingdom (C-26/89).

- The more than likely toughening of the conditions to register a vessel in the British register with a view to strengthening the British nationality of the owners.

In future, freed from the constraints of European law, the rules of the internal market and CJEU case law, the British authorities will have the freedom they need to incorporate restrictive measures aimed at **limiting the registration of vessels** in their Register. That could hinder the existence of such vessels, requiring them to recover their **flag of origin**, with the consequent **loss of the investments** these companies have made. This would affect the legal certainty of fishery companies incorporated in the UK that, in the past, made investments based on certain expectations and a legal scenario that could now be upset. In the face of this situation:

- The **'substantive legitimate expectation'** (in the sense of obtaining a material benefit) of these fishery companies could be harmed if the withdrawal entails a legislative change toughening or rendering their business impossible.
- In this regard, both UK and CJEU case law recognise the existence of the principle of substantive legitimate expectation and the consequences that its infringement can have for both governments and individuals.
- **British case law** is currently evolving towards support of the substantive side of legitimate expectation, in contrast to the previous situation, when jurisdictional protection was granted only to procedural legitimate expectation.
- This **shift** makes it possible to **prevent** public authorities from **changing policies or administrative decisions** that might have created a reasonable or legitimate expectation of obtaining a given outcome or perceived benefit. At the same time, it prevents changes in public policy from infringing on the rights, or expectations of substantive rights, of the subject of the substantive legitimate expectation.¹⁵

¹⁵ See: R v Secretary of State for the Home Department, ex parte Khan [1984] 1 WLR 1337 (CA); Council of Civil Service Unions v Minister for the Civil Service [1985] AC 374 (CA); R v Secretary of State for the Home Department, ex parte Ruddock [1987] 2 All ER 518 (CA); R v Ministry of Agriculture, Fisheries and Food, ex parte Hamble (Off-shore) Fisheries Limited [1995] 2 All ER 714; R v Inland Revenue Commissioners, ex parte Unilever [1996] STC 681 (QB); R v Secretary of State for the Home Department, ex parte Hargreaves [1997] WLR 906 (CA); R v Secretary of State for Education and Employment, ex parte Begbie [2000] 1 WLR 1115 (CA); R v North and East Devon Health Authority, ex parte Coughlan [2000] 2 WLR 622 (CA), and R v East Sussex County Council, ex parte Reprotech [2002] 4 All ER 58 (HL). On this subject, see: CRAIG, P. P., and SCHONBERG, S., "Legitimate Expectations After Coughlan", Public Law, No. 50, 2000, pp. 684 – 701; ANTHONY, G., "Procedimiento, Derecho material y proporcionalidad: el principio de confianza legítima en el Derecho administrativo del Reino Unido", Documentación Administrativa, No. 263 – 264, May–December 2002, pp. 329 – 352.

1.3 Free movement of fishermen

KEY FINDINGS

The UK's effective withdrawal will, in principle, mean the end of the free movement of persons. What will happen with seafarers from EU Member States who live and work in the UK will depend on the negotiations. In any case, the following should be borne in mind:

- The '**critical date**' for the purposes of a legislative change can be none other than that of the entry into force of the agreement regulating the UK's withdrawal from the EU; until then, **European seafarers** will continue to enjoy and acquire rights arising from their European citizenship.
- The **indivisibility of the freedoms** comprising the EU's internal market. Thus, the free movement of fishery products should be conditioned by what happens with the free movement of seafarers.
- The rejection of any fragmented or bilateral negotiations between the UK and specific Member States as contrary to the very foundations of European law and, in particular, to the principle of **sincere cooperation**.
- The need for swift negotiations to eliminate **uncertainty** and encourage **reciprocity** in the legal treatment of Member State nationals in the UK and British nationals in the different EU Member States.
- The possibility of legally defending the existence of **acquired rights** that are part of the individual patrimony of these seafarers, whose lives are rooted in the UK. Wiping the slate clean of these rights would be contrary to the principles of the rule of law.

The right **to free movement of persons** will be one of the first and most important issues in the EU-UK negotiations. In this area, both self-employed workers and employees would be affected by the UK's withdrawal, as the country will regain its competences in matters of immigration with regard to EU Member State nationals. Additionally, unless otherwise agreed, **many acts of labour law harmonisation**, usually offering stronger protections than the pre-existing standards in the country, will **cease to apply**. This situation would likewise affect workers who have exercised the right to free movement and who currently benefit from the Regulation on the coordination of social security systems.

European law in this area will also remain in force and continue to apply to the UK until its actual withdrawal from the Union. In this regard, in the author's view, the 'critical date' for the purposes of any legislative changes is that of the entry into force of the agreement for the UK's withdrawal from the EU. Consequently, until such time, European workers would continue to acquire rights arising from their European citizenship.

The situation of all these people, including **fishermen from Member States** who work **on British-flagged vessels**, will depend on the outcome of the negotiations. They will probably not only need **a passport** to travel, but will also have to worry about **visas, residence and work permits**, and other obstacles aimed, quite likely, at nationalising British fisheries activity (e.g. requiring a minimum number of British crew members for fishing vessels to access the British register, as there will no longer be recourse to the CJEU to file a complaint). As for social benefits, again, they too will depend on what is agreed during the negotiations for the future EU-UK agreement. Were the UK to choose formulas similar to those established with EFTA

countries, or were a bilateral agreement to be signed in this regard, the current EU regulations on Social Security could be kept in place.¹⁶

Several million people have benefited in different ways over the years from the free movement of workers, the freedom to conduct business and provide services, and the free movement of persons, including seafarers. Many of them are **EU Member State nationals** who have been living in **the UK for more than five years** and whose professional and family lives, as well as their property, are now rooted in that country. In view of this situation, it is worth asking whether the rights these workers currently enjoy will abruptly disappear following the UK's withdrawal, or if they have by now come to be of such a nature that the British exit cannot automatically revoke them. In other words, it is necessary to speak of the vested or acquired rights that form part of the individual patrimony of these European citizens.

Following the UK's withdrawal from the EU, their relations will be governed by international law and, in this area, by **treaty law**, including both its conventional (1969 Vienna Convention) and customary dimensions. **Art. 70 of the Vienna Convention** ensures respect for rights acquired whilst a treaty is in force and following its termination. However, most authors hold that this guarantee is limited to states (the parties to treaties) and does not affect individuals, based on the International Law Commission's own commentary to this provision, as well as the evolution of international case law.¹⁷ This would mean that the right for seafarers to remain and work in the country under the same conditions they currently enjoy would not be an acquired right that could be invoked before the British courts.¹⁸

In the author's view, this interpretation could be qualified as follows:

- The consideration that the acquired rights to which the said Art. 70 refers are limited to states must be contextualised in time and in the historical circumstances surrounding its debate in the International Law Commission and inclusion in the Vienna Convention. The time and historical context include **processes of decolonisation** and the logical reticence of the new states to 'inherit' legal situations that arose during their colonisation. Hence, their rejection of individuals' acquired rights in such circumstances. Hence, too, the International Law Commission's opinion.
- However, the current situation is quite different, and the right should be understood in the light of its time.¹⁹ In the author's view, wiping the slate clean (*tabula rasa*) today of the rights that all these people in the UK (and British citizens in EU Member States) have legitimately enjoyed for years would go against the very foundations of the rule of law,

¹⁶ The EU has concluded numerous agreements with third countries that include provisions concerning equal treatment in matters of social security, free transfer of social benefits and non-discrimination (association agreements, Euro-Mediterranean agreements, stability and association agreements, etc.).

¹⁷ From the Judgment of the Permanent Court of International Justice, Case concerning Certain German interests in Polish Upper Silesia (Germany v Poland), 25 May 1925, paragraphs 59 and 89, to the present day.

¹⁸ Much has been written on this issue, generally excluding, more or less categorically, the existence of subjective or individual acquired rights. See, amongst others: BUCKLE, R., et al., *Brexit: Directions for Britain Outside the EU*, Institute of Economic Affairs, London, 2015, pp. 81 – 84; EICKEE, T., "Could EU citizens living in the UK claim acquired rights if there is a full Brexit", *Lexis PSL*, 11/04/2016; House of Lords, European Union Committee, *Brexit: acquired rights*, 14 December 2016, HL Paper 82; PIRIS, J. C., *If the UK votes to leave – The seven alternatives to EU membership*, Centre for European Reform, January 2016, p. 12; TELL CREMADES, M. and NOVAK, P., *Brexit and the European Union: General Institutional and Legal Considerations*, Committee of Constitutional Affairs, European Parliament, PE 571.404-January 2017. For the opposite view, see: BARDE, J., *La notion de droits acquis en droit international public*, Paris, 1981; Herbst, J., "Observations on the Right to Withdrawal from the EU: Who are the 'Masters of the Treaties?'", *German Law Journal*, 6, 2001.

¹⁹ It is worth recalling that, although the law has a literal meaning, its content must be interpreted taking into account both the context in which it was created and the sociological environment in which it is to be applied, since it is possible that the strict *telos* for which a law is adopted could produce results contrary to equity.

the values that inspire the EU and various provisions of the European Convention on Human Rights.

- Therefore, categorically denying the existence of these subjective or individual acquired rights could result in a very large number of **lawsuits**, since, in the author's view, there are sufficiently defensible legal grounds to challenge this interpretation in court.

Here perhaps more than in other areas, the crux of the matter lies in the negotiations. Even if the freedom of movement of persons is negotiated as a separate chapter, it probably should not be dissociated from the other major freedoms of the internal market, nor, in any case, should it be fragmented in bilateral negotiations with different Member States (which would be contrary to the **principle of sincere cooperation, Art. 4(3) TEU**).

1.4 Sustainable fisheries partnership agreements with third countries, in particular neighbouring northern countries

KEY FINDINGS

The UK's withdrawal from the EU will have the following effects on the EU's policy on fisheries agreements:

- **Multilateral agreements and declarations:** Most of these are mixed agreements, some containing so-called '**competence clauses**'. Many have been signed and ratified by the EU and its Member States. The continuity of such agreements is guaranteed for the EU, which, in any case, will have to notify third countries of the new situation. For the UK, in contrast, the situation is different. Many of these agreements affect **exclusive competences of the EU**, whilst others, although they affect shared competences or competences of the Member States, were nevertheless concluded by the EU. Consequently, the UK would cease to be a party to them and, were it to deem it appropriate, would have to sign these agreements again.
- **Bilateral reciprocity agreements:** These agreements would continue to be applied, and the TACs and quotas would be updated to reflect to the British fleet's exit. Additionally, given the nature of the fish stocks in the zones these agreements cover and its obligations under international law, the UK would have to negotiate fisheries agreements with the third countries with which the EU already has agreements, as well as with the EU itself. These would probably take the form of various types of agreements similar to the current ones. To prevent problems for the fleets of the various states concerned, flexible mechanisms should be sought that would enable a transitional period.
- **Sustainable fisheries partnership agreements:** These are EU agreements; once the UK's withdrawal becomes effective, it will cease to be party to them. In the author's view, this conventional activity is not of great interest to the UK. However, the various Protocols that the EU has signed with these third countries do include certain multi-year financial commitments. These **Protocols** will probably remain in force throughout the negotiations and, perhaps, even after the UK leaves. It must thus be ensured that the UK continues to fulfil its commitments in this regard during the negotiations.
- **Agreement with Greenland:** This agreement has the particularity of being a sustainable fisheries partnership agreement and, therefore, both includes a financial contribution and adheres to the EU's TAC and quota system. These characteristics make its continuity unviable for the UK, whose withdrawal from the EU also automatically entails its withdrawal from the conventional framework.

On the basis of its legal personality (Art. 47 TEU) and its exclusive competence in the conservation of marine biological resources under the CFP (Art. 3(1)(d) TFEU), the EU has been

quite active in terms of international fisheries conventions, both actively participating in the multilateral negotiations and agreements that shape current international fisheries law and concluding numerous bilateral fisheries agreements of different kinds with third countries.

The UK's withdrawal will affect these agreements, particularly those known as 'Reciprocity Agreements' and, to a lesser extent, those known as 'Sustainable Fisheries Partnership Agreements' (Tuna Agreements, on the one hand, and Mixed or Multispecies Agreements, on the other), except in the specific case of Greenland.

The agreements with northern countries or **Northern Agreements** involve an exchange of fishing opportunities between the EU's fleet and those of other North Sea and Northeast Atlantic coastal countries and territories (Norway, Iceland and the Faroe Islands) with fishing grounds adjacent to the EU's (and, following Brexit, the UK's). However, in addition to these bilateral agreements, the EU has also concluded **multilateral agreements**, the so-called '**coastal state agreements**' (concerning certain pelagic species).

1. Fisheries relations with Norway: Norway is a country with a long tradition of fishing and one of the largest global exporters of fishery products; it exports approximately 60% of its fishery products to the EU, benefiting from the provisions contained to this end in the EEA Agreement. To resolve the issue of access to fisheries resources, the two parties have agreed an annual quota system for North Sea fish species, as well as a system for exchanging fishing quotas in other maritime zones. These systems are currently covered by three fisheries agreements:

- A bilateral agreement between the EU and Norway covering the North Sea and the Atlantic.
- A trilateral agreement between Denmark, Sweden and Norway covering the waters of Skagerrak and Kattegat.
- A neighbourhood arrangement covering Swedish fishing in Norwegian waters of the North Sea.

Both **the bilateral and trilateral agreements** allow for the setting of TACs for **joint fish stocks**, the transfer of fishing opportunities, joint technical measures, and certain issues related to fisheries control and enforcement. The neighbourhood arrangement includes fishing opportunities transferred by **Norway to Sweden** in accordance with the fisheries agreement signed by the two countries in December 1976. The bilateral agreement between the **EU and Norway** is the Union's most important international fisheries agreement in terms of both the exchange of fishing opportunities and joint fisheries management measures.²⁰ It entered into force on 16 June 1981, for a period of 10 years, and has subsequently been tacitly renewed for successive six-year periods. The most recent tacit six-year **renewal** of this international fisheries agreement took place **in 2015**. It provides that both the EU and Norway 'shall, as appropriate, determine annually for its area of fisheries jurisdiction, subject to adjustment when necessary to meet unforeseen circumstances, and on the basis of the need for rational management of the living resources' the TAC for 'individual stocks or complexes of stocks'.

The agreement is managed through **annual consultations** between the parties covering two key issues: the setting of the TACs for the jointly managed joint stocks in the North Sea (in particular, cod, plaice and haddock) and the exchange of fishing opportunities. In the event of disputes concerning the interpretation or application of the agreement, the parties have agreed only to hold consultations (Art. 8).

²⁰ The Framework Agreement was adopted by Council Regulation (EEC) 2214/80 of 27 June 1980, OJ - L 226 of 29 August 1980, page 47.

The UK's withdrawal will make **fishery resources in EU waters less attractive** to Norway, given that, regarding quota exchanges, the resources in UK waters are its priority. Nevertheless, this situation should not harm the EU fleet by limiting its access to Norwegian fishery resources. To this end, it should be firmly asserted that the access of Norwegian fishery products to the internal market **shall be subject** to access to Norwegian fishery resources by the EU fleet.

2. **Fisheries relations with Iceland:** Fishing is also essential to Iceland's economy; hence, the importance of its fisheries relations with the EU. The commercial aspects of fisheries have been the subject of attention since the signing, on **22 July 1972**, of a **Free Trade Agreement** with the then EEC, amended several times since, mainly because of the EU's successive enlargements. Meanwhile, issues related to access to waters and resources were regulated in the Agreement on Fisheries and the Marine Environment, signed on 24 June 1993,²¹ for a period of ten years, under which the parties undertook to cooperate to ensure the conservation and rational management of the fish stocks occurring within the areas of their respective fisheries jurisdiction and in adjacent areas, and to agree the TACs and the allocation thereof, reciprocally affording their fleets access to their fisheries resources. They also established measures for monitoring and control, data transfer, etc. Following successive renewals, this agreement is no longer in force. This is compounded by the existence of a **dispute between the EU, Norway and the Faroe Islands**, on the one hand, and Iceland, on the other, over the management of mackerel stocks in the North Atlantic. In fact, Iceland is not a party to the agreement reached by the EU in 2014 with Norway and the Faroe Islands concerning this fishery, as it considered that the allocation of the TACs sought by the other parties did not conform to scientific recommendations regarding the sustainable use of marine resources.
3. **Fisheries relations with the Faroe Islands:** The rules applicable to the fisheries relations between the EU and the Faroe Islands are set out in a **Free Trade Agreement**²² and in a bilateral fisheries agreement signed in 1980²³ for an initial period of 10 years that has been successively renewed since. The agreement recognises that part of the living resources of certain areas of their respective fishery zones consist of highly interrelated stocks exploited by fishermen of both parties and that they thus have a common primary interest in ensuring, by appropriate measures, the conservation and rational management of these resources. To this end, they undertake to **agree TACs, reciprocal fishing possibilities, and authorised fishery zones**, seeking a satisfactory balance between their fishing possibilities in their respective fishery zones and taking into account each party's habitual catches and the need to minimise difficulties for both parties were the fishing possibilities to be reduced.
Mackerel and herring are two of the fish species to cause most tension in these relations. With regard to mackerel, in 2014, the EU reached an agreement on its management in North Atlantic waters with Norway and the Faroe Islands, following long and fraught negotiations that had begun in 2010. With regard to herring, recent years have witnessed considerable legal tension between the EU and the Faroe Islands, with Denmark even lodging a **complaint with the WTO against the EU** (DS 469) over the

²¹ The framework agreement on fisheries between the EU and Iceland was adopted by means of Council Regulation (EEC) No 1737/93 of 24 June 1993 (OJ L 161, 2.07.1993, p. 1).

²² Protocol I of this Treaty refers to the conditions of access to the EU market for products from the Faroe Islands. Following the most recent amendments to it, made in 1998, most fishery products from the Faroe Islands can be exported to the EU market duty-free.

²³ The first fisheries agreement between the EU and the Faroe Islands was adopted by means of Council Regulation (EEC) No 2211/80, of 27 June 1980 (OJ L 226, 29.08.1980, p. 11), and it remained in force for a period of ten years. This agreement was extended for successive six-year periods, the final one for the period 2006-2012 (see Council Regulation (EC) No 51/2006 of 22 December 2005, OJ L 16, 20.01.2006, p. 1).

import ban and the ban on the use of the Union's ports. In June 2014, a political agreement was reached whereby Denmark (acting on behalf of the Faroe Islands) and the EU informed the WTO Dispute Settlement Body that the matter under dispute had been resolved.

As for the **Sustainable Fisheries Partnership Agreements**, under these agreements, in exchange for access to third-country waters, the EU makes a lump-sum financial contribution based on two factors. First, the **amount of the contribution** is calculated based on the access granted to EU fleets to fisheries resources and is largely paid for by the private sector through licensing fees. Second, the **financial contribution** must be used to strengthen the partner state's administrative and scientific capacity by focusing on sustainable fisheries management, monitoring, control and surveillance.²⁴

The Fisheries Partnership Agreement with Greenland²⁵ includes various types of compensations, authorising the exploitation of fisheries resources by EU fleets in exchange for a financial contribution. This contribution secures access by EU vessels to Greenland's waters and helps to ensure continued responsible fishing and the sustainable exploitation of fisheries resources in the Greenlandic EEZ. It is a **mixed agreement** offering access to a wide variety of fish species in the EEZ under which the allocation of quotas is subject to the regulations on TACs and quotas.

²⁴ SOBRINO HEREDIA, J.M. and OANTA, G.A.: "The sustainable Fisheries Partnership Agreements of the European Union and the Objectives of the Common Fisheries Policy: Fisheries and/or Development?", *Spanish Yearbook of International Law*, 2016, pp. 61-85.

²⁵ The first fisheries agreement with Greenland was signed by the EU in 1985, for a period of ten years. In 2007, a new agreement was signed (OJEU, L172, 30.6.2007) and the corresponding agreements and protocols have been renewed ever since. This agreement was subsequently renewed for another period of six years and then substituted by the Fisheries Cooperation Agreement which was applied through successive protocols.

1.5 Participation in regional and international fisheries bodies and organisms with competence in fisheries

KEY FINDINGS

The EU has a very active presence in the international organisations responsible for fisheries conservation and management in the high seas and adjacent EEZ waters. The UK's withdrawal will have different consequences in this regard:

- Given the characteristics of its representation, the EU's presence in the FAO will be affected by the British withdrawal. The UK will not participate in the definition of the European position. It will be able to **act independently** and **seek alliances** with other states, which could weaken the EU's weight in the organisation. A similar situation could also arise in CCAMLR, where both the EU and the UK have membership.
- The EU's status as a full member in many RFMOs, based on its exclusive competences in this area, means that the UK's withdrawal from the EU will entail a simultaneous withdrawal from these organisations.
- Should it deem it so appropriate, the UK could re-join these RFMOs and seek alliances that might diverge from the EU's interests, for example, with Canada in NAFO, which could weaken the EU's position in them.
- Any changes in the membership of these RFMOs must be carried out in accordance with the terms of Art. 11 UNFSA.

A significant share of the European fleet's fishing activity takes place in the high seas or in the jurisdictional waters of coastal states adjacent to the high seas, and in many cases it must be carried out as provided by the competent fisheries organisations. As a result of this situation, the EU intervenes or participates in many of these organisations as a full member or observer. In both cases, it acts within the framework of its exclusive competences and, with few exceptions, it does not share this presence with its Member States.²⁶ The UK's withdrawal will have different consequences depending on the nature of the EU's participation in the different fisheries organisations.

The EU is a full member of the **FAO** – as are its Member States – which has considerable international influence in fisheries matters. Its agenda includes a variety of subjects, such as **IUU fishing**, deep-sea fishing, etc., that are of great interest to the European fleet. Within the framework of this organisation, the EU has been building fairly advanced procedures for combining its participation with the presence of its Member States. The UK's exit would not necessarily have to affect these procedures, except with regard to its non-participation in the EU's positioning. On the other hand, the UK would no longer be bound by these positions and could seek new alliances with other states defending positions other than those advocated by the EU.

The EU's situation is different in most RFMOs, where it has exclusive membership status, participating in the work of their bodies, assuming the corresponding rights and obligations, and contributing to their budgets. The activity of some of these RFMOs, such as NAFO or NEAFC, is key for the European fleet. The UK's exit should not affect the EU's presence in these organisations, but it could have consequences for the EU's relative weight within them. If the

²⁶ VÁZQUEZ GÓMEZ, E., *Las organizaciones internacionales de ordenación pesquera*, Ed. Junta de Andalucía, Seville, 2002.

UK were to subsequently join (or remain) these organisations, it would be free to align itself with other states historically closer to the British world than to the EU itself, for instance, with Canada in **NAFO**, thereby reducing the EU's influence in them. In other fisheries organisations, such as the **CCAMLR**, the EU and some of its Member States are full members, as is the case in particular with the UK. Its withdrawal from the Union will allow it to conclude alliances with other countries which, like Australia or New Zealand, could be closer to its fishing concept, thereby weakening the EU's role in these organisations.

In any case, it is worth recalling that any change in the membership of these organisations would be subject to the terms of Art. 11 UNFSA.

1.6 The role of the Court of Justice of the European Union in the solution of future conflicts

KEY FINDINGS

The UK's current position is that it will no longer accept the **CJEU's jurisdiction** following its withdrawal. It would thus be desirable, if not necessary, for the negotiations between London and Brussels to include procedures to facilitate dispute settlement in these areas.

- **Until the UK's withdrawal agreement enters into force**, the CJEU will also have jurisdiction over disputes related to fisheries in some way involving the UK.
- There could be **pending cases involving the UK** at the time its withdrawal is completed, in which case a legal formula should be sought to give them legal effectiveness.
- The **agreement regulating future EU-UK relations** may be subject to prior control by the CJEU (Art. 218(11) TFEU).
- The **agreements** concluded by the **EU with third countries** include a wide range of **mechanisms** from which, with only a few exceptions, the jurisdiction of the CJEU is excluded.
 - In the case of **disputes related to the functioning of the internal market** (free movement of fishery products, free movement of seafarers), current conventional practice offers a number of possibilities, from submitting the dispute to the CJEU by mutual agreement to implementing consultation, mediation or arbitration mechanisms by way of the use of preliminary rulings or the conclusion of additional agreements on dispute settlement mechanisms.
 - In the case of **disputes related to fisheries activities**, the procedures provided for by international law are intended more for states than individuals; consequently, their use would in any case be exceptional. Furthermore, the fisheries agreements concluded by the EU provide only for the possibility of action by joint committees competent for the friendly settlement of disputes arising from the agreement's implementation. If the disputes are not resolved, there are provisions for the suspension of the agreements, but not for recourse to another procedure.

The CJEU is the EU's judicial authority; its case law is the backbone of the European legal system. However, the scope of its competence does not include, in principle and with only a few exceptions, the settlement of disputes involving third countries. Therefore, once the UK has withdrawn, it will no longer act to resolve conflicts arising over maritime fisheries matters involving British authorities or interests in relation to EU citizens, companies or authorities or EU Member States.

In this regard, a distinction could be made between:

- **Disputes** related to the functioning of the **internal market** affecting fisheries (movement of fishery products, movement of seafarers, etc.).
- **Disputes** over fisheries conservation and **management** (fishing opportunities, discards, technical measures, etc.).

In the first case, i.e. that of the **internal market**, the CJEU could have jurisdiction, provided the agreement governing future EU-UK relations so allows, as has already occurred with other agreements:

- In the **EU-Turkey Agreement**, where the available options include the CJEU when unanimously so agreed by the EU-Turkey Association Council.
- In the **EEA Agreement**, where national judges from non-EU Member States may request a preliminary ruling from the CJEU regarding the interpretation of provisions of the EEA Agreement identical in substance to other provisions of EU law (Art. 107 EEA Agreement with regard to Protocol No. 34, Art. 204 of the Rules of Procedure of the CJEU).²⁷ Additionally, in accordance with Art. 40.3 of the Statute of the CJEU and Art. 93 of the CJEU Rules of Procedure, **EFTA countries** and the **EFTA Surveillance Authority** may intervene in cases before the CJEU where one of the fields of application of the EEA Agreement is concerned. Finally, the CJEU and the EFTA Court have been cooperating for some time, and this cooperation is further strengthened by the possibility for the European Commission and the Surveillance Authority to submit observations, which enables coherent application of case law.

However, for such mechanisms to exist, the future EU-UK agreement would have to include provisions on the internal market similar to those existing in European law in this regard. Furthermore, they would have to be subject to **constant harmonisation**, which, in turn, would require the incorporation of **EU law into UK law** in those areas covered by the future agreement, which would be subject to prior examination by the Commission. In this regard, it is worth recalling the **position formally expressed by the UK** upon notification of its withdrawal from the EU: first, its refusal to remain under the jurisdiction of the CJEU in future and, second, its recognition that future relations will require some sort of **dispute settlement mechanism**.²⁸

Other possibilities would thus need to be explored:

- The **future preferential trade agreement** could include dispute settlement mechanisms open to issues related to the movement of fishery products. Usually, the agreements concluded by the EU refer to joint committees (Art. 22 EEA Agreement, Art. 26(1) CETA Agreement) and, where necessary, they provide for consultation (Art. 41 Agreement with Singapore), mediation (Art. 29(5) CETA Agreement) or arbitration (Art. 29(6) CETA Agreement) procedures. However, this is intended more to facilitate the proper functioning of the agreement itself than to resolve problems affecting individuals.
- The **future trade agreement** could be supplemented with a protocol or other agreement establishing a dispute settlement mechanism, as in the 2011 EU-Morocco agreement, which introduces a wide range of procedures, including consultation,

²⁷ On this competence, see, amongst others: V. SKOURIS, "The Role of the Court of Justice of the European Union in the Development of the EEA Single Market", in EFTA Court (ed.), *The EEA and the EFTA Court*, Hart Publishing, 2014, pp. 3-12; D. SARMIENTO, "Prejudiciales especiales. Auge y fenomenología de los regímenes atípicos de la cuestión prejudicial europea", in R. Alonso García and J.I. Ugartemendia Eceizabarrena (eds.), *La cuestión prejudicial*, European Inkings, No. 4, 2014, pp. 111-112.

²⁸ White Paper, February 2017: Ending jurisdiction of EU Court in UK and recognition that future relationship agreement will need dispute resolution mechanisms.

mediation and arbitration procedures, establishing timeframes, procedures, panels, a list of arbitrators, the effect of the arbitral decisions, etc.

- The European Commission, on the one hand, and a British government body, on the other, could submit observations in proceedings carried out in the EU or in the UK concerning issues involving the future agreement or, where appropriate, the fisheries agreement.
- Each party to the future agreement could undertake to ensure that natural and legal persons of the other party have access, without any kind of discrimination in relation to its own nationals, to its competent courts and administrative organs to defend their rights, as provided for in the **EU-Ukraine trade agreement**.
- In the absence of an agreement, the parties could use the WTO's dispute settlement mechanisms. However, these procedures are somewhat exceptional and not for frequent or everyday use, as is the case with the CJEU.

In the second case, i.e. disputes over the **conservation and management of fisheries resources**, it is highly unlikely that the disputes will be settled by the CJEU, unless a future EU-UK fisheries agreement were to provide otherwise, which would be a novelty. Once the CJEU has been ruled out, other dispute settlement mechanisms must be sought. First, it would be necessary to comply with the provisions of international law and, in particular, UNCLOS. Here it is worth noting from the outset that the **various means of dispute settlement** offered under the Convention (Part XV) are intended for states and, to a lesser extent, other subjects of international law, such as international organisations, not for individuals or corporations. Of all these possibilities, the only one open to individuals, with obvious limitations, is the International Tribunal for the Law of the Sea. Although an innovative and dynamic court, this judicial body works within the parameters of international law and it has heard very few cases involving private parties, primarily in relation to the prompt release of vessels and crews provided for under Art. 292 UNCLOS.

Nor do the mechanisms provided for in the fisheries agreements the EU has concluded with third countries offer many solutions, as they merely refer to the joint committees for the friendly settlement of disputes or provide that the parties will hold consultations and, if they are unable to reach an agreement, will suspend their obligations under the agreement (Arts. 7-15, 2006 EU-Morocco fisheries agreement; Arts. 7-13, EU-Senegal fisheries agreement).

2. LEGAL FRAMEWORK FOR GOVERNANCE BETWEEN THE EU-27 AND THE UK

KEY FINDINGS

There are very few examples of withdrawal from the EU. Insofar as they do exist, it is worth noting that:

- **Fishing** played a role in various previous situations involving the withdrawal of a territory, the non-ratification of an accession treaty, or the decision to drop negotiations for a treaty of accession.
- Only **Greenland's withdrawal**, in 1985, gave rise to a specific legal act: the 1984 Treaty.
- Although its text, which is very succinct, does not refer to fishing, it was soon supplemented with a fisheries agreement that has been renewed up to the present.
- This, in turn, has been supplemented with other legal texts, in particular, Protocol No. 34 to the Treaties, which links the **free access** of Greenlandic fishery products to the **European market** to the possibilities that Greenland gives the Union to **access** its **fishing zones**.

Art. 50 TEU simply recognises the right of any Member State to withdraw, a right it may exercise voluntarily and unilaterally, to be specified in an agreement establishing the form of its withdrawal. But once the withdrawal becomes effective, then what happens? How will the future relations with the UK – **now a third country** – be channelled and to what extent will it affect fisheries? To try to answer these questions, the following pages will first offer an overview of the few precedents of withdrawal in the history of the EU. The paper will then look at different models of agreements that, in the author's view, could serve as guides for future EU-UK relations. Finally, it will look at what type of fisheries agreement might accompany and complement the relations between the parties.

2.1 Legal procedure for Brexit and previous exits from the EU: the specific case of fisheries

The UK's situation in the EU is unique; therefore, the precedents of states or territories that have left the EU in the past are not very relevant and their influence would seem to be limited, especially insofar as fisheries are concerned.²⁹ Provided below is an overview:

The first and only precedent of withdrawal is that of **Greenland in 1985**, in which fisheries issues played an essential role. It withdrew through the signing of the Greenland Treaty of 13 March 1984. The Danish authorities incorporated Greenland in the 1972 Accession Treaty. In 1979, Greenland adopted its statute of autonomy within the framework of the Danish state, under which nearly all the competences previously exercised by the Danish authorities were transferred to it. On this basis, the Greenlandic Parliament decided, in 1981, to hold a referendum on remaining in the EC. The referendum was held in 1982, and a majority voted for Greenland to leave the EC. The Danish government submitted a memorandum to the European Council of Ministers, proposing certain amendments to the Treaties to add Greenland to the list of Overseas Countries and Territories, which, at the time, were included in Annex IV of the TEEC. It also negotiated an agreement with three similar articles for the three treaties

²⁹ NICOLAIDES, P., "Withdrawal from the European Union a Typology of Effects", *MJECL*, vol. 20, No. 2, 2013, p. 209 ; VILA, J.B., "La sortie d'un Etat membre dans le Traité sur l'Union Européenne – D'un mécanisme utopique à un protégé juridique", *RTDE*, No. 2, 2011, p. 273s.

(EEC, ECSC, EAEC) providing, 'This Treaty shall not apply to Greenland', along with certain other amendments³⁰ (OJ, L 29, 1 February 1985).

Regardless of the sociocultural interests the Greenlanders sought to protect, the focus of the negotiations was fishing. Some 25% of the island's population depended on fishing for a living, making it Greenland's greatest natural resource and the reason that the negotiations for its separation took two years. In the end, the EEC secured certain fishing quotas. In return, Greenland would receive aid from the EEC for at least a decade. Greenland's fishery products would have full, unhindered access to the Common Market, to which it sent 70% of its exports.

With regard to fisheries activities, **the 1984 Treaty** was supplemented, **in 1985**, with the first **Fisheries Agreement** between the **EU and Greenland**, concluded for an initial period of 10 years. The agreement was extended for additional six-year periods until its replacement, in 2007, with the Fisheries Partnership Agreement currently in force.

Additionally, Protocol No. 34 to the Treaties sets out the special arrangements applicable to Greenland fisheries today, providing '1. The treatment **on import into the Union of products** subject to the common organisation of the market in fishery products, originating in Greenland, shall, while complying with the mechanisms of the internal market organisation, involve **exemption from customs duties and charges** having equivalent effect and the absence of quantitative restrictions or measures having equivalent effect if the possibilities for access to Greenland fishing zones granted to the Union pursuant to an agreement between the Union and the authority responsible for Greenland are satisfactory to the Union.'

This provision links the free access of Greenlandic fishery products to the European market to the possibilities for access to its fishing zones that Greenland grants to the Union. The **link between the two issues** could be a precedent to consider in the negotiations of a future EU-UK agreement.

Other cases might also be mentioned, such as those of the **island of St Barths or Algeria**, but those situations are quite different from that of the UK's withdrawal and are irrelevant in terms of fishing. Fisheries issues had a greater impact in the cases of the non-ratification of the Treaty of Accession by Norway in 1994 and in Iceland's decision to drop its accession bid in 2015, where the negative consequences, in the public opinion of those countries, of applying the CFP to their fisheries weighed heavily in the decisions.

³⁰ Treaty of 13 March 1984 amending, with regard to Greenland, the Treaties establishing the European Communities. It entered into force on 1 February 1985, OJ, L 29, 1 February 1985.

2.2 Preferential agreements between the EU and third countries including fisheries matters

KEY FINDINGS

Once the British withdrawal is complete, an **international agreement** will need to be negotiated and concluded establishing the framework for the country's future relations with the EU. Several models of agreement exist, but none involves a state that was a member of the EU for more than forty years. Thus, the future EU-UK agreement will be a ***sui generis* agreement** certain aspects of which could draw on **previous agreements**:

- The agreements reviewed here do not cover the CFP.
- These agreements refer to **fisheries from the perspective of trade** in fishery products. Some, such as the EEA Agreement, apply the rules of the internal market, whilst others provide for the gradual liberalisation of reciprocal trade (EU-Morocco Agreement).
- The **CETA Agreement** goes a bit further. Not only does it deal with trade in fishery products, but it also introduces aspects related to fisheries control and surveillance measures, combatting IUU fishing, and cooperation with RFMOs. However, it remains to be seen how these statements will be implemented in future.
- They are **mixed agreements**, with negotiations of varying complexity and ratification processes that, in some cases, are quite long. This will probably also be true of the UK.
- In the face of a legal vacuum that could harm trade in fishery products, consideration should be given to transitional mechanisms or the provisional application of a future agreement until its entry into force.

Following the entry into force of the treaty for the UK's withdrawal from the EU, a legal formula will have to be chosen to regulate their future relations. This solution should take the form of an international treaty, but what kind of treaty will it be? Most likely, it will be a made-to-measure *sui generis* agreement, probably strongly conditioned by the withdrawal negotiations and the agreement specifying the resulting arrangements. The backdrop is a vast range of more than 200 preferential agreements already concluded by the EU. In view of this practice, the future agreement would take the form of a **mixed agreement based on Arts. 207(4) and 218(6)(a) TFEU**,³¹ whose entry into force could take some time, given the need for the unanimity of the Member States and the binding involvement of nearly 40 European, national and regional parliaments with legislative powers.

Drawing on this premise, the following points will offer a non-exhaustive³² overview of some of the existing preferential agreements and how they treat fisheries issues:

1. The **EEA Agreement** would open two possibilities: first, it could be used as a model for the future EU-UK relationship; second, the UK could be integrated into it. The UK seems to have ruled out both options. Nevertheless, it is worth examining what they consist

³¹ Cf. Opinion 2/15, Free Trade Agreement with Singapore, still pending before the CJEU. In her opinion, the Advocate General concluded that the agreement can only be concluded by the EU and the Member States acting jointly.

³² The EU has implemented preferential trade agreements (PTAs) with 58 third countries and territories. Other PTAs have been concluded but are not yet in force – with Canada, Ecuador, Singapore and Vietnam. Economic partnership agreements with countries grouped in the Eastern African Community, the Southern African Development Community and West Africa are in the same situation. Other negotiations for PTAs are ongoing. Carmona, J., Cîrligand, C.-C. and Sgueo, G., *UK withdrawal from the European Union. Legal and procedural issues*, PE 599.352, 2017, p. 22.

of. As is well-known, the EEA is the result of the agreement, concluded on 13 December 1993, between the EC and its Member States, on the one hand, and Austria, Finland, Iceland, Liechtenstein, Norway, Sweden and Switzerland on the other.³³ Today, the EEA covers the 28 EU Member States (including the UK), as well as 3 of the 4 EFTA member countries (Iceland, Liechtenstein and Norway).

For the EU, the EEA Agreement is an association agreement in the sense of Art. 217 TFEU. As the CJEU concluded on 19 March 2002 in the case *Commission v. Ireland*,³⁴ the European Commission will be responsible for monitoring the fulfilment of the obligations assumed under this agreement – which is part of European law – by the EU's Member States, subject to review by the CJEU. In contrast, for the three EFTA member countries, the provisions of the EEA Agreement are international law rules, to be incorporated into their respective national legal systems in accordance with their respective constitutions (the EFTA Surveillance Authority is responsible for monitoring their compliance, subject to review by the EFTA Court).

By means of this agreement, an area was created in which the fundamental freedoms of the EU's internal market (free movement of persons, services, goods and capital) exist and which moreover entails the creation of a system that should not distort competition, as well as closer cooperation in areas such as research and development, the environment, education and social policy. The EEA Agreement additionally provides for the **principle of non-discrimination on the basis of nationality**, which guarantees equal rights and obligations within the EU's internal market for citizens, workers, and businesses of both parties.

Although the **EEA Agreement does not cover the CFP**, it does include various references to trade in fishery products, namely:

- **Part II (Free movement of goods)**, Chapter 2 'Agricultural and fishery products', Arts. 17-20. Art. 17 provides that Annex I of the EEA Agreement contains specific provisions and arrangements concerning veterinary and phytosanitary matters applicable in the fishery sector; Art. 19 provides that the parties undertake to progressively liberalise their agricultural trade (see: fishery products); whilst Art. 20 refers to Protocol 9 to the EEA Agreement for the provisions and arrangements applicable to fish and other marine products.
- **Part VIII (Financial mechanism)**, Art. 115: 'With a view to promoting a continuous and balanced strengthening of trade and economic relations [...], the Contracting Parties agree on the need to reduce the economic and social disparities between their regions. They note in this regard the relevant provisions [...], including certain of the arrangements regarding [...] fisheries.'
- **Protocol 4 on rules of origin**, Art. 4 ('Wholly obtained products'): 'The following shall be considered as wholly obtained in the EEA: [...] e) the products obtained by [...] fishing there; f) products of sea fishing and other products taken from the sea outside the territorial waters of the Contracting Parties by their vessels; [...]'
- **Protocol 9 on trade in fish and other marine products**, which contains detailed provisions concerning the rights and obligations of the EU's Member States, as well as of the EFTA countries, with regard to trade in fishery products (the abolishment or reduction of customs duties on imports and charges having equivalent effect, as well as the non-application of quantitative restrictions on imports or measures having

³³ OJ L 1, 3.01.1994, p. 1. On this Agreement, see, amongst others: C. BAUDENBACHER (ed.), *The Handbook of EEA Law*, Ed. Springer, 2016; N. STOFFEL VALLOTON, "El acuerdo sobre el EEE, un ejemplo de integración diferenciada en las relaciones exteriores de la Unión Europea. La aplicación del acervo comunitario a terceros Estados", *RDCE*, No. 15, 2003, pp. 573-625.

³⁴ Judgment of the CJEU of 19 March 2002 in the case *Commission v Ireland*, C-13/00, Rec. 2002, p. I-2943.

equivalent effect for certain products; the abolishment of state aid to the fisheries sector that distorts competition; the taking of the necessary measures to ensure that all fishing vessels flying the flag of other contracting parties enjoy access equal to that of their own vessels to ports and marketing installations).

It is unlikely that the UK will ultimately join the EEA Agreement. First, the UK's exit from the EU entails the loss of its status as a party to the EEA Agreement. Second, it would need to apply to become party to the agreement. This would require it to re-join the EFTA, which cannot be ruled out, given the UK's important economic and trade relations with its member countries. However, that alone is not enough; as Switzerland shows, it is possible to be an EFTA member without belonging to the EEA. It would thus have to apply to become party to the EEA Agreement as well.

Thus, as regards **the EEA Agreement**:

- It does not cover the CFP.
- The **three EFTA countries** maintain full freedom with regard to their fisheries policies subject solely to the limitations imposed by international law.
- However, these national policies are conditioned by the provisions of the EEA Agreement with regard to the free movement of goods, which is fully applicable in the fisheries sector.
- A similar agreement to the EEA Agreement seems unlikely in the case of the UK, as it requires a high degree of integration in the market formed by the EEA Member States, as well as a high degree of internalisation of the EU's secondary law. Consequently, although the UK would not be part of the Union, it would be required to comply with virtually all EU laws governing the internal market, without being able to participate in the negotiations and approval process for them.
- In any case, if this model were hypothetically to be used, the CFP would be excluded from it; it would only cover the **aspects of the internal market** referring to fisheries. Therefore, a fisheries agreement would have to be negotiated to settle the issues related to access to waters and fisheries resources.

2. **The EU-Canada Comprehensive Economic and Trade Agreement and its impact on fisheries:** The negotiations for the adoption of a Comprehensive Economic and Trade Agreement (CETA) between the EU and Canada began in May 2009 and were concluded in September 2014. Finally, **in September 2016**, after seven years of negotiations, the treaty was signed. It is the most comprehensive trade agreement signed by the EU to date, as it **eliminates virtually all tariffs on trade between the parties**, whilst at the same time being, by a considerable margin, the most wide-ranging agreement ever signed by the EU in the area of services and investment.

It is a **mixed agreement**, concluded with a country for which **fisheries** are an important component of the economy; hence, it contains provisions related to them. In particular, these provisions address the issue from the perspective of the free movement of goods.

Thus:

- Some provisions strictly refer to trade in fishery products, subsidies, and transport by fishing vessels (Arts. 2(11), 7(4) and 14(2)).

- Others go further, such as Art. 24(11), which, in reference to trade in fisheries and aquaculture products, includes certain statements related to the conservation and sustainable and responsible management of fisheries, underscoring the parties' commitment to: 'a) adopt or maintain effective monitoring, control and surveillance measures [...], aimed at the conservation of fish stocks and the prevention of overfishing; b) adopt or maintain actions and cooperate to combat illegal, unreported and unregulated ("IUU") fishing [...] in their waters [...]; [and] c) cooperate with [...] regional fisheries management organisations in which the Parties are [...] members [...] with the aim of achieving good governance...'
- In addition to these provisions, CETA contains detailed rules regarding the sanitary and phytosanitary measures applicable to fishery products.

This model of agreement could be of interest to the UK and the EU as a framework for their future relations. However:

- This model **entailed 7 years of negotiations**, and its entry into force will require ratification by the 27 Member States (in accordance with their internal constitutional systems).³⁵ That is quite a long time to solve a legal, political, economic and trade problem that, in the author's view, calls for a much more agile response;
 - This agreement focuses on the movement of goods, services and investments, but it **leaves out other key elements of the internal market**. It would thus mean fragmenting that market, which would not be acceptable for the EU; and
 - This agreement also omits the CFP, although some of its provisions do go beyond the free movement of fishery products. Its provisions would thus need to be supplemented with a fisheries agreement regardless.
3. **The trade agreement with Switzerland and the sectoral agreements:** The EU's trade relations with Switzerland are governed by the Free Trade Agreement signed in 1972 and a dense network of bilateral agreements signed between the two parties in certain sectors of interest.³⁶ Switzerland is also an EFTA Member State, but it is not party to the EEA Agreement. **Switzerland** cooperates with the EU only in certain areas, based on bilateral agreements reached between the two parties in exchange for access for its products to the EU's internal market. With regard to fishery products, the Euro-Swiss interest is minor, given that Switzerland is a landlocked country. What interest there is stems from the fact that the fishery products sold in Switzerland originate primarily in the EU, with which it has an agreement for the free trade of goods. On the other hand, there is a thorny issue that also lies at the heart of the future EU-UK discussions, namely, the free movement of persons. This is a sensitive issue both in Switzerland and the UK and one that threatens to hinder these bilateral relations.

With regard to using this model for the future EU-UK relations:

- If the UK were to follow the Swiss option, it would need to conclude a series of bilateral association agreements with the EU concerning specific subjects, such as the free movement of goods, the free movement of persons, or the coordination of social security systems for workers.
- These agreements would grant the UK a preferential trade relationship with the Union, but their exact content would depend on the terms of each individual negotiation.

³⁵ LLAUDES, S. Brexit: una lección del CETA a tener en cuenta. Comentario Elcano 43/2016 - 3/11/2016

³⁶ BÜRGIN, A.C.: "Las relaciones bilaterales entre la Unión Europea y Suiza", in SÁNCHEZ RAMOS, B. Ed.: *La Unión Europea como actor global*, Ed. Tirant lo Blanch, Valencia, 2013, pp. 127-151.

- Unlike with the EEA option, EU law would not be applicable in the UK, but rather solely the terms of the bilateral association agreements.
- Following this model would mean accepting, along with the other freedoms, the free movement of persons.
- For obvious reasons, these agreements exclude the CFP. Therefore, a separate fisheries agreement would need to be concluded should the parties wish to regulate access to the fisheries resources located in their respective waters.

4. **The Euro-Mediterranean Agreement with Morocco and the complementary agreements ('advanced status').** Since 1969, when the first agreement was concluded, the various conventional instruments that have been adopted reflect a deepening process, as evidenced **in the 1996 Euro-Mediterranean Association Agreement**,³⁷ where the objective of gradually establishing a free trade area is complemented by others related to political dialogue, economic and financial cooperation, social and cultural cooperation, etc.

The strengthening of the **relationship between the EU and Morocco** has likewise occurred through the juxtaposition of the Association Agreement with a growing number of diverse agreements, including the Agreement establishing a dispute settlement mechanism or the Fisheries Agreement. Additionally, the EU decided to deepen its bilateral relationship with Morocco by granting the country an 'advanced status'³⁸ with the aim of creating a common economic space between the EU and Morocco, based on the EEA, through the gradual alignment of Moroccan law with the *acquis communautaire* and Morocco's progressive integration in the internal market.

Morocco, which is the largest fish producer in Africa and the twenty-fifth largest worldwide, shares certain interests with the EU in fisheries matters; hence, Chapter II of the 1996 Agreement is devoted to fishery products, with Art. 16 providing for the gradual liberalisation of reciprocal trade in fishery products. This has been implemented through successive protocols and agreements, in particular, the 2012 agreement reinforcing the liberalisation of trade in these products.³⁹

The EU has granted **Morocco 'advanced status'**. A similar arrangement would probably not be of interest to the UK, although certain aspects could be useful:

- It is an Association Agreement with a southern country; consequently, its economic and trade relations with the EU are of a different scale than EU-UK relations.
- However, fisheries interests are very much present in it through a series of agreements to liberalise trade in fishery products and fisheries agreements.
- The fisheries agreement with Morocco is a **Sustainable Fisheries Partnership Agreement**; as such, it would not be applicable to future EU-UK fisheries relations.
- On the other hand, other protocols and agreements, especially that referring to dispute settlement measures, could be taken into consideration.

³⁷ OJ L 70 of 18.3.2000, p. 2.

³⁸ Doc. 13653/08, of 28.10.2008 (www.ec.europa.eu/external_relations).

³⁹ OJ L 241, 7.9.2012, p. 2.

2.3 Future EU-UK agreements for the governance of fisheries issues

KEY FINDINGS

The agreements establishing **preferential regimes** with third countries exclude the CFP. Therefore, a fisheries agreement would have to be negotiated with the UK to regulate issues relating to **access to waters and fisheries resources**. In this regard, it is worth recalling the following:

- The most pertinent fisheries agreement would be one that maintains the *status quo ante*.
- Such an agreement would be based on the recognition of the **UK's rights to the living resources in its waters** (determination of fishing opportunities, harvesting capacity and the resulting surplus), subject to the provisions of international law (need to achieve maximum sustainable yield, recognition of **historical fishing rights of third countries**, obligation to cooperate and negotiate with a view to taking the necessary measures for the conservation of living resources).
- The future fisheries agreement would have a **legal form** close to that of the **current northern agreements**, such that, from the perspective of reciprocity, it could restrict British sovereign rights, granting access by the European fleet to British waters and resources in return for access by the British fleet to the Union's waters and resources.
- **This fisheries framework agreement:** would define its **scope and period of validity**; would enable the fleets of both parties to conduct fishing activities, stipulating the conditions under which they would be conducted based on the respective laws; would include the need to cooperate in order to harmonise those laws as much as possible; would establish **a joint committee** responsible for supervising the application and implementation of the agreement; and would provide for the possibility of its provisional application until its entry into force.
- The agreement would be supplemented with **additional protocols**:
 - a **protocol setting out** fishing opportunities; the allocation thereof, taking into consideration the historical catches; the need to minimise the difficulties for both parties in the event that the fishing possibilities were to decrease; and the objective of achieving a satisfactory balance between the fishing opportunities in the parties' respective waters. This protocol could be based – although it would be internationally negotiated – on the European regulations on these issues.
 - A **trade protocol on trade in fishery products**, including a clause (similar to Protocol No. 34 to the Treaties on Greenland) linking market access to access to resources.
 - A **protocol containing dispute settlement** procedures or a referral to an international agreement between the EU and the UK on dispute settlement mechanisms.
- This fisheries framework agreement would be supplemented with other multilateral or neighbourhood fisheries agreements as needed.

The CFP is excluded from the main trade agreements examined thus far. This will most likely be the case with the UK as well. That will mean that, even if aspects related to the free movement of fishery products, or even the free movement of workers, are regulated in the future post-withdrawal agreement, access to waters and resources will not be and will thus require a specific legal framework, i.e. an international fisheries agreement.

Such an agreement is not only desirable, due to both parties' interest in maintaining fisheries activities, but also necessary, due to the requirements of international law. Indeed, as already

noted, under current international law of the sea, states and the competent international organisations (EU) are required to **cooperate on the conservation and development** of living resources in the high seas and in jurisdictional waters adjacent to them. This requirement is even stronger in the case of shared or associated species. To this end, under international law, negotiations must be held with a view to taking the necessary measures for the conservation of such living resources. In other words, the UK's withdrawal does not exempt it from the obligation to cooperate with countries with adjacent waters and to regulate its relations with them. That will involve negotiating not only **with the EU**, but also with the **other coastal states** with neighbouring waters and with those states with which the EU already has fisheries agreements that the UK will cease to be party to following its withdrawal from the EU.

The most affected waters are those in the **North and Northeastern Atlantic**, which are covered by the northern fisheries, or reciprocity, agreements. Models such as the agreements with **Norway or the Faroe Islands** might point to a possible path to follow. In that case, it would be necessary to seek a balanced form of reciprocal access to both parties' waters and resources that made it possible to set TACs, especially for shared stocks, allocate fishing opportunities – taking historic catches into account – transfer those opportunities, include technical measures, establish control and surveillance mechanisms, share data, minimise the difficulties for both parties in the event of decreased fishing possibilities, etc. Such an agreement would allow the fleets to continue fishing in these waters.

In short, such an agreement would make it possible to maintain fisheries relations that are similar or close to existing ones, only within the framework of international law. Thus, the **provisions of this agreement** would no longer be the result of the action of European institutions, but rather **the protocols** containing them would be the result of an international negotiation. Likewise, it would not fall to European institutions to monitor their fulfilment, but rather would be the responsibility of a **joint committee** tasked with promoting the friendly settlement of any disputes that might arise. Of course, there is nothing to prevent these protocols from being periodically revised to reflect (subject to this international qualification) whatever is agreed in the context of the EU to regulate the various aspects of the CFP affecting these fisheries activities (TACs, allocation of fishing opportunities, technical measures, deep-sea fishing, etc.) in annual or multi-year frameworks. That is, the protocols could be inspired by the regulations adopted by the EU.

Furthermore, this future agreement cannot be conceived of as an isolated act, but rather must be viewed in relation to existing (bilateral and multilateral) agreements and the commitments undertaken in the framework of the **NEAFC**. The confluence of interests and fleets in these waters will probably make it necessary to conclude more than one fisheries agreement with the UK, calling for a series of bilateral, multilateral and neighbourhood agreements, as in the case of Norway.

In any case, given the significant fisheries activity that all of this generates, and in view of the UK's opposition to continuing to submit to the CJEU's jurisdiction following its withdrawal from the EU, a dispute settlement mechanism will need to be sought that goes beyond mere consultations or the intervention of a joint committee tasked with promoting the friendly settlement of disputes. In this regard, it might be appropriate to look at procedures such as those established in the framework of **EU-Morocco relations**, which, through the conclusion of a complementary agreement establishing a dispute settlement mechanism, offer a wide range of possibilities in this regard.

Additionally, the conclusion of such **agreements** could **take time**. To avoid a legal vacuum and in the absence of clauses establishing transitional periods, **two possibilities** should be considered:

- **First**, for the UK, following its effective exit from the EU, to grant access to its waters to fishing vessels flying the flag of an EU Member State. There are some precedents in this regard. For instance, when Greenland left the EU, it negotiated a system of duty-free access for its fishery products to the EU market and, in return, continued to allow the vessels of EU Member States to access its waters.
- **Second**, to refer to the relative effect of treaties vis-à-vis third parties (Arts. 35 and 36, 1969 Vienna Convention) in the sense that the TEU and TFEU and the secondary law developing them in relation to the CFP could give rise to rights for the UK (as a third country) if the EU intends to accord these rights and the UK assents thereto (its assent would be presumed so long as the contrary were not indicated). They would also give rise to an obligation for the UK, provided the EU intended these provisions to be the means of establishing the obligation and the UK expressly accepted that obligation in writing. This would give rise to a collateral agreement, much simpler than the adoption of a bilateral agreement.

Additionally, in the face of complicated negotiations for the fisheries agreement, it is essential to reaffirm that, even if the negotiations are broken up amongst **various frameworks** (free movement of fishery products, free movement of seafarers, access to waters and fisheries resources), they would nevertheless continue to constitute an interconnected whole. This statement could be contained in a text similar to that of Protocol No. 34 to the Treaties regarding **Greenland**, stating that access by British fish and fishery products to the European market will be possible provided that the possibilities for access to UK fishing zones granted by the UK to the EU under the agreement are satisfactory to the Union. This could be supplemented with a strengthening of the **measures to protect the European market** and a willingness to ban the entry of British fishery products into the EU market and/or to ban the use of EU Member State ports by British-flagged fishing vessels (as in the conflict with the **Faroe Islands**).

CONCLUSIONS

The process of the UK's withdrawal from the EU, initiated on 29 March 2017 with the British government's formal notification of the country's decision to leave the Union, should lead to the conclusion of an **international agreement** by 29 March 2019 (unless the European Council extends this period). This agreement will define the terms of the UK's disengagement from the European legal system, internal market and other policies, including the Common Fisheries Policy.

Following the conclusion of that agreement, the EU and the UK will have to negotiate and choose a legal formula to enable their subsequent cooperation. The result will likely take the form of a **new international agreement** to be concluded following the UK's actual withdrawal, although the outlines of this agreement will presumably be conditioned by the terms of the withdrawal agreement itself.

Although fisheries are unlikely to be a central issue in these future negotiations, they will be strongly conditioned by the terms of any agreements reached regarding **the internal market and fundamental freedoms**. For that is where the fate of British fishery products' access to the European market (and vice versa), the free movement of fishermen, and the freedom to set up fishery businesses in the UK will be decided. A separate matter is access to the fisheries resources in British or EU waters. That will need to be dealt with specifically, as in similar situations in the past (Greenland, EFTA countries), and may give rise to a **fisheries agreement** between the EU and the UK.

The fact that, as a result of these circumstances, fisheries issues may be negotiated in separate legal frameworks should not lead to their fragmentation. On the contrary, fisheries issues should be addressed in their entirety and together, in order to ensure that the **free movement of fishery products** is linked to **free access to waters and resources** and vice versa.

The completion of the UK's withdrawal and its ensuing new status as a third country will affect certain internal and external aspects of the CFP in particular. In this regard, a **new governance model** will need to be sought to regulate future EU-UK fisheries relations.

The UK's withdrawal could have a significant impact on **several specific aspects** of the CFP:

- With regard to **fisheries resources in UK and EU waters** and the role of the principle of relative stability, three scenarios must be considered. The first is related to **the UK's current fishing opportunities** in EU waters, which will be redistributed amongst the Member States, taking into account the principle of relative stability. In this regard, given that the circumstances that originally gave rise to this principle will have dramatically changed, its application should be reviewed to introduce greater flexibility and better adapt it to the discard ban. The second scenario refers to **access to fishing grounds in UK and EU waters**, which will come to be regulated by international law, such that the principle of equal access will be replaced by the criteria set out in UNCLOS. In this regard, although the sovereignty of the UK and the Member States over their respective fisheries resources must be recognised, in the author's view, the historical rights of those fleets that have fished in all their waters and the obligation to cooperate and negotiate should also be recognised. The third scenario concerns **the fleet of British and Falkland Island-flagged vessels** owned by companies set up in the UK or the Falkland Islands but belonging to Member State nationals, whose situation should be taken into account during the negotiations of both the future preferential agreement and the future fisheries agreement.
- **EU investments in fisheries in the UK** may suffer the consequences of the UK's withdrawal should the UK change the conditions that enabled the creation of fisheries

companies in the UK and the granting of British registration to their fishing vessels. This would affect the legal certainty of these companies, whose reasonable legitimate expectations should be protected in keeping with the evolution of case law on the jurisdictional protection of substantive legitimate expectation.

- The UK's withdrawal could seriously affect **the free movement of fishermen**. In this regard, first, the 'critical date' for the purposes of any legislative changes must be that of the entry into force of the UK's withdrawal agreement. Until such time, fishermen will continue to enjoy and acquire rights arising from their European citizenship. Second, in light of the indivisibility of the freedoms comprising the EU's internal market, the free movement of fishery products should be conditioned by the terms of what is decided with regard to the free movement of maritime workers. Finally, in the author's view, it is possible to legally defend the existence of acquired rights that are part of the patrimony of these fishermen, whose lives are rooted in the UK.
- Two aspects related to the external dimension of the CFP are likely to be affected by the British disengagement. The first is the **EU's fisheries agreements**, where the UK's withdrawal will have a greater impact on the so-called Reciprocity Agreements than on the Sustainable Fisheries Partnership Agreements. In any case, during the negotiations, the EU should bear in mind, with regard to the Reciprocity Agreements, that even if the UK, a country with a substantial weight in the exchange of fishing opportunities in the region, withdraws, it should not harm the Union, since access to resources is linked to access to the European market. With regard to the Sustainable Fisheries Partnership Agreements, it should recall that there are certain outstanding financial commitments, which must be respected by the UK as well. Another aspect refers to **the EU's participation in international organisations** with competence in fisheries matters. The UK's withdrawal could decrease the EU's relative weight in such organisations, in both those in which it has exclusive membership status (NAFO) and those in which it shares this status with all or some of the Member States (FAO or CCAMLR).
- **The role of the CJEU** in the solution of future conflicts will be fairly limited, given the UK's stated refusal to remain under its jurisdiction in future. Therefore, other procedures for facilitating dispute settlement will need to be sought, with regard to both the functioning of the internal market (free movement of fishery goods, free movement of fishermen) and fisheries activities.

With regard to **the legal framework for governance** between the EU and the UK in the area of fisheries, the review of the few precedents of withdrawal from the EU and of various preferential agreements concluded by the EU showed that all of these agreements exclude the CFP and refer to fisheries only from the perspective of trade in fishery products. This will most likely be the case with the future EU-UK relations as well.

These circumstances and precedents should lead to the **negotiation of a fisheries agreement** that will enable the continuity of both parties' fisheries activities at a level and under conditions similar to those currently in place. Such an agreement would be not only desirable, but necessary, given, as shown, the requirements of international law of the sea. This agreement should enable, if not equal access to waters and resources, then at least preferential access, and it could be modelled after the current Northern, or Reciprocity, Agreements. As the negotiation and conclusion of such an agreement could take time, **transitional formulas or legal mechanisms**, such as those provided by a 'collateral agreement', should be sought with a view to facilitating the continuity of fishery activities.

If such a fisheries agreement, supplemented with the necessary protocols and related agreements, were able to guarantee a situation as close as possible to the *status quo ante*, it could be a fundamental element in **future fisheries governance** between the EU and the UK.

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DIRECTORATE-GENERAL FOR INTERNAL POLICIES
Policy Department for Structural and Cohesion Policies

FISHERIES

**Research for PECH Committee -
Common Fisheries Policy and BREXIT -
Trade and economic related issues**

STUDY

Abstract

The aim of this study is to present a description of the bilateral trade between the UK and the EU-27 in different possible scenarios, based on relevant case-studies. Also the study describes the main markets of fish and fisheries products and economic-related issues. It provides an economic analysis of the expected consequences of Brexit.

This document was requested by the European Parliament's Committee on Fisheries.

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Manuscript completed in May 2017
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Please use the following reference to cite this study:

Le Gallic, B, Mardle, S & Metz, S 2017, Research for PECH Committee – Common Fisheries Policy and BREXIT - Trade and economic related issues, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

Please use the following reference for in-text citations:

Le Gallic, Mardle & Metz (2017)

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CONTENTS

LIST OF ABBREVIATIONS	49
LIST OF TABLES	51
LIST OF FIGURES	53
EXECUTIVE SUMMARY	55
GENERAL INFORMATION	57
1. OVERVIEW OF THE CURRENT SITUATION	61
1.1 Production	62
1.1.1 Quantities	62
1.1.2 Values	63
1.1.3 Aquaculture	66
1.2 Ownership of the producing companies	67
1.2.1 Catching sector	67
1.2.2 Aquaculture	67
1.3 Trade	68
1.3.1 General overview and main species traded	69
1.3.2 Main trade partners	69
1.3.3 Trade with EU-27 countries	74
1.3.4. Trade with northern European countries and the rest of the world	77
1.4 Main Markets	80
1.4.1 Salmon	80
1.4.2 Cod	81
1.4.3 Tuna	83
1.4.4 Scallops	84
1.4.5 Mackerel	86
2. POTENTIAL CONSEQUENCES EXPECTED ON TRADE AFTER BREXIT	89
2.1 Static comparative analysis: Applying WTO tariffs to imports and import flows between the UK and EU-27	89
2.1.1 UK imports from EU-27	90
2.1.2 UK Export – EU-27 imports	92
2.2 Discussion 1: Possible changes in trade flows	94
2.2.1 UK	94
2.2.2 EU-27	95
2.3 Discussion 2: Full nationalisation of the UK waters	96
2.4 Discussion 3: The impact on raw material	97
CONCLUDING REMARKS	99
REFERENCES	100
ANNEX 1. Trade Flows by continents	101
ANNEX 2. UK Trade (Imports and Exports) by trading partner and main species	103

LIST OF ABBREVIATIONS

AER	Annual Economic Report
ATQ	Autonomous tariff quotas
CFP	Common Fisheries Policy
CMO	Common market organisation
EEZ	Exclusive Economic Zone
EFTA	European Free Trade Association
EEA	European Economic Area
EUFA	European Fisheries Alliance
EUMOFA	European Market Observatory for Fisheries and Aquaculture Products
FIDES	Fishery Data Exchange System
FAO	Food and Agriculture Organisation
GATT	General Agreement on Tariffs and Trade
GBP	Great Britain Pound
FAO	Food and Agriculture Organisation of the United Nations
FQA	Fixed Quota Allocation
MFN	Most Favoured Nation
MMO	Marine Management Organisation
MS	Member States
NASF	North Atlantic Seafood Forum
nei	Not elsewhere indicated
STECF	Scientific, Technical and Economic Committee for Fisheries
SUCCESS	Strategic Use of Competitiveness towards Consolidating the Economic Sustainability of the European Seafood sector
WTO	World Trade Organisation

LIST OF TABLES

Table 1	
Total weight of landings in UK zonal waters (in tonnes)	62
Table 2	
Total value of landings in UK zonal waters (in kEuros)	64
Table 3	
Landings EU fleets from UK EEZ (2015)	65
Table 4	
Relative importance of UK waters to EU-27 Member States	65
Table 5	
Proportion of landing value in UK zonal waters in area 27 (in percentage)	66
Table 6	
Imports into the UK from Intra-EU and Extra-EU (by proportion)	70
Table 7	
Imports of fish and fish preparation into the UK (in million euros), 2015	72
Table 8	
Exports from the UK to Intra-EU and Extra-EU (by proportion)	73
Table 9	
Exports of fish and fish preparation from the UK (in million euros), 2015	74
Table 10	
Trade value of fish and fish preparation with non-EU countries	78
Table 11	
Trade value of fish and fish preparation with North European countries	79
Table 12	
Summary of UK cod imports, exports and landings in 2015	83
Table 13	
UK tuna trade summary in 2014 ²	84
Table 14	
Summary of imports by preservation type	91
Table 15	
Summary of exports by preservation type	92
Table 16	
Total UK consumption estimates	95
Table 17	
Import value of fish (& preparations) into the UK by exporting country, 2014	103
Table 18	
Export value of fish (& preparations) from the UK by importing country, 2014	104

LIST OF FIGURES

Figure 1	
The economic surplus (Source : Wikipédia)	60
Figure 2	
The impact of tariff trade barrier	60
Figure 3	
Total weight of landings of EU-27 by species (in tonnes)	63
Figure 4	
Average landings price inside and outside UK waters by Member State	64
Figure 5	
Total value of landings of EU-27 by species (in tonnes)	66
Figure 6	
Share of the production for the top 5 salmon producers in UK in 2015	68
Figure 7	
UK imports and exports by key species: 2014	69
Figure 8	
Main UK import partners in 2016 (by value)	70
Figure 9	
Top 10 countries for UK imports by type of fish in 2015	71
Figure 10	
Total value of UK imports by preservation type (2014-16 average)	72
Figure 11	
Main UK exports partners in 2016 (by value)	73
Figure 12	
Top 10 countries for UK exports by type of fish in 2015	74
Figure 13	
Total value by presentation type for exports (by value)	75
Figure 14	
Total value by species and presentation type for exports (by value)	76
Figure 15	
20 most important countries for UK exports of salmon in 2015	81
Figure 16	
Consumption of cod in the EU in 2016 (in euros)	82
Figure 17	
Exports of cod to ALL countries, top 7 indicated (>1m EUR in 2016)	82
Figure 18	
The UK king scallops value-chain	85
Figure 19	
French import scallops and other pectinidae (year 2013)	86
Figure 20	
15 most important countries for UK exports of mackerel in 2015	87
Figure 21	
Histogram of total value of IMPORTS by MFN tariff band	90
Figure 22	
Total value of imports by product type (in euros)	90

Figure 23	
Total value of imports by preservation type (2014-16 average value)	91
Figure 24	
Histogram of total value of exports by MFN tariff band	92
Figure 25	
Total value of exports by preservation type (2014-16 average value)	93
Figure 26	
Post austerity GB retail species consumption	94
Figure 27	
Processing value by preservation type in 2014 (by euros)	95

EXECUTIVE SUMMARY

Background

The UK exit from the European Union will affect *resources and fisheries* in two geographical areas: the 'North Western waters' and the 'North Sea'. It would also have an impact on the free access of fishery products to the EU market.

The fundamental principle of the Common Fisheries Policy is the free and equal access of European fishers to all Member States' waters. Any closure or restriction of access to British waters for European vessels would have socio-economic consequences for the EU fisheries sector.

The main expected consequences of Brexit (British exit of the EU) in relation with trade and related economic issues will be the impact on:

- the trade on fish and fisheries products;
- the leaving of the Customs Union.

Aim

The aim of this study is to present a description of the **bilateral trade** between **the UK and the EU-27 in different possible scenarios**, based on relevant **case-studies**. Also the study will describe the main markets of fish and fisheries products and economic-related issues. It will provide an analysis of the expected consequences of Brexit.

General context

With a cumulative total of over 140 USD billion, fisheries and aquaculture products is one of the most traded food product in the world (FAO, 2015), before key products such as coffee, sugar or cereals (FAOSAT, 2014⁴⁰). FAO (2016) estimates that about **78 percent of seafood** products are exposed to **international trade competition**.

Whereas some changes occur with the development of new demand in emerging countries, such as China, the structure of trade flows is mostly oriented from developing to developed ones, the main seafood markets remaining the European Union, United States and Japan, where imports respectively reaching in 2013 26⁴¹, 19 and 15 USD billion. These three countries are net importers, meaning that the consumption depends to some extent on imports. The level of dependency is estimated at around 54 % and 60 % for Japan and the United States respectively (FAO, 2014), while the level of **dependency of the EU** keeps on progressing, now reaching around **70% in value** (the net ratio of **self-sufficiency**, which doesn't take into account exports, being around **45%**; EC, 2014).

The organization of the trade flow in the seafood sector is particularly complex, with some **fish crossing several frontiers** before arriving on the consumer's plate (see Annex 1). This is partly due **to the international division of the productive process**, with a fish produced in a country A being first exported to a country B to be processed (e.g. filleted or peeled), and then re-exported to a country C to be processed (e.g. prepared meal), and then re-exported to a country D to be consumed. For this reason, a country like Germany is one of the larger importers of (processed) seafood products in the EU, whereas the German production sector (fisheries and aquaculture) is fairly limited.

⁴⁰ <https://faostat3.fao.org>

⁴¹ 23 % of the world imports ; without counting intra-EU trade

Brexit on seafood trade

In this context, the consequences of Brexit on seafood trade might be complex and not easy to fully assess. In particular, different groups of economic agents along the value-chain need to be considered, from the producers (fishing and aquaculture companies), the wholesalers, the processors and the consumers. Also, as international trade might be subject to tariffs, the impacts on the States' budgets probably need to be taken into account. As for other economic activities, international fish trade depends on the following factors:

- The place of the production (i.e. UK or EU-27 waters for fishing)
- The place of landing (today, catches from EU-27 vessels or EU-27 owned UK vessels can be directly landed EU-27 ports; this can be modified by a change in fishing opportunities or the reinforcement of the "economic linked" for UK flagged vessels)
- The trade regime in place (free trade or not)
- The place of processing, which not only depends on the trade regime, but also on macroeconomic factors

Study methodology

The methodology used comprises a two-fold approach:

- Provision of a general overview about the current situation, based on the collection of available production and trade data, as well from selected recent publications on this topic:
 - In particular, the study describes the current monetary value of catches from EU vessels within UK-EEZ compared to UK catches in EU waters. In addition, information related to aquaculture production is provided, as this sector might also be affected by the Brexit.
 - When possible, information related to the ownership of the producing companies will be provided, in particular with respect to the EU-27 investments in the fishery industry in the UK.
 - The study also describes the monetary value of UK fish exports, as well as the trade balance with EU-27 and EFTA countries.
 - Mostly based on case studies, the main markets of raw material and processed goods for the UK and the EU are described (supply, demand and trade), as well as the supply to the EU-27 and potential trade alternatives.
- Analysis of the consequences expected after Brexit, based on the most likely scenarios to occur (business as usual; changes in the access regime for fish and fishery products; change in the trade regime – WTO rules). In particular, the study addresses the following areas of interest in case of changes:
 - Production in the UK:
 - the capacity to produce (fish and shellfish),
 - the capacity to market (fish and shellfish),
 - Trade:
 - Static comparison of (current) trade flows under new tariffs, with a special attention to the commodities involved (general vs species).
 - Based on case selected studies, in-depth analysis of the potential changes in trade flows and/or in (production or consumption) prices (price-maker vs price-taker).

GENERAL INFORMATION

KEY FINDINGS

- British exit of the EU (Brexit) is likely to generate huge **impacts** both in terms **wealth creation** AND **distribution**.
- When considering the EU-27 as a whole, there is no clear winner / loser scenario (or policy option). While **Northern EU-27 MS are mostly exporting to the UK**, **Southern EU-27 MS are mostly importers**, with a mixed situation for some countries like France.
- The annual **monetary value** of EU-27 catches amounts to around **EUR 524 million on average for the period 2013-2015**.
- The **EU-27 owned UK vessels** caught at least **59,000 tons** of various fish products in 2015.
- While the UK is globally a net importer of fisheries and aquaculture products, the **UK seafood trade balance with EU-27 is positive**.
- Most of the **UK exports** are directed to the **EU-27 markets** (70%).
- While in **absolute** terms, **France is globally the most exposed country** in case of Brexit both due to its fishing activity in UK waters (in **value**, up to 30% of the whole EU-27 production) and its trade profile⁴², other countries, such as **The Netherlands**, **Germany** and **Belgium**, are **relatively more dependent** on UK-waters for their fishing activities (in volume, up to **59%** of the total Dutch landings and **52%** of the German catches are estimated to come from UK-waters (EUFA, 2017), while this study shows that respectively **50%** and **34%** of the **value** generated by the **Belgium** and **Dutch** fleets is coming from UK-waters).
- **The seafood products** that are currently **traded without any tax** within the common market might be **subject to Tariff** and **Non-Tariff Barriers**
- Reducing the mobility of the labour might result in an **increase in the labour costs**, and thus **might decrease the competitiveness of UK fishing and processing companies**.
- A UK exit from the common market might lead to a **limitation in further EU-27 investments in the UK seafood sector**. This might also result in the **reinforcement of the 'economic link'**.
- **The UK and EU-27 public bodies** might collect **additional custom revenues** if a tariff duty is put in place.
- Imposing a WTO tariff might result in a **loss** in both **consumer and producer surplus**, **depending on the species and market at stake**.

Within the European Union, fisheries and aquaculture activities are regulated through the Common Fisheries Policy (CFP) since 1983, further to the establishment of Economic Exclusive

⁴² See section 1.3.3.2, showing that France accounts up to 40% of the total UK seafood export to EU-27 markets, depending of the year and the type of commodities.

Zones (EEZ) in 1977 in the European Community waters (and more generally further to the international recognition of EEZ in 1982 (UNCLOS). This means that the waters around the UK became communal and accessible to vessels from other Member States (MS), providing that some forms of access rights were prevailing (historical rights; TAC share under the principle of relative stability; effort quotas etc).

In case of a Brexit, part of the waters surrounding the UK will no longer be part of the 'common waters', and the UK will have control over its EEZ. Even if the UNCLOS rules regarding notably straddling or shared stocks are expected to apply, this might change the rules for accessing the fish resources evolving within the UK waters. In the extreme scenario, EU-27 fishing vessels currently operating in UK waters could be prevented to continue fishing in UK waters.. The potential redistribution of effort inside the EU-27 EEZ is not expected to compensate for the loss of important fishing grounds. This would likely result in a direct loss of revenues for these vessels, even though quota available may remain the same, but also in a reduction in raw material available on some EU-27 markets. This study shows that the EU-27 vessels production from the UK waters amounted to around 656,000 tons of fish on average during the period 2012-2014 (the spatial distributions of catches for 2015 are still provisional for some member states). It also describes the main species and member states involved.

On another hand, under the current EU treaties, there is free movement of goods, people and capital. In case of Brexit and in the event of the re-establishment of customs (or tariff trade barriers) between the UK and EU-27, some important changes are likely to occur:

1. **The seafood products that are currently traded without any tax** within the common market **might be subject to some types of tax**, which might be aligned to the **WTO rules**. Furthermore, although more difficult to predict, some Non-Tariff Measures (NTM)⁴³ might also complicate the trade in seafood between the UK and EU-27 in the future. The potential consequence of the re-establishment of tariff is investigated in the Study.
2. Also, an important feature of **WTO tariffs** is that these tariffs not only vary between **species**, but also depends on the **level of processing / presentation type (tariff escalation)**. This means that raw tuna imported from Seychelles might have a 0 % tariff, while the same tuna canned in Seychelles will face a 20% tariff. So, in order to estimate the impact of new trade measures, the presentation types considered in this study are the following:
 - a. PS1: Fresh
 - b. PS2: Frozen
 - c. PS3: Dried – Salted - Smoked
 - d. PS4: Prepared - Preserved
 - e. PS5: Unspecified
3. While currently, a lot of workers have gone to the UK from various EU MS (including Eastern member states⁴⁴ in the recent period), these flows might be limited in the future, and in case of extreme scenarios, some workers might be asked to return to the EU-27. This situation is likely to have more implications for the UK processing sector than for the fishing sector, due to the respective share of workers from EU-27 MS in both sectors (up to 79% of the workers (out of 15,453, Seafish Processing Survey) have been reported **in some case** in the processing industry versus 8% of the 12,175 fishermen (average 2012-14, MMO 2016) in the catching sector Keating (2017)). **Reducing the**

⁴³ This might include the use of different standards or the obligation to go only through selected places for custom clearance.

⁴⁴ Only 2 EU member states (UK and Ireland) did not use the safeguard clause related to labor mobility.

mobility of the labour might result in an increase in the labour costs in the UK, and thus might decrease the competitiveness of UK fishing and processing companies. However, while such a development might have some impacts on trade, these impacts are highly difficult to assess, and will not be addressed directly in this study.

4. The free movement of capital currently enables EU-27 companies⁴⁵ to invest in most of the economic sector in the UK, including in fishing companies (vessels) and processing companies. While such private investments might not be affected under WTO rules, there might be some implications in the future, including through the limitations in further investments in the seafood sector or the reinforcement of the so-called 'economic link' established by the Merchant Act⁴⁶, that might oblige foreign-owned vessels to land a certain share of the production in the UK.

In order to identify the potential impacts of Brexit, this study builds on the concept of economic surplus, which measures the **total welfare of society**. The total welfare is derived from two related quantities (see Figure 1 below):

- The **Consumer surplus**, which is the monetary gain obtained by consumers because they are able to purchase a product for a price that is less than the highest price that they would be willing to pay. In practice, this means that the lower the price of the product, the highest the consumer surplus. Conversely, if the price increases due to the establishment of a tariff duty, this will reduce the consumer surplus.
- The **Producer surplus**, which is the amount that producers benefit by selling at a market price that is higher than the least that they would be willing to sell for (also named **profit**). In practice, this means that the higher the price of the product, the highest the producer surplus.

In addition to (final) consumers and (primary) producers, two other types of economic agents need to be considered:

- The intermediate consumers (mostly processors), i.e. the firms that buy seafood products as an intermediate good to process it into a final product. For this category of agents, the higher the price of the product, the lower their surplus / profit (all things being equal, i.e. if they can't pass on the price increase to the final retailer / consumer).
- The State, which is collecting additional custom revenues in case when a tariff duty is put in place.

In general, the likely impact of tariffs on the collective welfare of the society can be visualized as follows in Figure 2, where the tariff is the difference between P2 and P1, S represents the supply curve (from domestic producers) and D represents the domestic demand.

In such a case, and all things being equals⁴⁷, imposing a tariff would result:

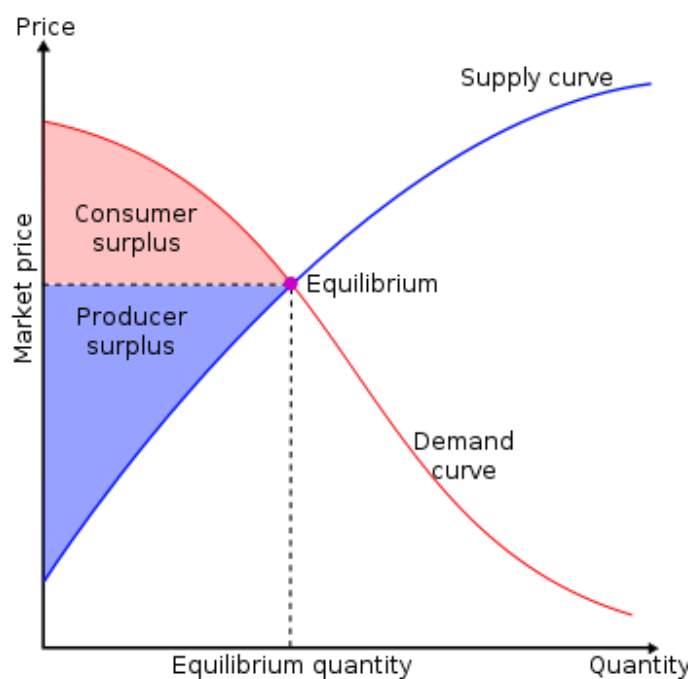
- In a surplus transfer from the consumers to the producers (area 1)
- In an increase in the government tariff revenue (area 3)
- In a net welfare loss for the society (area 2 + area 4)

⁴⁵ And by extension EFTA companies through the EEA agreement signed with the EU (see below the section dedicated to the Salmon Aquaculture Sector).

⁴⁶ According to the Merchant Act (1995; <http://www.legislation.gov.uk/ukpga/1995/21>), up to 50% of the production of foreign-owned vessels could have for instance to land in UK ports.

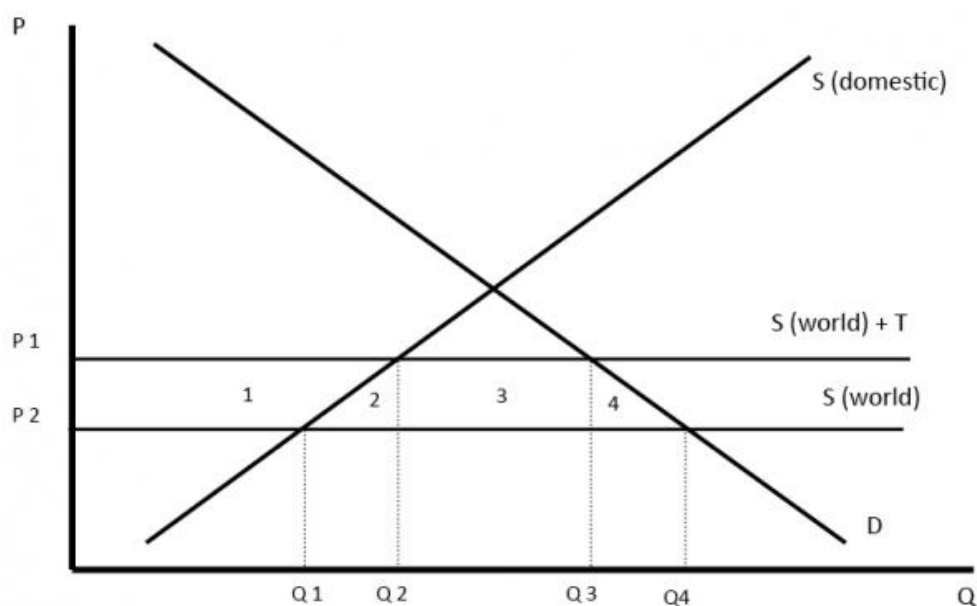
⁴⁷ Which means that the producer price remains unchanged

Figure 1: The economic surplus



Source: Wikipédia

Figure 2: The impact of tariff trade barrier



Source: Economicshelp.org⁴⁸

⁴⁸ <http://www.economicshelp.org/blog/glossary/tariffs/>

1. OVERVIEW OF THE CURRENT SITUATION

KEY FINDINGS

Production Side

- The EU-27 vessels operating in the UK waters landed **656,000 tonnes** of fish on average 2012-2014.
- In volume, **The Netherlands accounted for around 27%** of the total EU-27 catches in UK waters in 2015, before **Denmark 25 %** and **France 16 %** (with **Ireland** and **Germany** at 13%).
- In volume, during the period 2013-2015, the main species caught were on average **Mackerel** (around 248,000 tonnes), **Herring** (133,000 tonnes), **Sandeel nei** (around 73,000 tonnes) and **Blue-whiting** (around 50,000 tonnes).
- When considering the **monetary value** of EU-27 catches (**EUR 524 million on average for the period 2013-2015**), the scene differs to some extent:
- **In value, France**, accounting for around 30% **of the monetary value generated** by the EU-27 **fleet from the UK waters**, becomes the main exposed country (**EUR 157 million** yearly average over the period 2013-2015), before **The Netherlands (EUR 99 million** yearly average over the period 2013-2015 and 21% of the EU-27 catches) and **Ireland (EUR 86 million** yearly average over the period 2013-2015 and 17% of the EU-27 catches (Denmark accounting 'only' for 13% of the EU-27 catches, with EUR 73 million).
- **In value**, the most important species caught by the EU-27 fleet are **Mackerel, Herring, Sole, Hake and Norway Lobster**.
- During the same period, **UK vessels operating in non-UK waters** caught around **152,000 tonnes**, worth a value of around **EUR 192 million**.
- While this is difficult to **address, a significant part of the FQA is detained by UK vessels owned by EU-27 companies** (the so-called '**quota-hopping**' phenomenon); this can reach up to 96% of the total FQA for some stocks in some areas (e.g. herring IVb; IVc/VIIId. While Dutch companies are mostly involved in the pelagic sector, some Spanish companies are also involved on the demersal sector (e.g. through the possession of 35% of the Megrin quota in area VII and VIII).

Trade Side

- The UK is **globally a net importer** of fisheries and aquaculture products. But the **UK seafood trade balance with EU-27 is positive**, with over EUR 1,322 million exports versus EUR 1,215 million imports.
- The main species traded are **Salmon, cod**, Tuna, Shrimps-like species and pelagic fish (Mackerel, Herring). When taking into account the value of the species, **Scallops and Nephrops** are also important.
- While the main EU-27 suppliers to the UK market are mostly Northern countries (Germany, Denmark and Sweden), the main EU-27 clients, except Ireland, are Southern countries (France, Spain and Italy).

- **France** alone accounts for around 36% to 40 % of the UK exports to EU-27, depending on the types of seafood products, before **Spain** and **Ireland** at 14%.
- For some species, there is a clear **intra-industry** situation, with UK exporting high quality products and importing low quality substitutes (e.g. lobster, scallops), with also some seafood products being imported in the UK to be processed and re-export to EU-27 countries (e.g. whitefish).

1.1 Production

In order to evaluate the monetary value of the EU-27 catches in the UK waters, a **two-step** methodology was followed:

1. **Data was used from official databases** – FIDES (2017) contains the landings weight of EU Member State fleet by ICES rectangle and AER STECF (2016) contains landings price information (inferred from landings value and landings weight by species) by EU Member State. A separate analysis was undertaken using GIS data (i.e. layers for rectangles and UK zonal waters from MMO website) to calculate the percentage of an ICES area by area inside UK zonal waters.
2. **The estimates obtained were then compared** to those presented in some other recent studies on this topic (e.g. Norton and Hynes, 2016, Napier, 2016).

1.1.1 Quantities

In 2015, the EU-27 vessels operating in the UK waters caught around 630,000 tonnes of fish (and around 654,000 tonnes on average for the period 2012-2014). The **Netherlands** accounted for around 27% of the total EU-27 production by weight in UK waters, Denmark 25 % and France 16 % (just over Ireland and Germany at 12-13% - see Table 1).

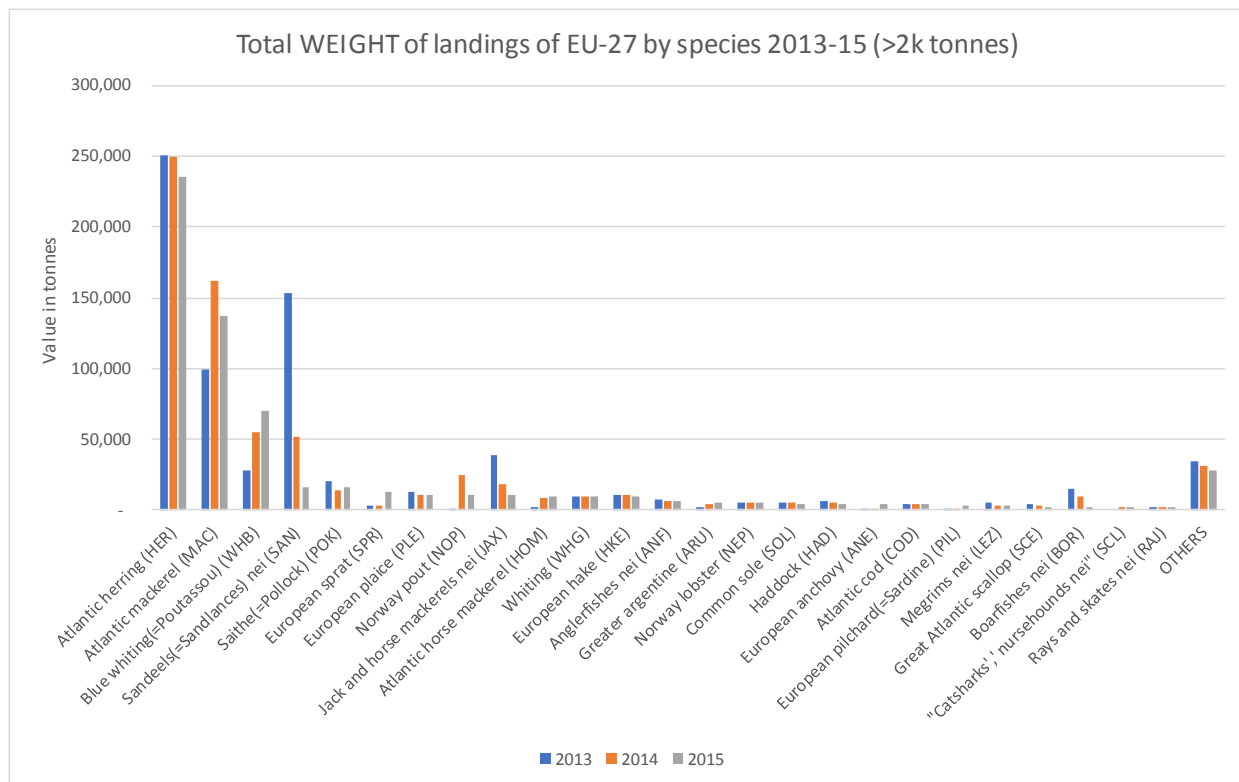
Table 1: Total weight of landings in UK zonal waters (in tonnes)

Country	2010	2011	2012	2013	2014	2015
Belgium	8 961	9 073	11 531	10 782	11 278	11 417
Germany	30 215	40 714	47 769	80 829	70 697	81 908
Denmark	299 410	227 151	180 122	276 201	237 857	160 328
Spain	8 239	6 883	5 847	5 982	6 064	1 696
France		63 770	75 720	98 402	102 514	100 477
Ireland	63 147	83 577	79 531	89 471	104 721	78 045
Netherlands	61 720	80 785	110 124	130 219	152 887	168 831
Sweden	29 517	40 649	22 238	32 761	18 423	27 219
UK	349 672	467 868	469 956	494 567	575 391	537 665

Source: FIDES (2017)

These figures can be compared to those **from the Scottish and the Irish studies** (Norton and Hynes, 2016; Napier, 2016), mentioning respectively 650,000 tons (Annual average catches from 2012 to 2014) and 684,000 tons (2014 figure). So, while the various estimates are of the same magnitude, the estimates presented in this study seem to be higher. As described above, this appears due to a refined definition of '**UK waters**' where a proportion of UK waters in/out of ICES rectangles is calculated using GIS data.

In terms of **species** caught by EU-27 vessels, the most important ones over the 2013-2015 period are (yearly average) Herring (247,000 tonnes), Mackerel (133,000 tonnes) and other pelagic species (blue whiting and sandeels; 124,000 tonnes) – see Figure 3.

Figure 3: Total weight of landings of EU-27 by species (in tonnes)

Source: FIDES (2017)

1.1.2 Values

In 2015, the **monetary value of the catches** realised by the EU-27 vessels operating in the UK waters was estimated to around **EUR 482 million** (and EUR 524 million for the years 2013-2015). Landings volume and value in 2015 from UK waters is estimated to be less than 2014 by approx. 7% for UK and 9% for other EU countries, with 2011 landings even lower in each case. This accounts for the higher 2012-14 estimated average. . **France** accounted for 30% of the total EU-27 landings by value in UK waters, The **Netherlands** 22 % and **Ireland** 16 % (just over Denmark at 14% - see Table 2).

These figures can be compared to those from the Scottish study⁴⁹ (Norton and Hynes), mentioning EUR 506 million (Annual average catches from 2012 to 2014 - £ 408 million). Here again, while the various estimates are of the same magnitude, the estimates presented in this study seems to be higher; for the same reason as above.

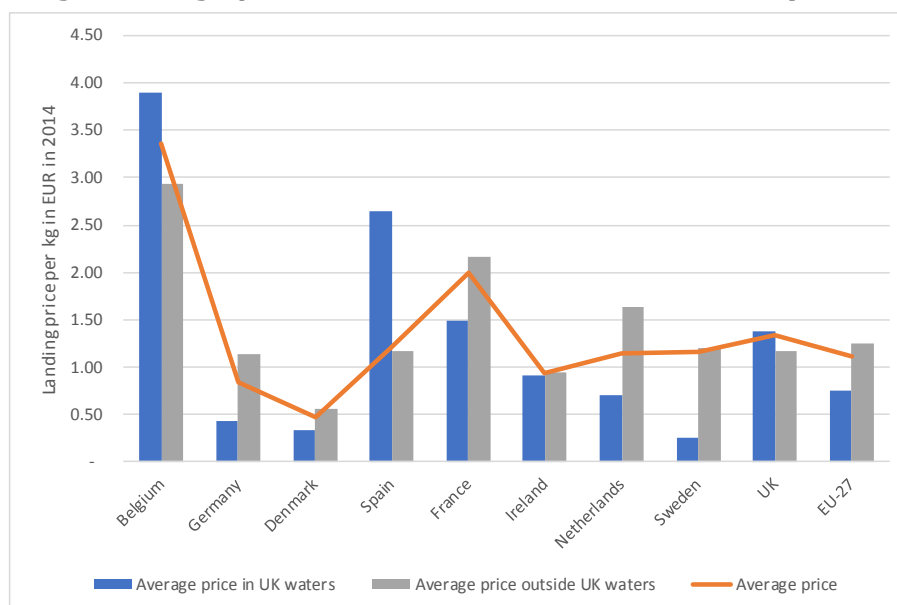
⁴⁹ The Irish study is mentioning €87 million for Ireland in 2014, compared to €96 million in 2014 in this study (Table 2); but €77 and €81 in 2013 and 2014;

Table 2: Total value of landings in UK zonal waters (in kEuros)

Country	2010	2011	2012	2013	2014	2015
Belgium	41 832	40 394	42 845	39 855	44 054	40 779
Germany	14 508	20 300	22 253	33 834	30 524	32 997
Denmark	81 284	57 208	61 967	78 215	77 928	65 076
Spain	20 063	17 055	15 553	15 754	16 063	5 057
France		114 598	111 030	170 398	152 270	146 584
Ireland	60 671	78 669	75 036	73 666	96 121	78 035
Netherlands	60 882	72 487	80 230	93 718	108 663	105 017
Sweden	6 520	8 667	7 122	7 272	4 676	6 703
UK	643 021	709 722	707 250	712 831	792 367	740 140

Source: FIDES (2017) for landings weights and STECF AER (2016) for prices

These figures can also be compared to the estimates provided by the European Fisheries Alliance (EUFA), mentioning a total value for EU-27 catches in UK waters of EUR 625 million, for a production of 686,700 tons. The differences with the estimates presented in this study are assumed to be based on: (i) the definition of UK waters used and (ii) the prices applied. As described above, zonal proportions by ICES rectangle are used in our estimations as well as average landing prices by species. The EUFA study appears to use a different approach to zoning and average landing prices by country. For France and Netherlands in particular this results in higher estimated value by EUFA as average price is lower from catches in UK waters. The resulting **average prices** (from all waters but by species) used here are presented in Figure 4.

Figure 4: Average landings price inside and outside UK waters by Member State

Source: FIDES (2017) for landings weights and STECF AER (2016) for 2015 species prices

Table 3: Landings EU fleets from UK EEZ (2015)

	Volume (1000 t)	Value (million €)	% of total volume	% of total value
BEL	11.5	41.8	46.9%	51.1%
DEU	84.4	44.6	52.2%	30.6%
DNK	169.0	86.9	28.5%	27.0%
ESP	2.4	8.1	1.1%	2.2%
FRA	121.4	205.8	32.5%	23.9%
IRL	77.5	87.8	31.3%	32.2%
NLD	193.4	141.7	59.1%	38.9%
SWE	27.0	8.4	33.1%	18.3%
TOTAL	686.7	625.0	33.7%	25.4%

Source: EUFA, 2017

Interestingly, Table 4 below also shows the **relative importance** of UK waters for some countries. For **Belgium** for instance, which accounts for 9% of the total EU-27 catches in the UK waters (in value), the **monetary value** of catches coming from the UK-waters represent **50% of the total Belgium fishing activity** (in value). In the same vein, the monetary value of catches coming from the UK-waters represent **34% of the total Dutch fishing activity** (in value), although The Netherlands accounts for 21% of the total EU-27 catches in the UK-waters (in value). This means that in **relative (value) terms**, Belgium, the Netherlands and Germany are **particularly exposed to a change in access to the resources** evolving within UK waters (see Chapter 2).

Table 4: Relative importance of UK waters to EU-27 Member States

EU-27 MS	2011	2012	2013	2014	2015
Belgium	59%	54%	49%	50%	50%
Germany	16%	19%	24%	22%	25%
Denmark	26%	26%	29%	28%	21%
Spain	5%	7%	5%	6%	2%
France	26%	25%	20%	18%	19%
Ireland	28%	22%	23%	31%	24%
Netherlands	28%	26%	30%	34%	34%
Sweden	22%	18%	19%	12%	15%

Source: FIDES (2017) for landings weights and STECF AER (2016) for prices

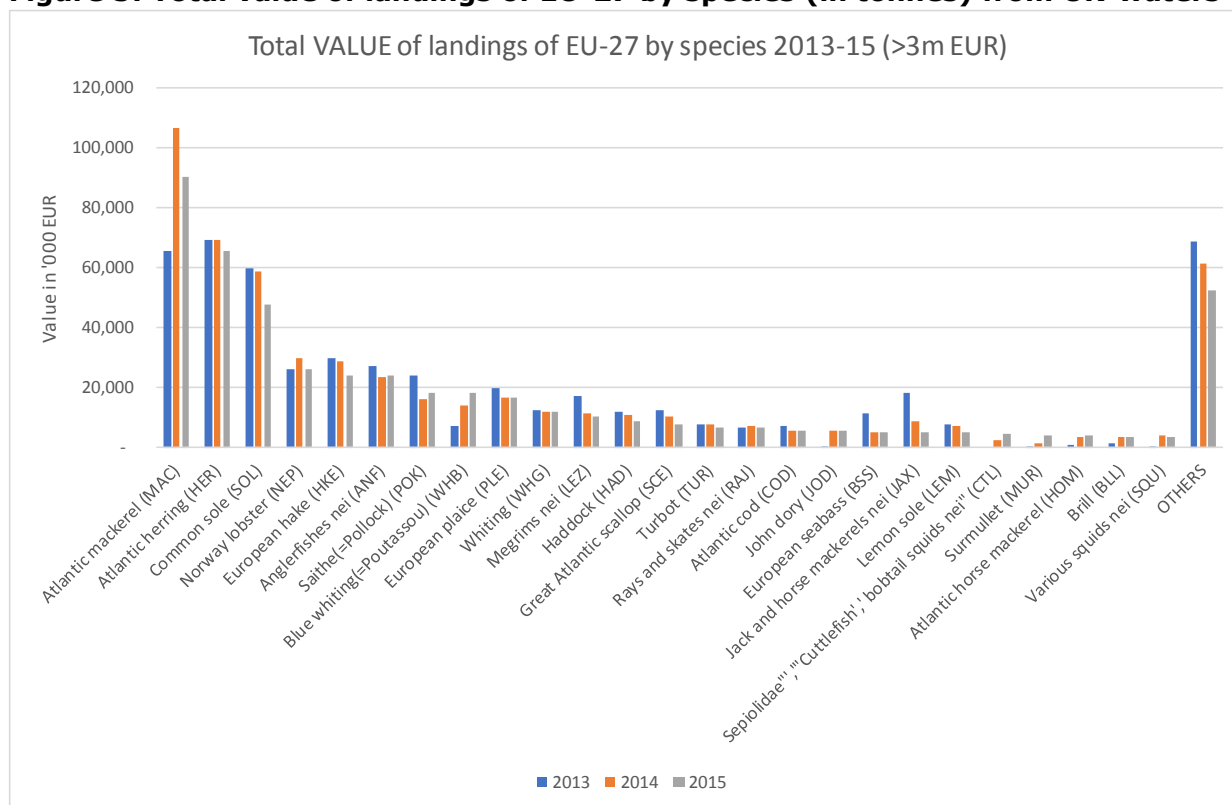
Based on these estimates and the total production of the UK and EU-27 fleet, it can be observed that in value, the **monetary value** of the production realized by the EU-27 fleet in UK waters represents **21% of the value of the total EU-27 fleet** (versus around 80% of the production of the UK fleet being realized in the UK waters) – see Table 5.

Table 5: Proportion of landing value in UK zonal waters in area 27 (in percentage)

	2010	2011	2012	2013	2014	2015
Total UK	73%	83%	80%	82%	81%	80%
Total EU	20%	22%	23%	22%	23%	21%

Source: FIDES (2017) for landings weight and STECF AER (2016) for prices

In terms of species caught by EU-27 vessels, the most important ones over the 2013-2015 period are (yearly average) **Mackerel** (EUR 86 million), **Herring** (EUR 69 million), **Sole** (EUR 53 million), **Hake** (EUR 29 million) and **Norway Lobster** (EUR 28 million) - see Figure 5. This means that within the different domestic fleets, some specific sub-fleets might be economically more exposed than others (e.g. the **pelagic fleet**)

Figure 5: Total value of landings of EU-27 by species (in tonnes) from UK-waters

Source: FIDES (2017) for landings weight and STECF AER (2016) for prices

1.1.3 Aquaculture

While the issues at stake in the aquaculture sector differ from capture fisheries, they also need to be considered for their **potential impacts on trade**. Aquaculture production in the UK is dominated by **Salmonids**, with a total production of 179,397 tonnes of Atlantic Salmon in 2014, as well as 12,707 tonnes of **Rainbow Trout** and 20,023 tonnes of **mussels** (STECF AER, 2016; see also Scottish Government, 2015⁵⁰). This can be compared to the total production of sea fisheries finfish and shellfish reported as **756,000 tonnes in 2014** (MMO, 2015).

⁵⁰ <http://www.gov.scot/Resource/0050/00505162.pdf>

1.2 Ownership of the producing companies

1.2.1 Catching sector

Foreign ownership of UK registered fishing vessels has been documented since the late 70s (see for example Hatcher & al 2002). In the mid-90s, some 160 vessels were owned by foreign interest (mainly Spanish 66% and Dutch 33%). The number of foreign owned vessels seems to have slightly decreased since then, with some 60 foreign owned vessels reported to be active in 2014 (Vidal-Giraud, 2015). Most of these companies were allocated FQA units when the system was implemented. According to the information gathered, Spanish and Dutch sectors still hold significant investments in the UK sector, alongside Icelandic interests.

Tying a specific vessel to its FQA allocation is not a simple task (see for example “**Seafood industry integration in the EU**” **PE 585.893**). Compiling the number of units each company holds may be misleading as each quota stock has a specific number of units which are not interchangeable: in 2015 a unit of “North Sea Cod” was representing 30kg of quota when a unit of “Cod I,IIb” was equivalent to 273 kg of quota.

Some POs are however composed almost entirely of these foreign owned vessels, allowing tracking the initial quota allocation of each group of vessels:

- **North Atlantic Holdings Limited** is a subsidiary of Cornelis Vrolijk, based in the Netherlands. It operates the Cornelius Vrolijk, a UK registered trawler with IJmuiden (Netherlands) as home port according to the UK fleet register. The vessel is member of the North Atlantic Fish Producers’ Organization. According to its This company holds an important share of the UK pelagic quotas: 98% of the Herring IVc/VIIId (equivalent 5,300 tons in 2015), 13% of the North Sea Herring (8,410 tons in 2015), 11% of the West Coast Mackerel (24,900 tons in 2015). It also owns some shares of flatfish quotas in the North Sea (4% of plaice – 1,098 tons in 2015, 5% of Sole, Turbot and Flounders – respectively 46, 23 and 72 tons in 2015).
- **UK Fisheries Ltd is a subsidiary of Samherji HF (Iceland)** and Parlevliet & Van Der Plas B.V. (Netherlands). The company operates three large trawlers and is member of The Fisher Producers’ Organization. The company and the associated subsidiaries own all the FQA units for the stocks in the Barents Sea (Cod I, II, Cod I IIb representing a total of 13,100 tons in 2015, Haddock I II – 453 tons...) but also important shares of saithe (29% of the North Sea Saithe quota; – 2,641 tons in 2015).
- **The Wales and West Coast PO** has been initiated in the 90s to host Anglo-Spanish vessels operating mainly from La Coruña (Spain). With only a few vessels remaining, the PO still holds significant shares of quotas: 35% of megrim in area VII and VIII (1,249 tons in 2015), 17% of monkfish in area VII and VIII (1,356 tons), 12% of hake in area VI, VII and VIII (1,121 tons)..

1.2.2 Aquaculture

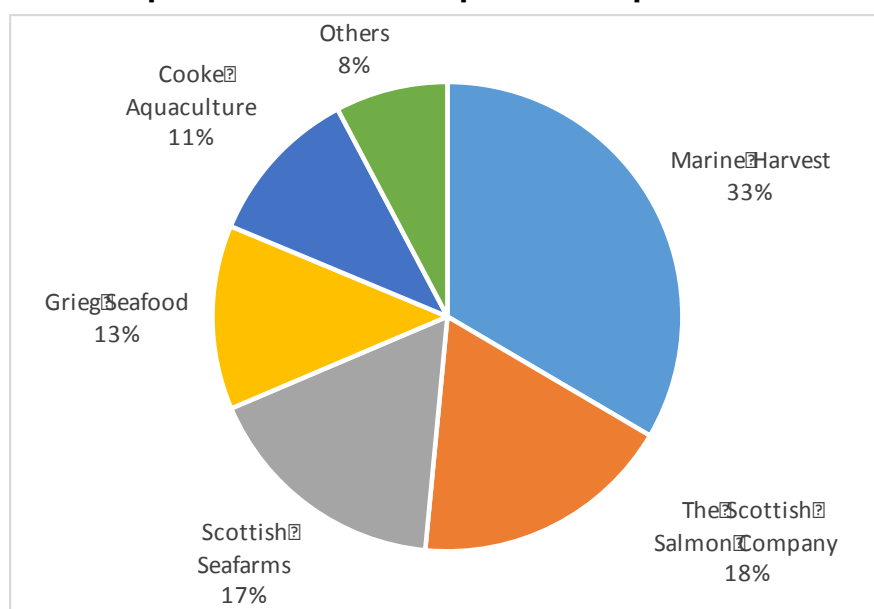
The **top five salmon companies** (see Figure 6), representing close to 92% of the UK production, are all owned by foreign companies. They are also all vertically integrated (hatchery, production, processing, marketing)

- **Marine Harvest**, a global player in the salmon sector, based in **Norway**. The group is based in Bergen and is dual-listed on both the Oslo Stock Exchange and the New York Stock Exchange.
- **the Scottish Salmon Company PLC** is listed on the **Oslo Stock Exchange**;

- **Scottish seafarms** is owned by SalMar and Lerøy Seafood Group through Norskott Havbruk AS, a 50/50 joint venture. SalMar and Lerøy Seafood Group are both Norwegian based companies, both listed on the **Oslo Stock Exchange**.
- **Grieg Seafood** is based in Bergen, Norway, and is listed on the **Oslo Stock Exchange**.
- **Cooke Aquaculture** is based on the east coast of **Canada** and has recently entered the Scottish sector by acquiring Meridian Salmon Farms Limited in 2014 (now Cooke Aquaculture Scotland).

According to Foss (2017), the EEA agreement gives EFTA- citizens full freedom of establishment in the EU seafood industry. As a result, the Brexit might have some **impacts** on **EFTA-citizens** who own aquaculture (mostly Salmonids) and fishing vessels (mostly Icelandic companies).

Figure 6: Share of the production for the top 5 salmon producers in UK in 2015



Source: Marine Harvest. Source: "Salmon Farming Industry Handbook 2016"

1.3 Trade

KEY FINDINGS

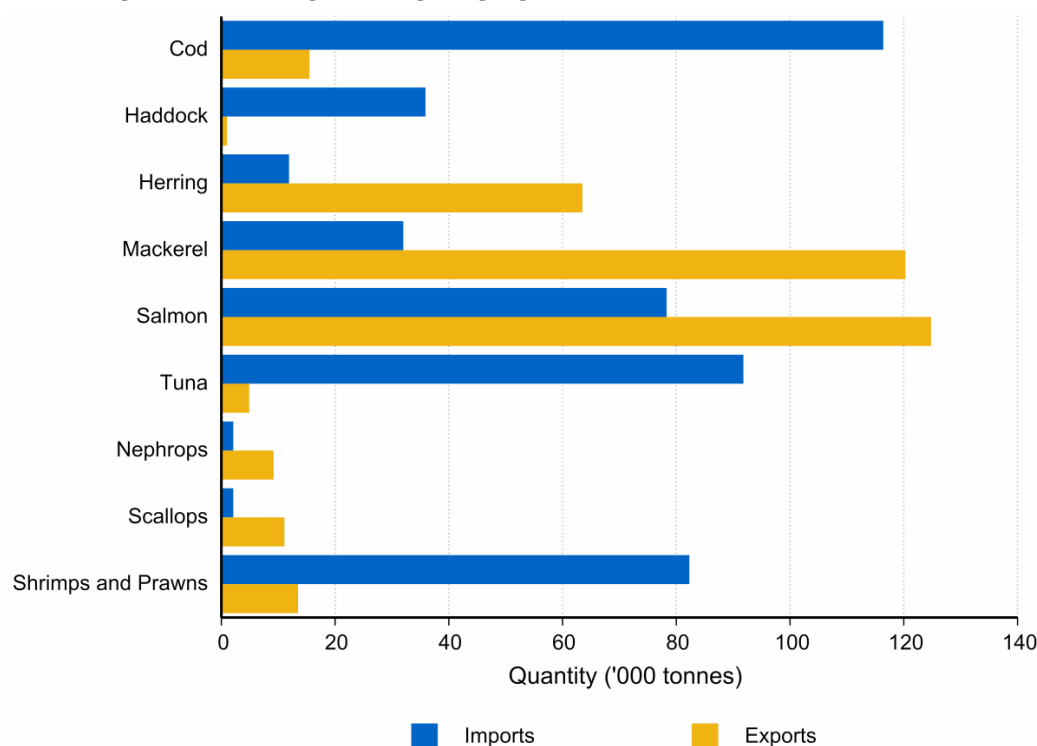
- Approximately **two thirds of imports to the UK are coming from Extra-EU countries.**
- **For Mackerel however, Denmark is accounting for half of the UK imports (in value)**
- While UK depends mostly on non EU-27 countries for its seafood imports, **UK relies primarily on EU-27 markets for its exports.**

This section describes **the trade profile of the UK**, including the monetary value of UK fish exports under the current situation. Also, the trade balance with EU-27 and EFTA countries is provided in order to identify the product, species or commodities of interest for the main trade partners. In order to put the UK trade profile into context, the EU-28 trade profile is also described in section 1.3.4.

1.3.1 General overview and main species traded

As indicated in Figure 7, the **main traded species in volume** are **Salmon, Cod, Tuna, Shrimps-like species and pelagic fish** (Mackerel; Herring). When taking into account the value of the species, Scallops and Nephrops also need to be considered. Interestingly, for several species, especially salmon and to a lesser extent Mackerel and Cod, the UK both imports and exports a large quantity of products, revealing **as intra-industry trade** case.

Figure 7: UK imports and exports by key species: 2014



Source: MMO (2015) UK Sea Fisheries Statistics 2014 (see also <http://www.seafish.org/research-economics/market-insight/market-summary>)

At the end of 2016, the total **export of fisheries and aquaculture** products reached **444,150 tonnes**, worth a value of 1.512 billion GBP⁵¹. This is an 8.7% increase compared to the previous year, especially due the increase in price in 2016 (+ 15.2%). At the same time, the total import of fisheries and aquaculture products was around 717,600 tonnes, worth a value of 2.895 billion GBP. The trade deficit in 2016 was then around 1.4 billion GBP. However, the trade flows are very uneven across countries and species, as shown in Figure 7 for 2014.

1.3.2 Main trade partners

Imports

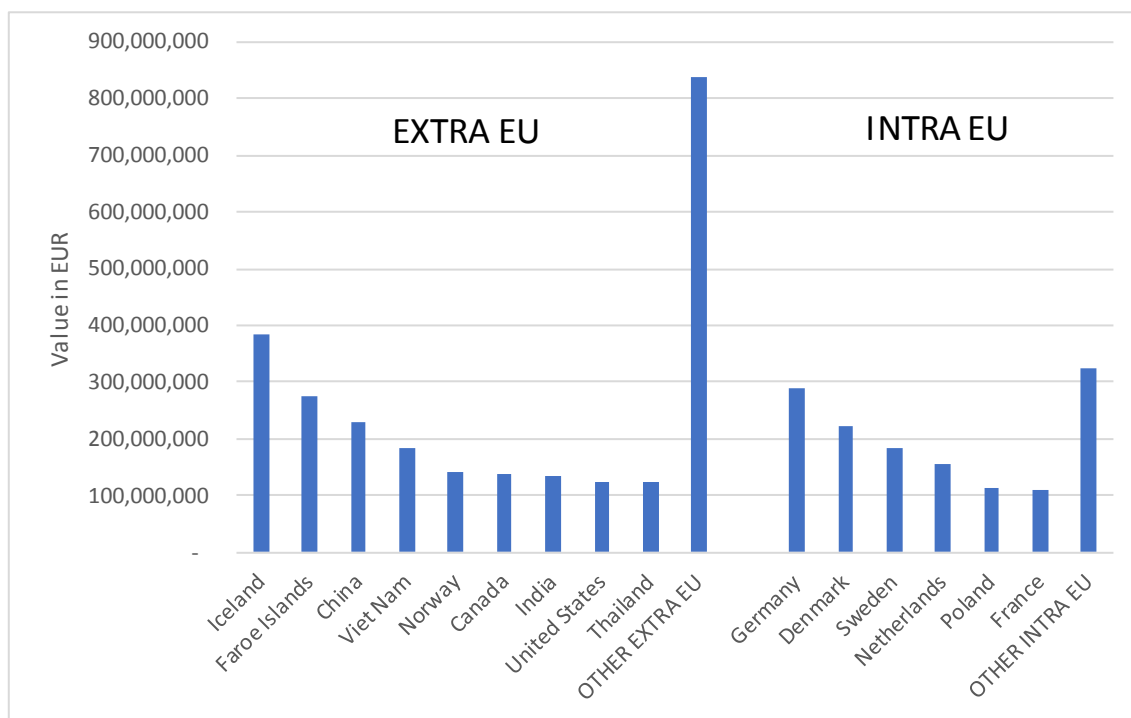
As indicated in Figure 8, and based on EUMOFA figures, **most of the fish** (two-thirds, see Table 6) used in the UK for processing or consumption is comes from outside the EU. However there are significant intra-EU imports to the UK also (one third). The three main Extra-EU suppliers in 2015 are Iceland (383 million EUR - mostly Cod and Haddock), Faroe Islands (276 million EUR - mostly salmon⁵²), China (228 million EUR - processed cod and pollack). The two main Intra-EU suppliers in 2015, **Germany** (288 million EUR - cod and salmon) and **Denmark** (223 million EUR), are listed as **important suppliers**.

⁵¹ <http://www.seafish.org/research-economics/market-insight/market-summary>

⁵² although it is not certain that all the salmon imports are destined to the British market, as there may be a logistic artefact, e.g. when fish exported to / landed in Scotland is just further re-exported; see the discussion below

As for Germany and Denmark, in addition to the imports of processed products (see below), it could be noted that the UK is respectively the 3rd and 2nd client for the fishmeal industry (EUMOFA, 2016)

Figure 8: Main UK import partners in 2016 (by value)



Source: EUMOFA (2017)

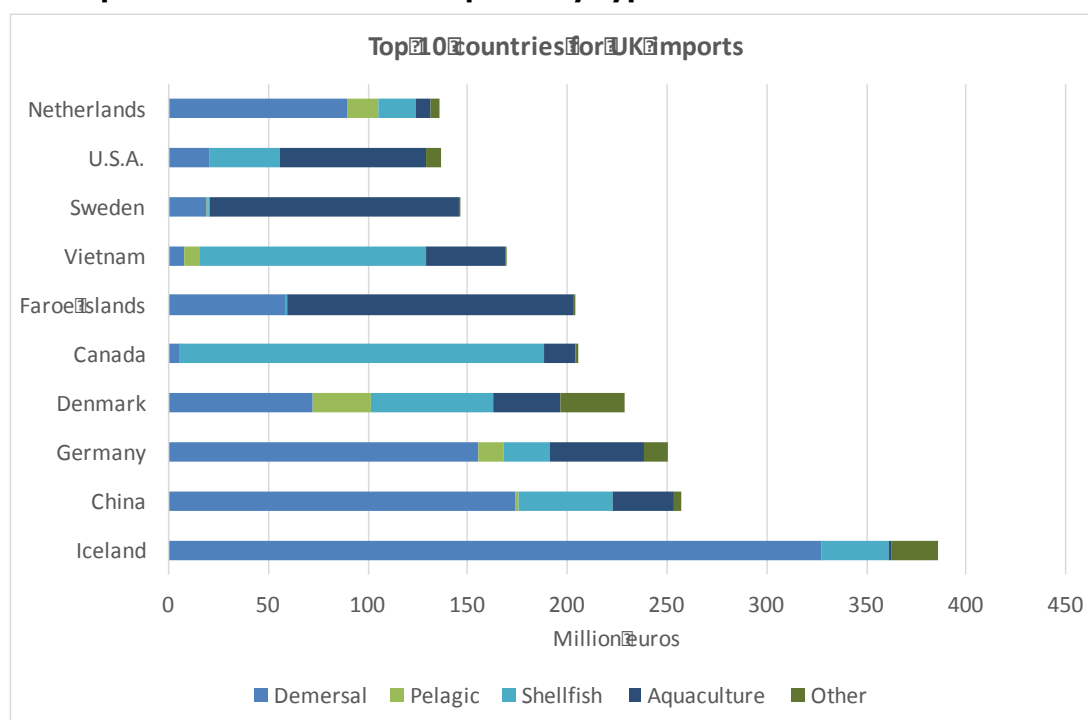
It is also worth noting that **approximately two thirds of imports to the UK are from Extra-EU countries** (see Table 6). This means that some current UK imports from EU-27 states could be further replaced by imports from other parts of the world (see Chapter 2).

Table 6: Imports into the UK from Intra-EU and Extra-EU (by proportion)

	2010	2011	2012	2013	2014	2015	2016
Extra EU	65%	64%	64%	65%	67%	66%	65%
Intra EU	35%	36%	36%	35%	33%	34%	35%

Source: EUMOFA (2017)

A breakdown of imports by fish category is presented in Figure 9. It shows that Iceland is by far the largest supplier of UK, exporting mostly demersal species such as Cod and Haddock, with China being listed as the second largest supplier based on Comext data (with some demersal products, partly coming from European countries such as Norway, being imported into China for filleting and re-export to UK). Based on Comext data, the Faroe Islands only appears on the 6th rank of the main suppliers, due to the trade artefact mentioned above. A further breakdown of UK published statistics by trading partner and main species is provided in Annex 2.

Figure 9: Top 10 countries for UK imports by type of fish in 2015

Source: Comext

To some extent, the Table 5 below also suggests that the share of imports from EU-27 could even be considered as overestimated, as part of the EU-27 exports to UK are likely to be secondary exports or re-exports. For instance, Salmon exports from Sweden mostly involve Norwegian produced Salmon, with only (i) the custom clearance being made in Sweden or (ii) some initial processing activities being located in Sweden. This means that Swedish seafood producers will not be affected by any changes in trade flows, while other economic agents could be (traders, transporters, and primary processors). The same applies e.g. to Germany, where the processing sector is mostly involved in the exports to the UK by using raw material originating from other places.

Also, the Table 5 shows that while the global dependency of the UK imports from EU-27 states is limited to around 33%, this can vary when considering species separately. For Mackerel, the EU-27 share reaches 84% of the total imports, with **Denmark accounting for half of the UK imports** (in value term).

In 2015, the UK imported around 1.2 billion € from EU-27⁵³, Table 7, the main suppliers being Germany, Denmark and The Netherlands (France only accounting for 2% of the total UK imports). The main single species involved were Salmon (231 million €), Cod (115 million €) and Shrimps (109 million €). Also, other shellfish (including scallops, lobster and Nephrops) accounted for around 64 million €, between Tuna (81 million €) and Mackerel (48 million €).

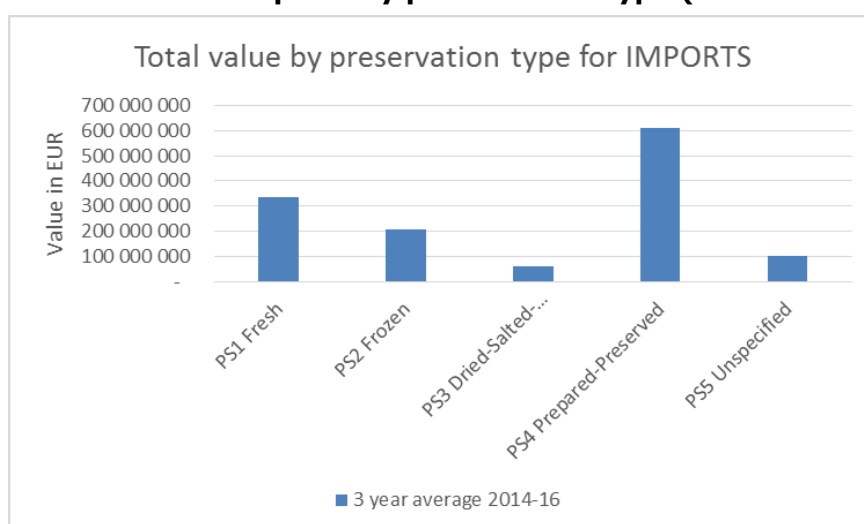
⁵³ Tarazono (2017): UK imports from EU-27: 848.16 million £ (=2736*0.31)

Table 7: Imports of fish and fish preparation into the UK (in million euros), 2015

Values in million euros	EU27	EFTA + Faroes + Greenland	Other countries
Cod	114.7	313.5	167.5
Haddock	28.8	91.2	42.3
Salmon	231.0	148.7	78.8
Tuna	81.0	0.0	392.7
Mackerel	47.9	0.5	2.2
Other fish	446.5	80.4	310.2
<i>Total Fish</i>	<i>949.8</i>	<i>634.2</i>	<i>993.7</i>
Shrimps and Prawns	108.7	38.6	642.6
Lobsters	8.5	0.0	38.1
Other shellfish	55.3	1.9	110.5
<i>Total shellfish</i>	<i>172.5</i>	<i>40.4</i>	<i>791.1</i>
<i>Total byproducts</i>	<i>92.5</i>	<i>47.1</i>	<i>50.7</i>
Total all fish	1,214.9	721.7	1,835.4

Source: Comext

In terms of presentation, the **UK is importing mostly prepared and preserved products** (46 % on average between 2014 and 2016), as well as other already processed goods (frozen and salted/dried products accounting for 21%; see Figure 10). As a result, imports of fresh products only account for 25% of total UK imports.

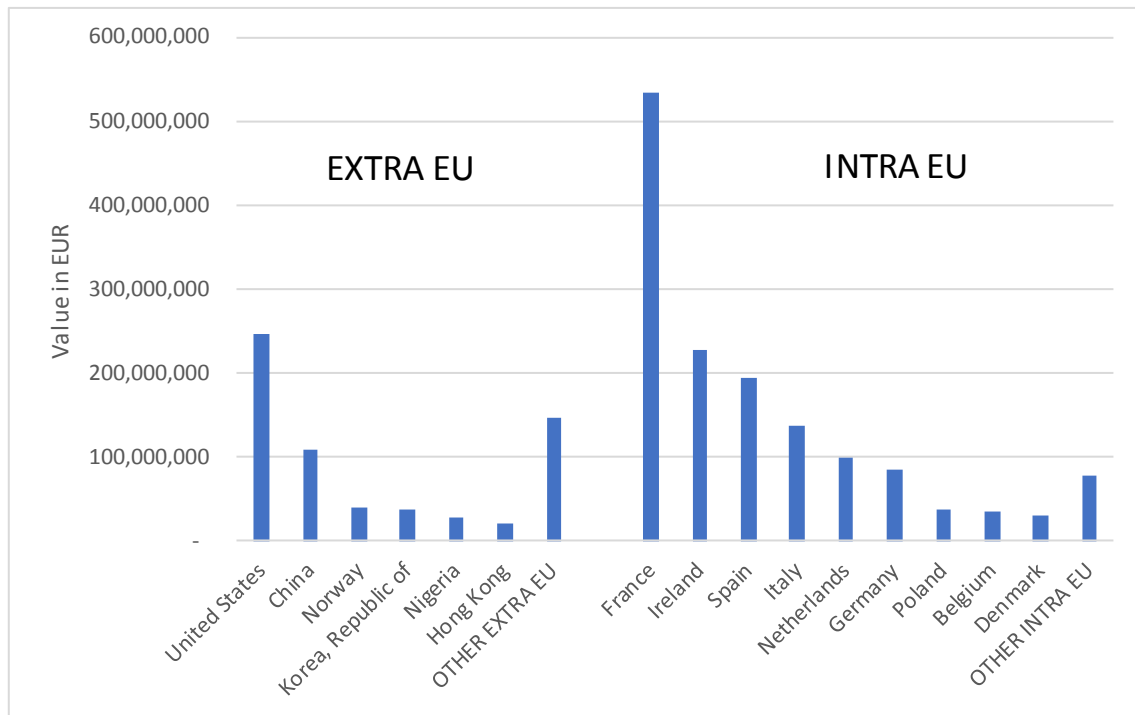
Figure 10: Total value of UK imports by preservation type (2014-16 average)

Source: EUMOFA (2017)

Exports

As for exports from the UK, the main clients in 2015 were France (534 million EUR), USA (246 million EUR), Ireland⁵⁴ (228 million EUR) and Spain (195 million EUR). Out of the 9 most important clients, 6 were EU countries, with France alone accounting for almost 25 % of the total UK exports (see Figure 11 and Table 8).

⁵⁴ Mostly due to similar consumption patterns

Figure 11: Main UK exports partners in 2016 (by value)

Source: EUMOFA (2017)

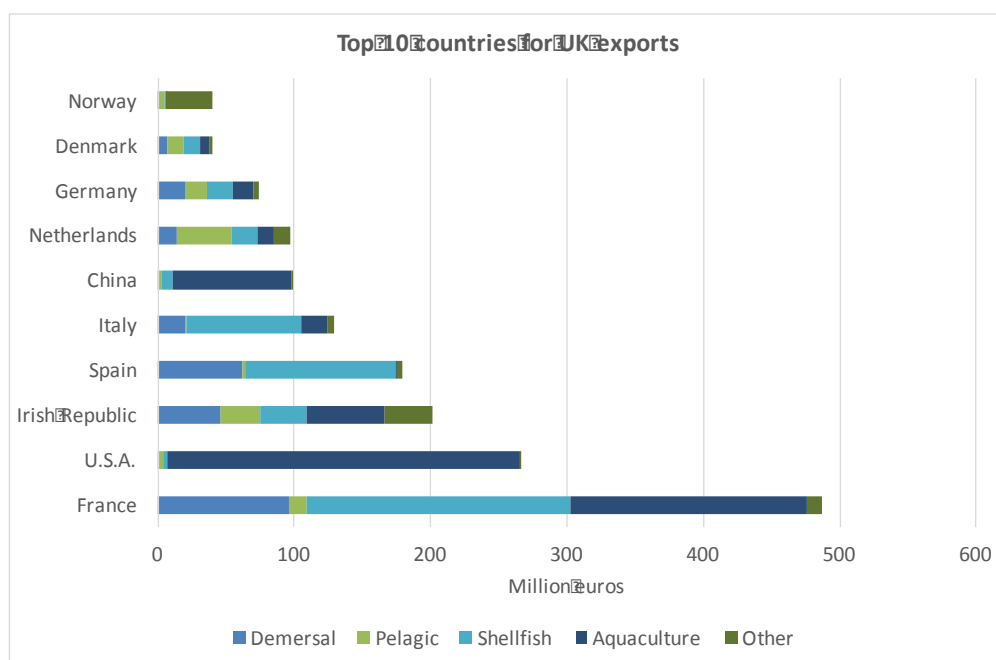
In contrast to imports, the proportion of exports from the UK to intra-EU countries was two thirds versus one third to extra-EU countries – see Table 8. This means that while UK depends mostly on non EU-27 countries for its seafood imports, **UK relies primarily on EU-27 markets for its exports.**

Table 8: Exports from the UK to Intra-EU and Extra-EU (by proportion)

	2010	2011	2012	2013	2014	2015	2016
Extra EU	23%	27%	29%	32%	35%	32%	30%
Intra EU	77%	73%	71%	68%	65%	68%	70%

Source: EUMOFA (2017)

In term of species, the UK is mostly exporting Salmon (GBP 626 million, especially to USA; see Figure 10 and the 'market' section below) and other Shellfish (GBP 322 million, mostly Norwegian Lobsters, Scallops, Crabs, but also Welk). While a part of the Salmon exports is probably based on prior UK Salmon imports, the bulk of the UK Shellfish exported to France, Spain and Italy is coming from UK waters. This means that the UK economic agents have few market alternatives for such species. A further breakdown of UK published statistics by trading partner and main species is provided in Annex 2.

Figure 12: Top 10 countries for UK exports by type of fish in 2015

Source: Comext

1.3.3 Trade with EU-27 countries

As for the trade with EU-27 countries, **UK exported around 1,215 million €** to EU-27 markets in 2015 (based on Comext data; see Table 9 below), the main clients being France (487 million €; 40% of the UK exports to the EU), Ireland (201 million €), Spain (179 million €) and Italy (129 million €). The main export flows, desegregated by species and countries, are also presented in Table 8 (in bold, value expressed in GBP).

Table 9: Exports of fish and fish preparation from the UK (in million euros), 2015

Values in million euros	EU27	EFTA + Faroes + Greenland	Other countries
Cod	63.4	0.1	5.3
Haddock	2.4	0.1	0.7
Salmon	302.7	4.0	367.4
Tuna	24.3	0.0	1.4
Mackerel	69.0	3.3	18.7
Other fish	281.0	3.7	72.5
Total Fish	742.8	11.3	466.1
Shrimps and Prawns	84.2	4.2	4.4
Lobsters	36.4	0.6	10.1
Other shellfish	378.5	0.5	69.9
Total shellfish	499.1	5.4	84.4
Total byproducts	80.5	41.4	10.8
Total all fish	1,322.4	58.0	561.3

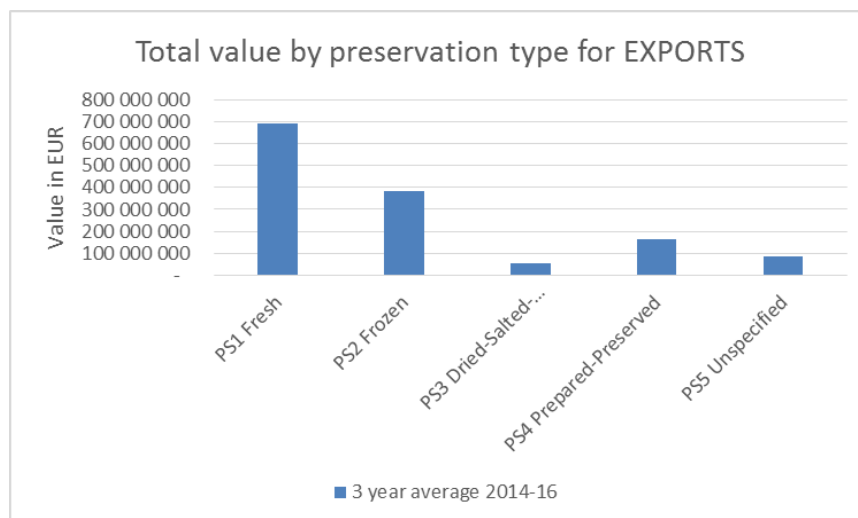
Source: Comext Eurostat data.

To some extent, the **trade data is reported to be** somehow **underestimated** in terms of trade between the UK and European countries (EU and Northern Europe). A significant quantity of fish caught in the North Sea by UK flagged vessels is landed outside the UK: mackerel and haddock in Norway, Netherland and Denmark, cod in Norway and Germany, plaice in the Netherlands... For some of these landings, the first sale happens in the UK as the fish is shipped back by lorries (advanced base system). According to our information this should be the case for most part of the cod and the haddock landed in Norway. But for other species, these **landings may not be reported in the trade statistics**:

- **Mackerel, herring and other small pelagics** are sold while the fishing vessels are still at sea and delivered directly to the processing factories. Landings of these species in Norway or in any EU27 country should be considered as an export of fresh fish from UK. This represents on average 141 million euros of small pelagic exports between 2014 and 2016, with 107 million euros for the mackerel landings (compared to a total value of export recorded of 91 million euros).
- **Plaice** is caught in the North Sea by Anglo-Dutch vessels that are landing their catch directly in the Netherlands. This accounts on average for some 15,800 tonnes of plaice landed outside UK, for an average value of 20.8 million euros between 2014 and 2016 (almost entirely in the Netherlands). In comparison, exports of plaice recorded in the trade databases represented some 850 thousand euros in 2015.

In terms of **presentation**, **UK is exporting mostly fresh products** (50 % on average between 2014 and 2016). Among the processed goods, frozen products are the most imported (28%), while prepared and preserved and salted/dried products only accounting for 16%) – see Figure 13.

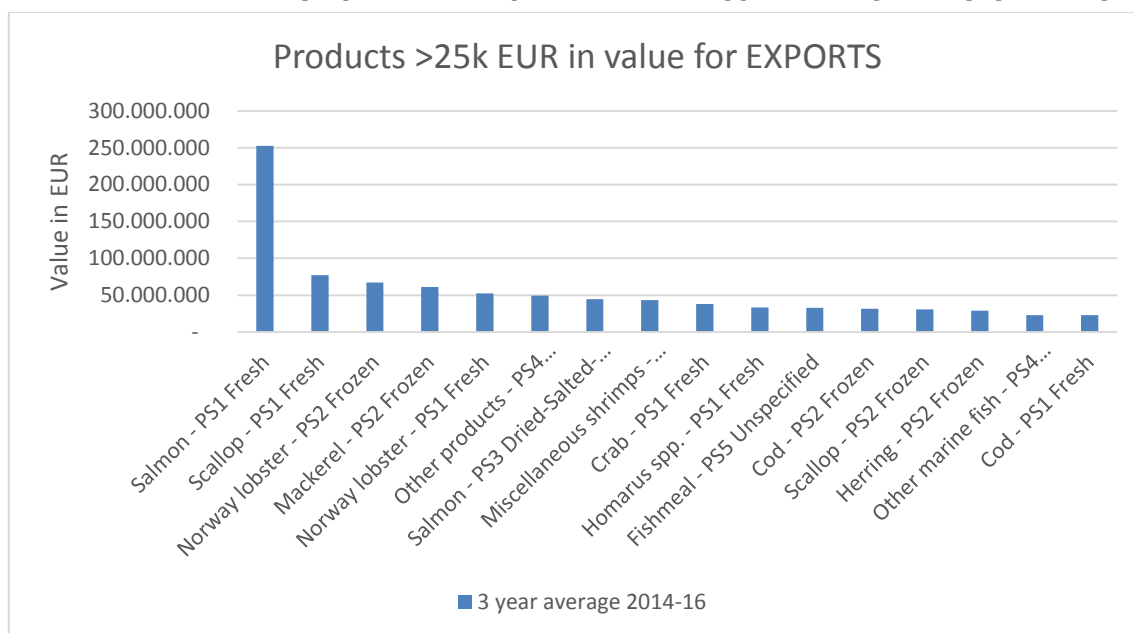
Figure 13: Total value by presentation type for exports (by value)



Source: EUMOFA

Unsurprisingly, when considering the **commodities**, the 5 main exported products are either fresh (Salmon, Scallops and Norway Lobster – see Figure 14⁵⁵) or frozen (Norway Lobster and Mackerel). As the trade tariffs applied can differ across presentation and commodities, this might have some important implications in the Brexit context (see Chapter 2).

⁵⁵ With fresh Crabs and Lobsters being also ranked in the 10 most important commodities exports in value

Figure 14: Total value by species and presentation type for exports (by value)

Source: EUMOFA (2017)

All the above information leads to **four important observations**:

1. As for the **trade balance between the UK and EU-27**, the UK is a net exporter (exporting more than importing);
2. Even if the aggregated figures suggest that the exports from the UK to the EU-27 markets (EUR 1.3 billions) and the UK imports from the EU-27 markets (EUR 1.2 billion) are of similar magnitude (intra-industry trade, e.g. for Salmon and Cod), the disaggregated analysis of the products shows that the flows are indeed rather mostly inter-industry oriented, with some specific species being imported and other specific species being exported (e.g. high value, fresh shellfish).
3. The main EU-27 partners fully differ when considering trade, with Northern countries being the **greatest suppliers**, while the Southern countries (plus Ireland) being the most important clients.
4. For **some products** (e.g. Cod), the **UK is exporting more than it is producing**, which means that part of the imports are used for processing and re-exports to EU-27 countries (for Cod, around 30 million £ of landing and 46 million £ of exports).

Furthermore, **for the biggest UK client (France)**, the situation strongly differs across species: for some species, such as Salmon and pelagic species like Mackerel, the French and EU-27 supply is not sufficient, and the French market (mostly processing) needs to secure raw material from the UK. On the other hand, for products such as smoked Salmon, there might be some competition (and so substitution) between UK exports and French products (e.g. smoked Salmon and Trout). Last, despite the fact that France only accounts for 2% of the **total**⁵⁶ UK imports, there might be some market opportunities for several products or commodities, e.g. Lobsters, Shrimps or preserved / canned products. This is why it is important to understand the dynamic prevailing for some key markets (see below section 1.4).

⁵⁶ And 8% of the UK imports from EU-27 countries; in value.

1.3.4. Trade with northern European countries and the rest of the world

The seafood supply chains serving the British market are complex and follow several routes between producing countries, processing countries and logistic hubs.

The EU market relies heavily on third countries to fulfil its internal demand, notably for products such as salmon, shrimps or tuna. Over the period 2013-2013, the imports of seafood products to the EU market represented close to 20.6 billion euros annually. UK was directly responsible for 12% of these imports. Species that are more important for the UK internal market present a higher share of imports associated with UK (cod, haddock, tuna, shrimps).

For some products, the trade routes are passing by other EU member states before reaching the UK. It can result from intermediate or final processing being performed in other countries. It can also be due to logistic specificities, like containers arriving in the Netherlands from China and other Asian countries or shipment of Norwegian salmon entering the single market by the Swedish or Danish borders. If the custom clearance is sought at these borders, these products are considered as intra-EU imports in the UK trade statistics, lowering the importance of UK imports from third countries, the so-called "Rotterdam effect"⁵⁷. This is notably the reason why UK appears to import significant volumes of salmon from Sweden and Denmark, while a large share of this salmon is farmed in Norway.

UK is responsible for 15% of the value exported by EU28 countries to third countries, with exports of salmon accounting for 66% of the value exported by UK outside the EU.

The Rotterdam effect may also lower the importance of the UK exports to third countries, to the benefit of Netherlands which appears to be the major destination for UK small pelagic species (mackerel, herring) according to Comext data, while a large share of these products is just transiting through the Dutch ports before reaching other European countries, but also African markets.

In case of a strong Brexit, logistic arrangements are expected to be modified with seafood shipment avoiding clearance in EU27 countries to reach more directly the UK. Intermediate processing currently happening in EU27 countries could also be moved to minimise potential tariffs but also to avoid delays/complications due to custom clearance at the UK-EU27 border.

⁵⁷ "Bilateral merchandise trade statistics reconciliation: Australia and the European Union, 1992 to 1997" ABS International Merchandise Trade 5422.0 September Quarter 1998. [http://www.abs.gov.au/Ausstats/abs@.nsf/0/2cd22a84525a8071ca2569de002a3030/\\$FILE/SeptArt98.pdf](http://www.abs.gov.au/Ausstats/abs@.nsf/0/2cd22a84525a8071ca2569de002a3030/$FILE/SeptArt98.pdf)

Table 10: Trade value of fish and fish preparation with non-EU countries (value in million EUROS – average for 2013-2015)

	Imports by EU28 from third countries	Direct imports by UK from third countries	Share of the UK imports	Exports to third countries by EU28	Direct exports to third countries by UK	Share of the UK exports
Cod	1,916	421	22%	169	5	3%
Pollack	644	60	9%	9	0	1%
Haddock	209	118	56%	10	1	8%
Salmon	3,945	264	7%	638	403	63%
Trout	673	43	6%	133	12	9%
Tuna	2,112	344	16%	557	2	0%
Mackerel	166	5	3%	304	49	16%
Other fish	4,302	362	8%	1,511	57	4%
Total Fish	13,967	1,616	12%	3,332	529	16%
Shrimps and Prawns	3,835	620	16%	310	5	2%
Scallops	237	19	8%	11	0	4%
Lobsters	226	26	12%	22	11	51%
Other shellfish	2,098	83	4%	311	60	19%
Total shellfish	6,396	748	12%	655	76	12%
Total byproducts	198	4	2%	140	4	3%
Total all fish	20,562	2,367	12%	4,126	610	15%

Source: Comext

At the European level, the EU28 have a huge seafood trade deficit with Northern European countries (Norway, Iceland, Faroes Islands and Greenland), with total imports from these countries close to 6.8 billion euros while exports represented only 229 million euros.

Direct UK imports represent 10% of the value imported by the EU28, although some of the trade between the Northern countries is recorded as intra EU28 trade due intermediary steps in the supply chains. As noted before, some of the Norwegian salmon arriving in the UK internal market is recorded as imported from Sweden and Denmark. This is also the case for imports of cod and haddock from Norway, that are sometimes processed in other countries (for example important quantities of cod are processed in Asian countries).

In case of a strong Brexit, it is expected that products currently reaching the UK via other EU27 countries may be shipped directly from Norway to UK, although the logistic solutions may not be currently available. This is notably the case for the Norwegian salmon which may not transit via Sweden or Denmark.

Table 11: Trade value of fish and fish preparation with North European countries (value in million EUROS – average for 2013-2015)

	Import by EU28 from northern countries	Import by UK from northern countries	<i>Share of the UK imports</i>	Export to northern countries by EU28	Export to northern countries by UK	<i>Share of the UK exports</i>
Cod	1,298	281	22%	12	0.3	2%
Haddock	143	80	56%	0	0.2	38%
Salmon	3,728	181	5%	10	0.0	1%
Trout	272	7	3%	2	0.0	1%
Mackerel	97	3	3%	46	3.3	7%
Herring	221	3	1%	15	0.0	0%
Other fish	606	71	12%	50	1.6	3%
Total Fish	6,365	626	10%	135	5.4	4%
Shrimps and Prawns	312	39	12%	79	0.7	1%
Other shellfish	50	2	3%	10	1.1	10%
Total shellfish	362	40	11%	89	1.8	2%
Total byproducts	44	2	4%	5	0.0	1%
Total all fish	6,771	668	10%	229	7.3	3%

Source: Comext

1.4 Main Markets

KEY FINDINGS

- The **UK is the largest consumer of salmon** products in absolute terms. The UK, together with Spain and France are responsible for 71% of the total fresh consumption value, with EUR 1,05 billion, EUR 502 million and EUR 376 million, respectively.
- The UK salmon sector is highly concentrated, **with five companies** representing over 93% of the total production, all of them **under foreign control**.
- The UK salmon production is part of a global salmon supply chain with important flows on both sides: **total imports** represented close to **EUR 459 million** in 2015, with the **total exports** reaching **EUR 674 million**.
- USA and France account for close to 60% of the UK salmon export in quantities and 71% in value.
- As for **Cod**, The **UK ranked first in consumption** (EUMOFA, 2017; Figure 16), with over EUR 531 million, followed by France with EUR 349 million, Spain with EUR 216 million and Italy with EUR 143 million.
- The UK and EU-27 countries rely on imports of cod to maintain supply. There is therefore **significant competition** for cod between EU countries from Iceland and Norway in particular.
- **The main EU-27 clients for UK exports of Tuna** were respectively around **Ireland** (16.7 million £), **France** (1,1 million £), **Poland** (973,000 £) and **Denmark** (960,000 £).
- UK Tuna export to EU-27 depends on imports from third countries.
- The UK production of **scallops** has been continuously growing and now reaches around 28,000 tonnes, and 66 million €, **making UK one of the top producers** in Europe.
- The **majority of UK scallop production is exported to France, Italy and Spain**.
- **France is by far the largest European outlet for scallops** with between 130,000 and 180,000 tonnes consumed per year (in equivalent live weight).
- **UK is the larger producer of Mackerel in the EU with close to 50% of the quotas allocated to Member States**. More than **half** of the UK **Mackerel** production was landed abroad in recent years.

Due to their relative importance from the information above, several markets are studied in this section: Salmon, Cod, Tuna, Mackerel and Scallops.

1.4.1 Salmon

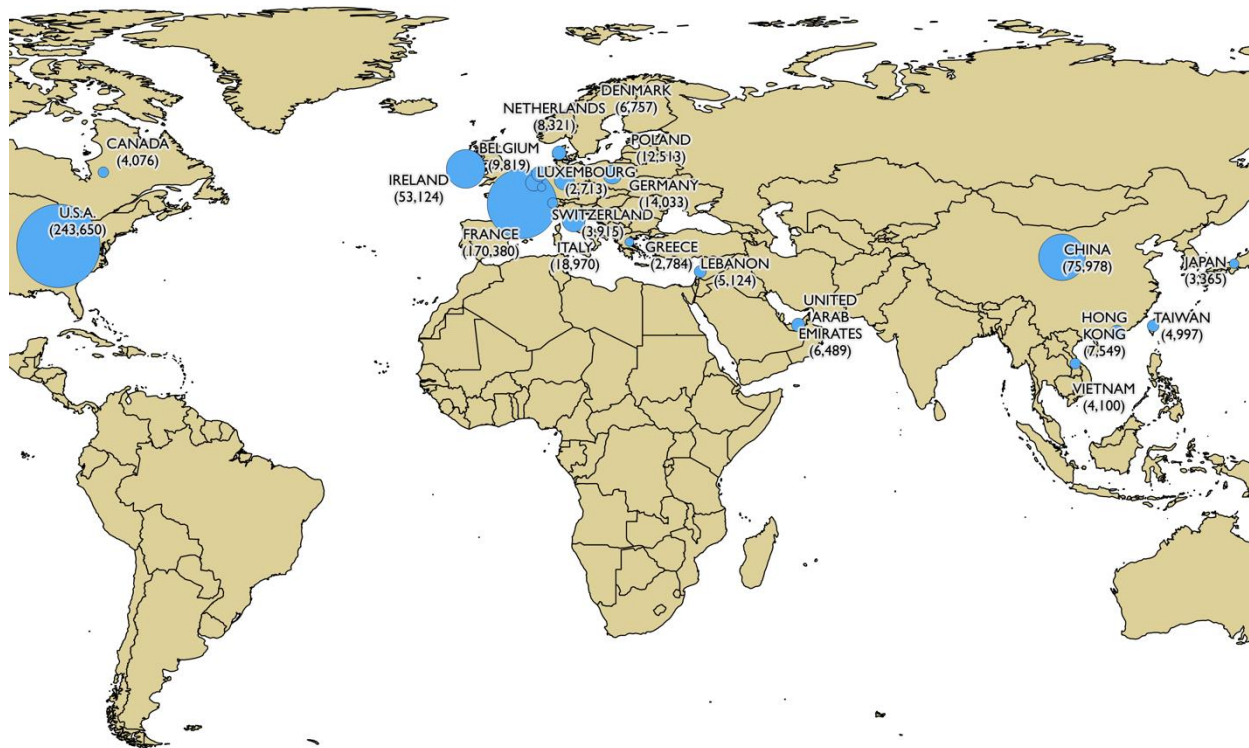
EUMOFA, 2016: SALMON – The **UK is the largest consumer of salmon** products in absolute terms. The UK, together with Spain and France are responsible for 71% of the total fresh consumption value, with EUR 1,05 billion, EUR 502 million and EUR 376 million, respectively. Since 2014, the consumption of salmon has increased in value and volume by 19% and 17%, respectively.

The UK salmon sector is highly concentrated, **with five companies** representing over 93% of the total production, all of them **under foreign control** (four companies controlled by Norwegian interests, one by Canadian interests). The UK salmon production is part of a global salmon supply chain with important flows on both sides: **total imports** represented close to **EUR 459 million** in 2015, with the **total exports** reaching **EUR 674 million**.

UK is importing salmon from northern Europe (Norway through Sweden and Denmark, but also Faroes Islands, although those last imports may be due to Faroese companies using Scottish ports as a hub for their salmon exports to other EU markets), but also North America to meet the needs of its processing sectors (specific quality and price levels).

The UK salmon sector has positioned its product on several premium segments (Label Rouge, PGI, organic production). USA and France account for close to 60% of the UK salmon export in quantities and 71% in value. France is second market after USA. Most of the salmon exported to France is dimmed to be fresh. While the WTO tariff is relatively low for unprocessed product (2%), it can reach 13% for smoked product (tariff escalation, as defined in the 'General information' section; Brexit could thus amplify the drop observed in the salmon market in the recent years, and lead to substitution with other species (e.g. trout)

Figure 15: 20 most important countries for UK exports of salmon in 2015 (values in thousand euros)



Source: map based on Comext Eurostat data.

1.4.2 Cod

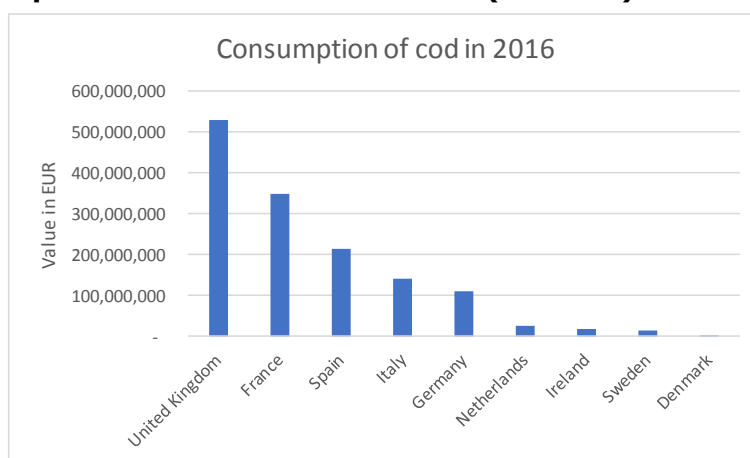
EUMOFA, 2016: Cod is responsible for most of the import value within groundfish at EUR 1,86 billion and 509.000 tonnes, cod accounted for 52% and 43%, respectively, of groundfish imports in 2014. It originated mainly from Norway (37 %), Iceland (27 %) and Russia (16%).

While the value of Norwegian cod imports increased by a substantial 14% in 2013, its price declined 2%. At Member State level, with the decreasing availability of haddock due to plummeting quotas in the Barents Sea (from 400.000 tonnes in 2011 to 178.500 in 2014), cod

has been adopted widely in the UK market, which saw large growth in imports of fresh and frozen, head and gutted cod. In France, the wide availability of cod and especially of fresh cuts ("dos"), which are much in demand among consumers, enlarged the variety of species' market.

Total household purchases of cod amounted to approximately EUR 1,4 billion in 2016. The **UK ranked first in consumption** (EUMOFA, 2017; Figure 16), with over EUR 531 million, followed by France with EUR 349 million, Spain with EUR 216 million and Italy with EUR 143 million. From 2014-16, France increased cod consumption in value by 5% and Spain decreased consumption of cod in value by -6%, and volume by -5% and -14% respectively. **However, the UK significantly increased by 6% and 8%, in value and weight respectively.**

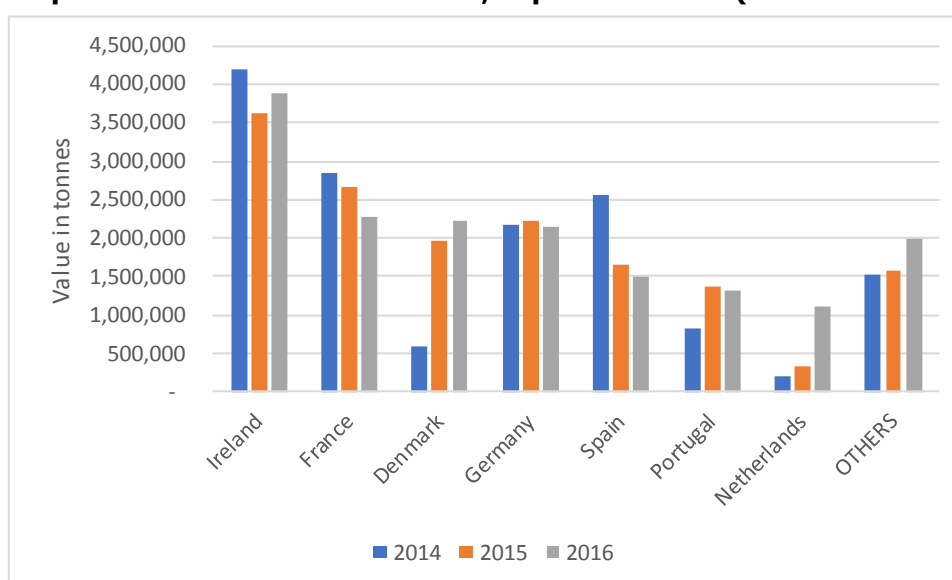
Figure 16: Consumption of cod in the EU in 2016 (in euros)



Source: EUMOFA (2017)

The UK and EU-27 countries rely on imports of cod to maintain supply. However, UK export in the region of 15,000 tonnes to EU-27 countries (at a value of approx. 63m euros) (EUMOFA, 2017; Figure 17 and Table 10 below). This implies some added value through processing as average landing price of cod in the UK is reported to be a little more than 2 euros per kg by UK vessels in 2014. In fact landings by UK vessels are also indicated to be approx. 15,000 tonnes (even if different products form). There is therefore significant **competition for cod between EU countries** from Iceland and Norway in particular.

Figure 17: Exports of cod to ALL countries, top 7 indicated (>1m EUR in 2016)



Source: EUMOFA (2017)

The UK profile for the Cod market can be summarised in the Table 12.

Table 12: Summary of UK cod imports, exports and landings in 2015

	2015		% Change vs 2014		Average £/kg	
	Value £000's	Volume Tonnes	Value	Volume	£/kg	% Change
Total Cod Landings*	£29,485	£15,353	6.0%	9.7%	£1.92	-3.4%
Scotland	£27,149	£13,978	5.0%	8.4%	£1.94	-3.1%
England & Wales	£1,276	£2,138	-30.2%	108.2%	£0.60	-66.5%
Northern Ireland	£86	£51	-36.3%	-31.1%	£1.69	-7.6%
Total Cod Imports**	£439,891	115,321	7.3%	-0.9%	£3.81	8.3%
Iceland	£159,582	31,079	1.4%	-2.9%	£5.13	4.4%
China	£70,990	22,738	6.7%	-8.0%	£3.12	15.9%
Russia	£43,359	12,826	38.3%	26.7%	£3.38	9.2%
Norway	£38,717	13,088	-7.0%	-16.3%	£2.96	11.1%
Germany	£34,369	8,013	23.6%	17.8%	£4.29	4.9%
Total UK Supply	£469,376	130,674	10.3%	1.2%	£2.87	-13.2%
Total UK Cod Exports	£53,094	15,994	0.8%	3.0%	£3.32	-2.1%
Irish Republic	£15,007	3,880	-7.0%	-12.0%	£3.87	5.6%
France	£13,842	2,793	3.1%	-5.2%	£4.96	8.8%
Germany	£8,005	2,276	-6.0%	3.2%	£3.52	-8.9%
Spain	£3,987	1,694	-39.1%	-35.6%	£2.35	-5.5%
Portugal	£2,341	1,348	47.6%	61.9%	£1.74	-8.8%

*Landings into the UK by UK vessels - Live Weight

** Includes foreign vessels landing into the UK

Source: Seafish (2016)

1.4.3 Tuna

According to the Seafish (2016), all the tuna from UK vessels were landed abroad in 2013 and 2014, especially in Spain⁵⁸, with overall Tuna landings from UK vessels reaching 222 tonnes for a value of 549,000 £. At the same time, **the main EU-27 clients for UK exports of Tuna were respectively around Ireland (16.7 million £), France (1,1 million £), Poland (973,000 £) and Denmark (960,000 £)**. Here again, this means that part of the UK Tuna export to EU-27 depends on imports from third countries (mostly Mauritius, Seychelles, Ghana and Thailand), which could be 'reoriented' into EU-27 countries/industries (see Table 13).

⁵⁸ Mostly co-owned

Table 13: UK tuna trade summary in 2014²

	2014			% Change v 2013		
	Value (£000's)	Volume (Tonnes)	£/kg	Value	Volume	£/kg
Total UK Tuna Imports*	£359,239.8	113,178.9	£3.17	-21.1%	-10.0%	-12.3%
Mauritius	£63,318.4	21,209.6	£2.99	-27.4%	-12.2%	-17.3%
Seychelles	£62,509.6	14,848.7	£4.21	-10.8%	-4.9%	-6.2%
Ghana	£41,388.3	11,147.3	£3.71	-14.6%	-12.5%	-2.4%
Thailand	£34,500.1	12,042.2	£2.86	-43.4%	-35.4%	-12.4%
Ecuador	£27,742.4	9,839.9	£2.82	-24.6%	-4.2%	-21.3%
All Others	£129,781.0	44,091.2	£2.94	-14.6%	-0.7%	-14.0%
Total UK Tuna Exports	£26,971.0	7,916.5	£3.41	9.6%	1.1%	8.4%
Irish Republic	£16,683.5	4,564.3	£3.66	1.0%	5.8%	-4.5%
Australia	£1,744.7	244.5	£7.13	1694.2%	3388.1%	-48.6%
France	£1,143.6	815.8	£1.40	414.9%	33.3%	286.4%
Poland	£973.5	660.8	£1.47	-30.7%	-39.7%	15.0%
Denmark	£959.4	57.8	£16.61	959.8%	849.7%	11.6%
All Others	£5,466.3	1,573.3	£3.47	-13.0%	-12.2%	-0.9%

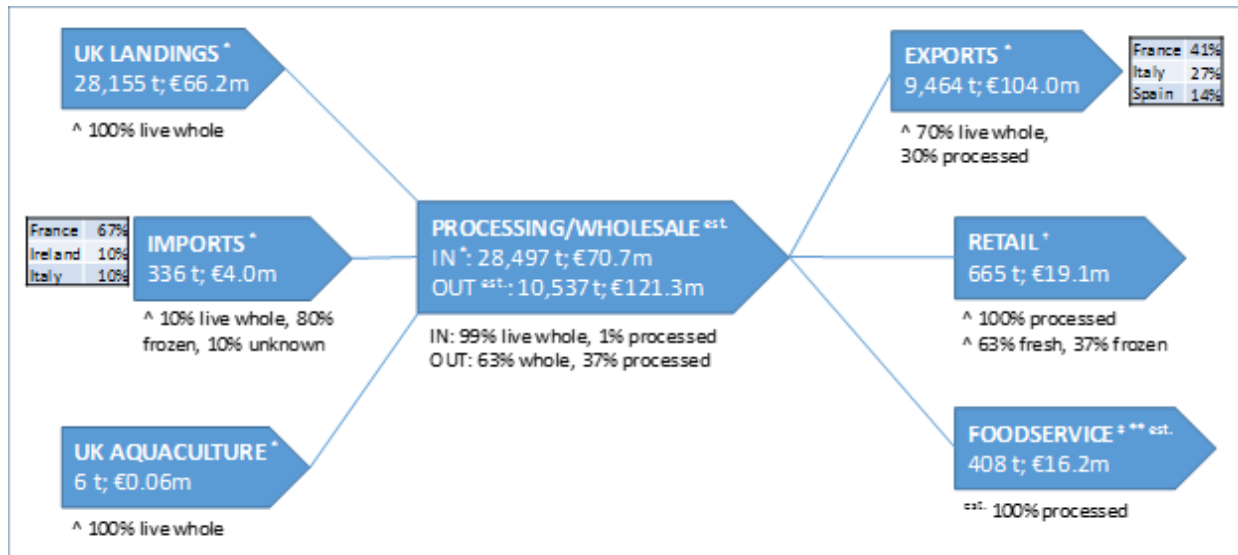
* Includes foreign vessels landing into the UK

¹ Source: MMO UK Sea Fisheries Statistics 2014, FAO Fishery Resources Monitoring System (FIRMS): World Global Tuna Fisheries² Source: HMRC via British Trade Statistics

1.4.4 Scallops

The 'Scallop' market is fully globalised, with production and processing companies being located all over the world (catching or aquaculture sector), with China being by far the biggest producer, before Japan (mostly aquaculture), USA (with over 200,000 tons) South America (mostly Chile, Peru; approx. 75,000 tons) and the Canada (approx. 65,000 tons).

As for the UK production, it is continuously growing and now reaches around 28,000 tonnes, and 66 million €, making the **UK one of the top producers** in Europe. As indicated by estimated consumption in the UK the **majority of UK scallop production is exported to France, Italy and Spain** (see Figure 18). As a result, there are few king scallop imports into the supply chain. Those scallop imports that are reported are thought to be mostly species other than *Pecten maximus* (e.g. scallop imports from the USA and Peru).

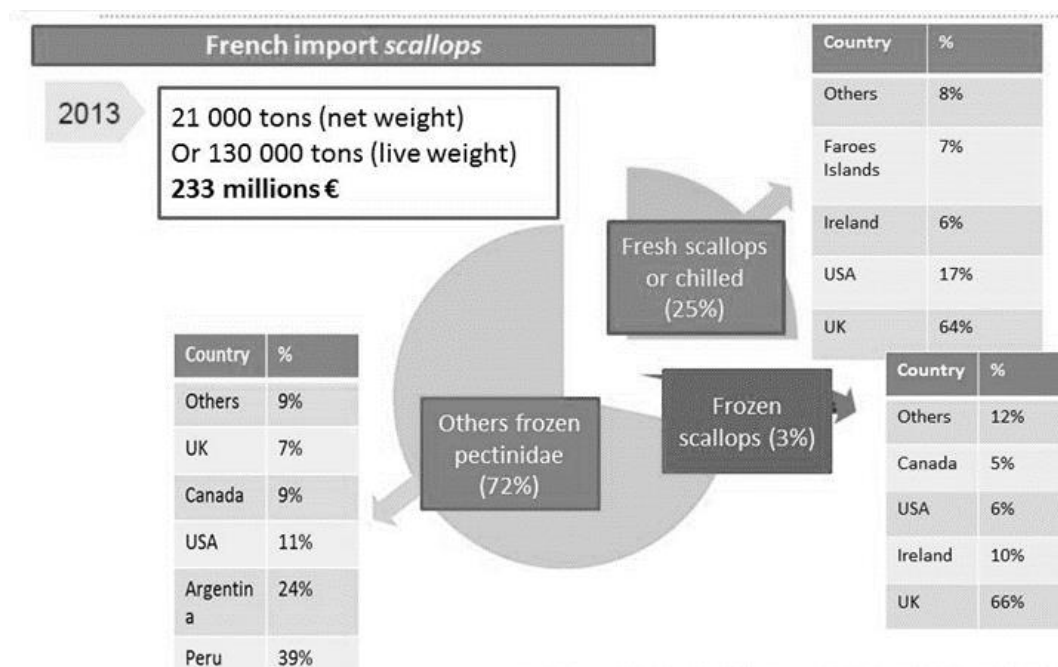
Figure 18: The UK king scallops value-chain

Source: SUCCESS H2020 project with data from * STECF AER (2016); † Seafish Factsheet (2016); ^ James et al (2011); est. =estimated; ‡ Seafish Hyperbook (2016); **Anderson (2015)

Several reports reveal that **France is by far the largest European outlet for scallops** with between 130,000 and 180,000 tonnes consumed per year (in equivalent live weight). Large volumes of imported species enter the French market, to complement domestic landings of *Pecten maximus* (see Scallop value chain in UK) and *Aequipecten opercularis* (a few hundred tonnes per annum). Three categories of commodities are available:

- **Live shell-on** (mainly *Pecten maximus*), distributed in production regions and in large urban centres,
- **Shucked meat, chilled or frozen**, purchased by retailers, the catering and the processing industry,
- **Preparations** such as shucked meat in sauce (<20% to 60% meat, the rest being sauce), sold chilled (Monfort, 2010)

The main imports by categories of commodities are summarised in Figure 19 below, where it can be seen that 64 % of the fresh /chilled scallops imported to France are coming from the UK (same magnitude as for frozen scallops). If other pectinidae (scallop-like species) are taken into account, then it can be observed that they represent around 72% of the total French imports (Live weight Equivalent).

Figure 19: French import scallops and other pectinidae (year 2013)

Source: Douanes françaises, données, 2013. FranceAgriMer – Foreign Trade

1.4.5 Mackerel

The UK is the larger producer of Mackerel in the EU with close to 50% of the quotas allocated to Member States. In recent years, UK production represented also 20% of the total Mackerel production in 2014-2015 (based on ICES Advice 2016, Book 9). Mackerel is also the first species caught by UK vessels in quantity and value for more than 7 years. In recent years, it represented between 20% and 25% of the value landed by UK vessels (DCF data for 2011-2015), for over 30% of the quantities landed in 2014-2015.

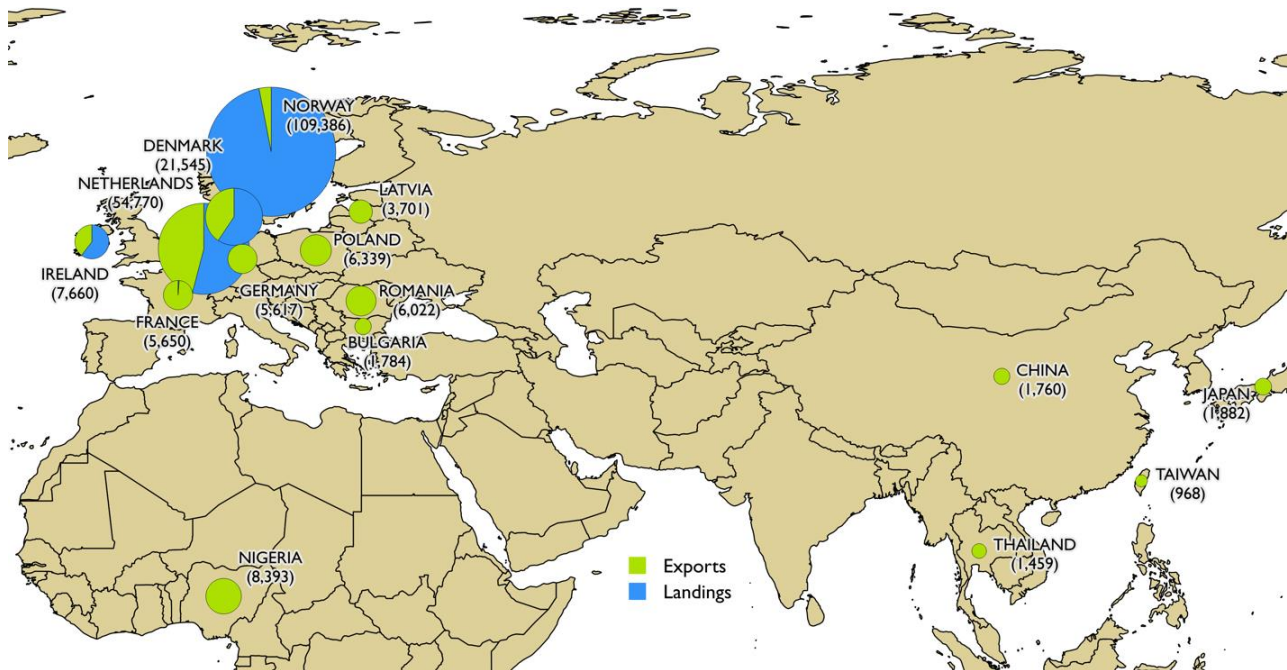
Mackerel is caught by a small group of 27 very efficient large pelagic trawlers (over 40 meters) operating from North East Scotland ports (Peterhead, Fraserburgh and Lerwick). These vessels sell an important share of their catch on a Norwegian online auction while still being at sea. Once the auctioning process is completed, they steam to the port closest to the buyer, which can be situated in the UK, but also in Norway, in Denmark or in the Netherlands. More than half of the UK catch was landed abroad in recent years.

As noted before, the abroad landings are not integrated in the trade databases. Considering them as exports implies that Norway is by far the first destination for the UK-caught mackerel and not the 14th as the trade statistics would show. The top 3 countries, Norway, the Netherlands and Denmark, represented 76% of the value exported in 2015, largely due to landings by the UK vessels in their ports. Trade of mackerel to Russia was representing between 15 and 18 million EUR every year for the UK before the trade embargo. It should also be noted that some of the exports to Netherlands are just transiting through Dutch ports and are not destined to the national market.

Most of the Mackerel catch by EU vessels are concentrated in ICES areas 2a, 4a and 6a. PwC Seafood recently evaluated that a strict reallocation of the catch of the 2011-2014 period to each nation based on EEZ delineations would increase the potential catch of the UK fleet by 80,000 tonnes, compared to the 197,000 tonnes caught on average between 2011 and 2014. Under this assumption, UK would hold close to 70% of the EU share of the mackerel TAC, compared to 50% currently, reducing the available quota for other EU member states (mainly

Ireland, Denmark, the Netherlands and France). **The Brexit could also hinder British vessels to continue to land in Netherland and Denmark and potentially in Norway** if specific agreements are not reached to allow this to happen. This would have a detrimental effect on the processing sector in the Netherland and Denmark, and potentially in Norway too.

Figure 20: 15 most important countries for UK exports of mackerel in 2015 (values in thousand euros)



Source: map based on Comext Eurostat data.

2. POTENTIAL CONSEQUENCES EXPECTED ON TRADE AFTER BREXIT

KEY FINDINGS

- The bulk of **UK imports from EU-27** belongs to the category of **processed products** (PS3 and PS4), which face a higher tariff rate than raw material (and mostly a 10% to 15 % tariff; **tariff escalation**).
- If WTO tariffs were applied to the current trade flows, the UK average weighted **import tariff** would be around **13%**, generating **EUR 169 million additional custom revenues** for the British Government.
- The **Prepared-Preserved category** of products (PS4) would be the most affected, with an additional **tariff cost of around EUR 100 million**.
- As the **UK exports to the EU-27** mostly belong to the category of fresh (PS1) and frozen (PS2) products, the UK average weighted **export tariff** would be around **10.8%**. All things being equal, such a tariff will generate **EUR 150 million additional custom revenues** for the EU-27 and a **cost** of a similar magnitude for the economic agents along the value chain (consumers, traders, processors and/or fishing companies).
- Depending on the type of products, the **structure of the markets** and **the consumption patterns**, the **impacts** on economic agents might strongly **differ**.
- When the markets need to secure the access to some rather non-substitutable products (e.g. UK market for Cod or Southern EU-27 markets for high quality, fresh products such as Sole, Scallops, Norway Lobster), the **additional tariff cost is likely to be passed to the final consumer**, resulting in a **decrease in the consumer surplus**.
- Conversely, for highly competitive products (e.g. fresh Salmon, frozen or fileted whitefish; etc.), the producers might need to reduce their production prices to compensate for the additional tariff costs, which could result in a decrease in the **producer surplus**.

2.1 Static comparative analysis: Applying WTO tariffs to imports and import flows between the UK and EU-27

Currently, due to the free circulation of goods established by **the Maastricht Treaty**, there is **no duty / tax** when a fish landed in the UK is exported to the EU-27 markets. If no agreement is reached further to the Brexit on trade regime, the most likely scenario to occur would be the application of **WTO rules**, as the UK is already a WTO member⁵⁹. This means that any trade flow could be subject to the application of **WTO tariffs**.

WTO tariffs have been negotiated since the establishment of the GATT, in 1947. One of the key WTO concepts is that of the Most Favoured Nation (MFN), which basically means that a country has to apply the same trade regime to all the WTO members. As a result, the current applied tariffs are the MFN ones (and not the original ones). The MFN tariffs used in this Study are the ones available on the **EUMOPA** and DG TRADE databases.

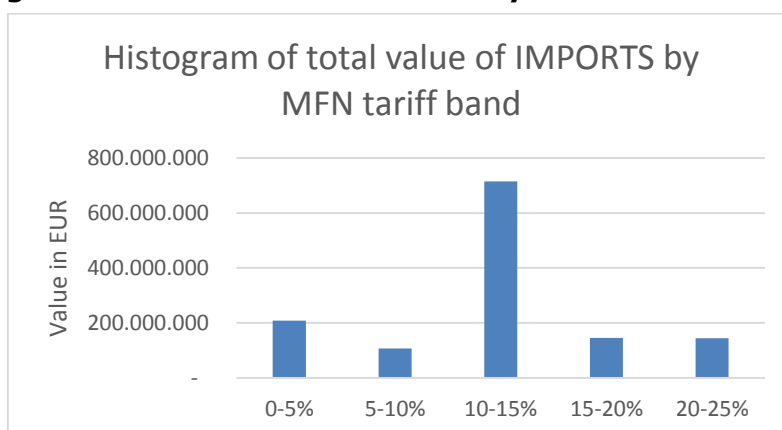
⁵⁹ Although an update 'contract' between UK and WTO needs to be negotiated, as the current one has been signed between the WTO and the EU.

Last, as indicated above, the nature of the trade flows differ from the UK perspective (mostly import of processed goods and export of fresh / frozen goods) and the EU-27 perspective (export of processed goods and imports of unprocessed goods).

2.1.1 UK imports from EU-27

As indicated in the Figure 21 showing the range of MFN tariff applied to UK imports from the EU-27, the bulk of UK imports faces a 10 to 15 % tariff.

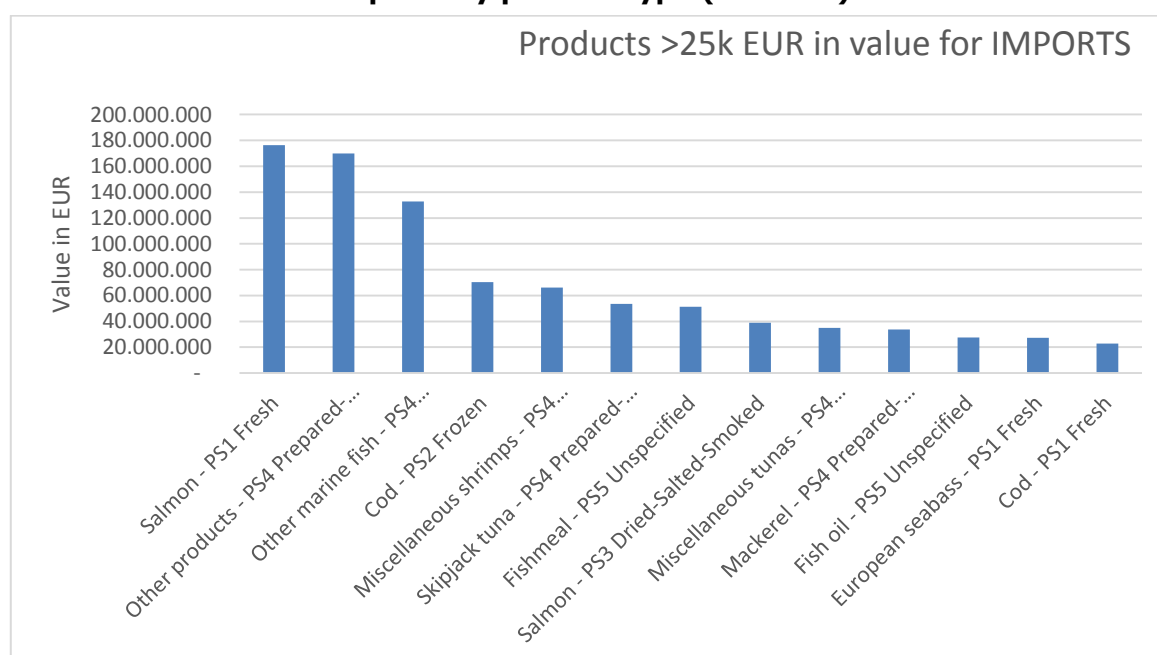
Figure 21: Histogram of total value of IMPORTS by MFN tariff band



Source: EUMOFA (2017)

Unsurprisingly, with the exception of fresh salmon, most of the main products imported (trade flow over 25,000 euros) belong to the PS3 and PS4 categories of the presentation type.

Figure 22: Total value of imports by product type (in euros)



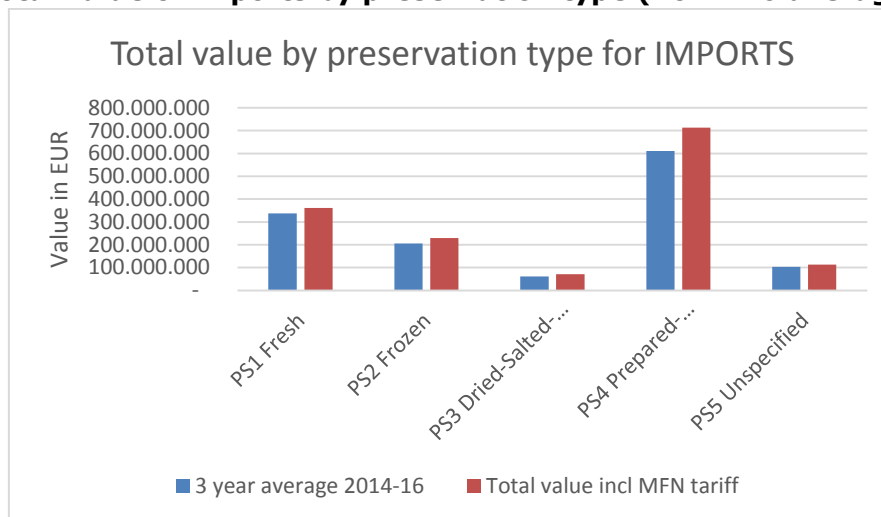
Source: EUMOFA (2017)

As reflected in Table 14 below showing the trade flows by preservation type, **the average weighed import tariff is thus around 13 %**, ranging from 7% for Fresh products to 17% for prepared – preserved products. The difference between free and tariff based trade can also be illustrated on the Figure 26.

Table 14: Summary of imports by preservation type

Preservation type	3 year average (2014-16)	Total value incl MFN tariff	Estimated MFN tariff	average MFN rate
PS1 Fresh	337 079 595	360 861 052	23 781 457	7.1%
PS2 Frozen	205 457 085	228 788 883	23 331 798	11.4%
PS3 Dried-Salted-Smoked	61 734 880	70 642 825	8 907 945	14.4%
PS4 Prepared-Preserved	611 332 972	713 489 810	102 156 838	16.7%
PS5 Unspecified	102 568 793	113 137 122	10 568 329	10.3%
TOTAL	1 318 173 325	1 486 919 692	168 746 367	12.8%

Source: EUMOFA (2017)

Figure 23: Total value of imports by preservation type (2014-16 average value)

Source: EUMOFA (2017)

The **PS4 category** is clearly the most impacted, with an **additional cost of over EUR 100 million**.

This result has several key implications for the UK society:

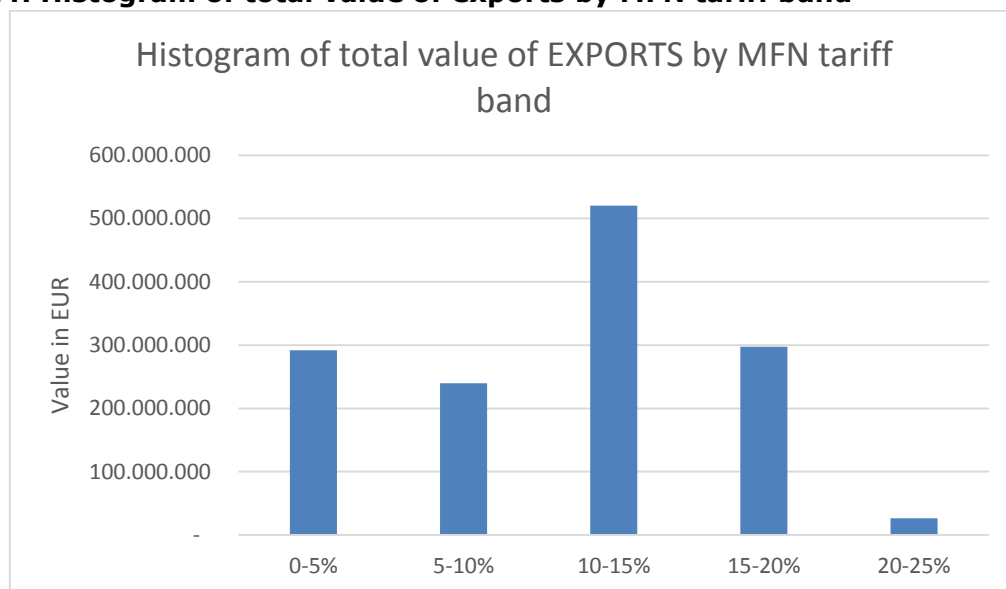
- The **UK Government (HMRC) will collect an additional EUR 169 million tax revenue** from this new trade barrier
- All things being equal, the costs of the imported products are likely to increase by 13% (see discussion below);
 - If the additional cost is passed to the final consumer at the end of the value chain, this will generate a **decrease of the consumer surplus**, which measures the consumer welfare (see the 'General Information' section)
 - In case the consumers are not willing to pay more for the imported goods, then the additional cost might be absorbed by the economic agents along the value-chain (mostly traders and processors – intermediate consumption), which will result in a decrease in their profit margin.
 - Conversely, the **competitiveness** of the **British fisheries and aquaculture producers** compared to foreign exporters is expected to increase, although most of the imported products not really compete on the UK domestic market (mostly salmon and cod)

- According to the mainstream economic theory (see also the General Information section), the new tariff is expected to result in a decrease in the social welfare of the society.

2.1.2 UK Export – EU-27 imports

As for the UK export to EU-27, the situation is more balanced, with 3 of the top five export products being fresh (salmon, scallops and Norway Lobsters; see above Figure 14). As a result, 21% of the trade flows are facing a tariff inferior to 5%, and 17% of the products exported are facing a 5% to 10% tariff (Figure 24 below).

Figure 24: Histogram of total value of exports by MFN tariff band



Source: EUMOFA (2017)

Due to tariff escalation, the average UK weighed export tariff is around 10,8 %, **thus lower than the import one. Based on the current trade flows, the EU-27 is expected to collect around EUR 150 million custom revenues** (see Table 15 and Figure 25). This is likely to impact especially the frozen products, accounting for around a third of the custom revenues, and to lesser extent fresh products, due to the high importance of the trade flow.

Table 15: Summary of exports by preservation type

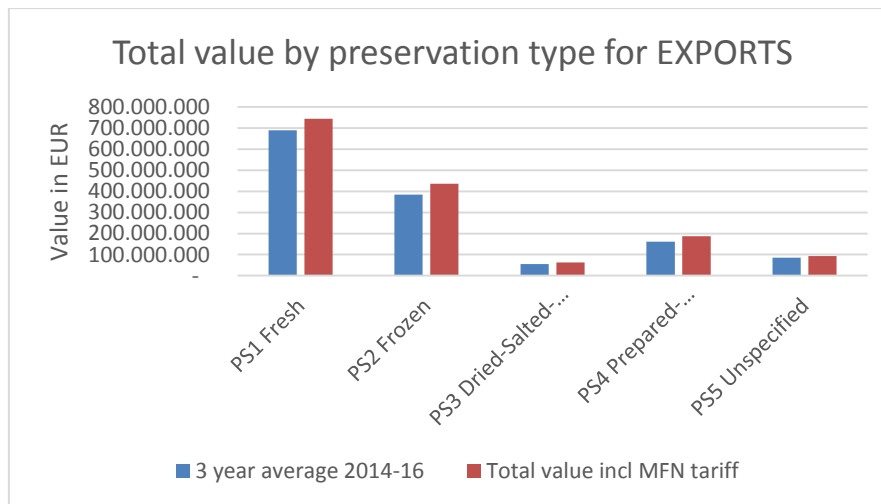
Preservation type	3 year average (2014-16)	Total value incl MFN tariff	Estimated MFN tariff	average MFN rate
PS1 Fresh	689 254 292	744 200 330	54 946 038	8.0%
PS2 Frozen	384 150 232	436 380 034	52 229 802	13.6%
PS3 Dried-Salted-Smoked	55 874 170	63 325 736	7 451 566	13.3%
PS4 Prepared-Preserved	161 354 173	187 531 129	26 176 956	16.2%
PS5 Unspecified	85 423 107	93 723 059	8 299 952	9.7%
TOTAL	1 376 055 974	1 525 160 288	149 104 314	10.8%

Source: EUMOFA (2017)

As for the **UK exports**, the following **impacts are expected**:

- The **cost of the UK exported products** is likely increase.
- The **final EU-27 consumers are expected** to suffer a decrease in the welfare, with a reduction of the consumers' surplus, or the intermediate consumers will suffer a reduction in their profit margin, at least for some products (see the discussion below).
- The **relative competitiveness of UK producers will be reduced**, which could favour some of the EU-27 producers (e.g. in the salmonids sector).

Figure 25: Total value of exports by preservation type (2014-16 average value)



Source: EUMOFA (2017)

Box: who is expected to bear the cost of the trade barrier?

Further to the establishment of trade measures, there might be at **least three possibilities** about the way the **tariff will affect the economic agents**, mostly depending of the 'market power' of the UK producers (i.e. whether they are price-taker or price-maker):

- The first case** concerns the fact that the **EU market** really wants the products from **UK**, and thus will pay for any increase in price due to tariffs (e.g. in the case of no or little substitutes): this will probably apply to scallops (especially Fresh during the spring / summer time, when fishing is closed in France), Norway Lobsters, Lobsters, and other similar high value products (such as Monkfish for instance, which is highly appreciated in France and Spain). However, even in this case, there might be some limits in the price the **final consumer** is willing to pay. The price increase will have then to be supported by other economic agents. It is observed that the landing prices of some high value species (e.g. scallops) are typically lower in the UK than in other EU countries (e.g. France) which may help markets harmonise in some cases.
- In case the EU market** might **not be willing** to pay for the additional cost (e.g. in the case where substitute products exist from other places, including EFTA countries), British exporters might need to lower the nominal prices to compensate for the tariff. If this would occur, the UK fishing companies might need to lower the ex-vessel price to remain competitive)
- In the case the tariff impact** would be too hard on the UK fishing and trading companies, the UK exporters might need to find alternative markets (e.g. when a demand could exist for a price close to the initial one, and in any case when the price difference is lower than the tariff.

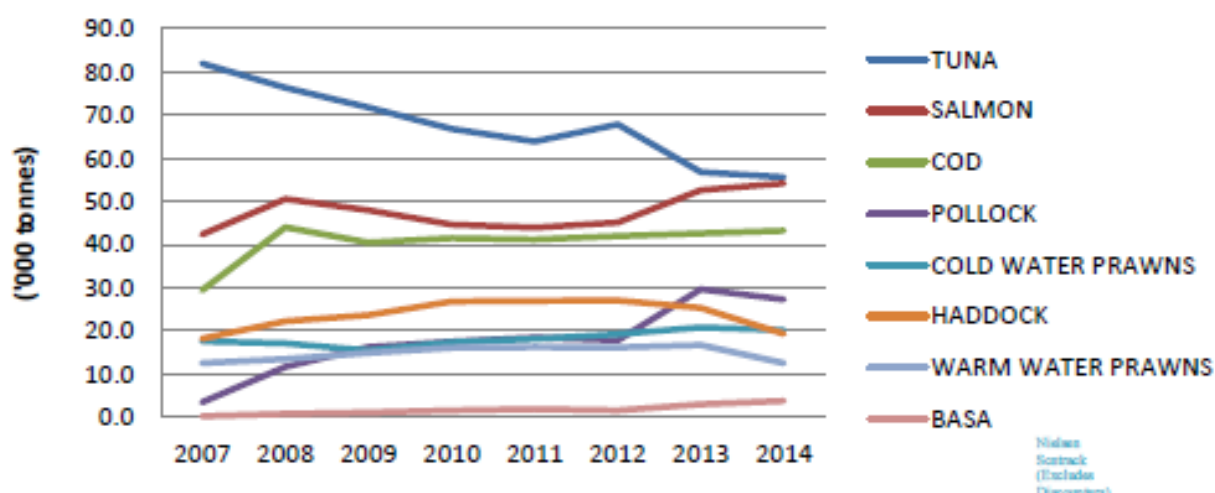
2.2 Discussion 1: Possible changes in trade flows

As mentioned above, a **change in tariff** and in the price of the final product may result in a **change in the structure of the international trade flows**. However, an increase in the price of the product might modify the demand for this good. When economic agents really need to access to a good, they might be willing to pay a higher costs (see below). This is why in this section, some key elements of the UK and EU-27 demand patterns are provided.

2.2.1 UK

In short, among the species of interest for this study, **the UK final consumption demand is particularly strong for Salmon, Tuna, Cod, Pollock, Haddock and cold water prawns. Also, the demand for intermediate consumption (processing) is high for Salmonids and Whitefish (incl. Cod and Haddock) products** (see Figure 26, Table 16 and Figure 27 below)

Figure 26: Post austerity GB retail species consumption



Source: Seafish, 2015 - Seafood Information Fact Sheet: **Seafood Consumption**

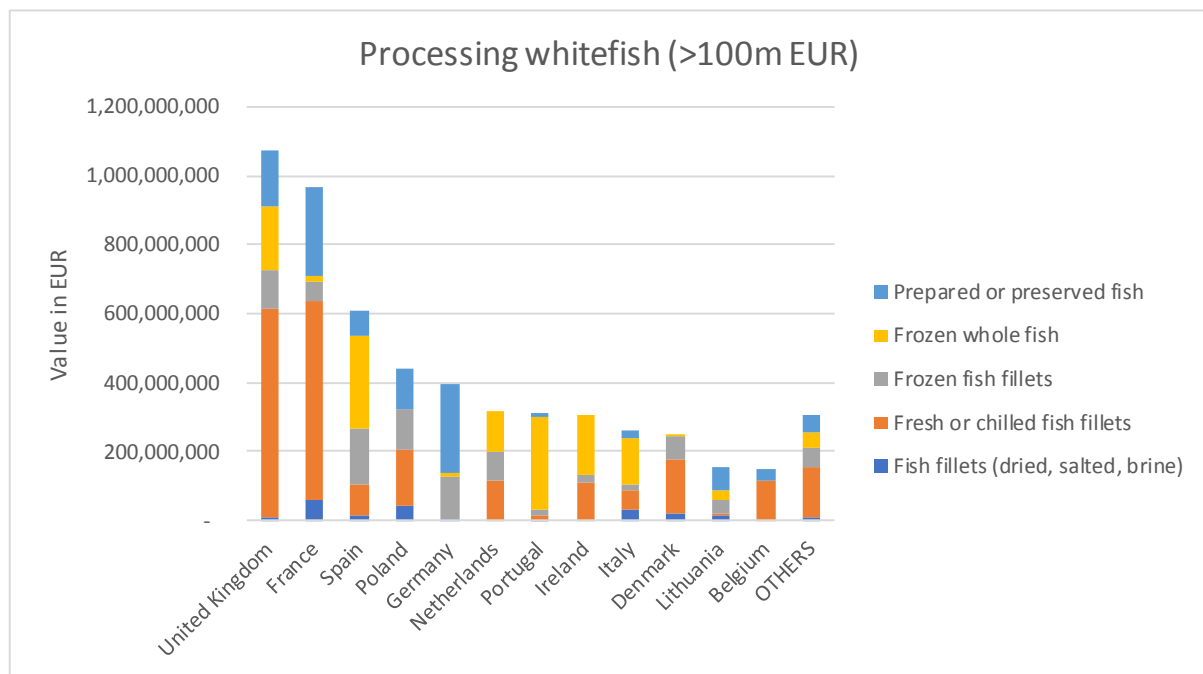
For these categories or seafood products, it can be expected that the final demander (consumer or processing firms) would agree to pay for an additional cost generated by new tariff. **For other species** however, as the demand is fairly lower, it can be expected that the **final demander will not accept to pay for an additional cost**, which means that either the cost will be supported by EU-27 producers (decrease in the price net of the duty) or that the quantity imported will be reduced (which will also result in a loss of consumer surplus).

Table 16: Total UK consumption estimates

	Foodservice consumption (tonnes)*	Retail Consumption (tonnes) ⁺	Estimated Total Consumption (tonnes)
Total Fish/Seafood	152,623	335,995	488,619
Cod	29,466	43,432	72,898
Salmon	20,115	54,163	74,278
Tuna	7,668	55,628	63,296
Fish Fingers	7,668	26,405	34,073
Prawn	7,212	32,735	39,947
Haddock	5,215	19,253	24,468
Crabcake / Fishcake	2,914	16,031	18,945
Salmon (Smoked)	2,784	10,571	13,355
Scampi	2,478	4,351	6,829
Mussels	2,181	3,500	5,681
Trout	1,270	3,194	4,464
Calamari	1,270	592	1,862

*Values Lower than 2400 are on the borderline of statistical robustness (NPD Crest)
⁺Excludes discounters (Nielsen)

Source: Seafish, 2015 - Seafood Information Fact Sheet: **Seafood Consumption**

Figure 27: Processing value by preservation type in 2014 (by euros)

Source: EUMOFA, 2017

2.2.2 EU-27

As mentioned in the Background section, the **EU market is currently one of the three main seafood markets in the world**. Even in the case of Brexit, this means that the **demand** for imported products will still **stay high**, including when products are coming from the UK. **Two** types of **demand** can be considered here. **The first** one relates to the demand for **fresh products** (currently with an import of EUR 689 million from the UK), either for further processing or for final consumption (especially in France, Spain, Italy). As the **WTO tariff duties are the lowest for this category of products**, such trade flows are likely to remain unchanged. **On the other hand**, the EU-27 imports of products belonging to the PS3 (Dried-Salted-Smoked; EUR 56 million from UK) and the PS4 categories (Prepared-preserved; EUR161 million from UK) might be modified, as part of the UK processing factories are indeed depending

on imports (including from EU-27 countries), and could technically be relocated to any place not facing the new WTO duties (including EU-27 and EFTA countries).

2.3 Discussion 2: Full nationalisation of the UK waters

This scenario is based on the following assumption: **all the former EU-27 catches in the UK waters are realised by UK vessels and landed in UK ports**. This means that the **UK** fishing industry will **produce an additional 630,000 tonnes**, worth around EUR 470 million

As a matter of fact, such an assumption is highly **questionable**, especially **in the short term**, at least due to two reasons:

- (a) **The first one** is related to the capacity of the UK companies to catch such additional quantities, both for fish and shellfish species, as well as the capacity of backward agents (auctions, processors).
- (b) **The second one** is related to the capacity to market (fish and shellfish), as such an increase in the production is likely to result in a (ex-vessel) price decrease.

As for the consequences on trade, two different situations could be identified, based on the characteristics of the seafood market in the UK, which tends to be highly 'specialised' / concentrated. For the species for which a **domestic demand exists** (e.g. Cod, Haddock, Shrimp⁶⁰), an increase in the UK production and landing is expected to (at least partly) result in a drop in the imports (substitution between national production and imports). For the species for which the **domestic demand is limited**, an increase in the UK production and landing is expected to result (at least partly) in an increase in the UK exports.

In order to clarify this issue, the current catches realised by EU-27 vessels were described in The Chapter 1, indicating that Herring, Mackerel and other pelagic species are clearly of high importance in terms of quantities (Figure 5). Regarding the point (a) above, this could question the possibility of the UK fleet to produce an additional 400,000 tonnes per year, at least in the very short term.

The situation differs when **considering the other species** which are important in values, such as **Sole, Norway Lobster and Hake** for instance, as the associated quantities are rather low.

Due to the consumption patterns in UK and EU-27, it is likely that these species will be exported from the UK to some EU-27 markets (mostly France, Spain and Italy), then increasing the current export flow. The following species could but especially concerned by this phenomenon (in EUR million euros – 2014 figure: Sole (50 million, mostly to France, as well as 7 million lemon sole), Norway Lobster (30 million), Hake (30 million, Megrims nei (13 million), Scallops (11 million)

The **next question** is about the trade regime to be applied to these potential new trade flows. **In case a free trade agreement is negotiated** after the Brexit, there will be no or **little implication**, at least **in the short term**. If WTO tariffs are applied, all or part of the EUR 500 million new exports could face the average weighed tariff calculated **above (10.8 %)**.

⁶⁰ And Mackerel to some extent

2.4 Discussion 3: The impact on raw material

The impacts regarding the availability of raw material for the seafood / food processing sector are not easy to estimate, depending on the possible scenarios described above. However, some general trends can be identified:

1. A decrease in the catching possibilities of the EU-27 fleet might reduce the quantity of raw material available for EU-27 markets, even if a share of the additional catches by the UK fleet are likely to be exported to EU-27 markets. Some studies estimate a potential loss of raw material for the EU-27 industry of around 7% of the total supply (Salz, 2017; EUFA, 2017).
2. In case of the application of WTO tariffs, part of the raw material imported from the UK market is likely to cost more.
3. The quantities (and costs) of raw material originating from third countries might also be affected, due to the Autonomous tariff quotas regulation, which enable EU importers to pay less tariff than otherwise expected under the WTO rules (see Box below).

Box: Autonomous tariff quotas (ATQ)

According to the European Commission (https://ec.europa.eu/fisheries/commission-proposes-autonomous-tariff-quotas-certain-fish-and-fish-products_en), the ATQ regulation covers a certain number of fisheries products for which, for a limited volume (but up to 50,000 tons per year e.g. for Alaska Pollock), the duty has been suspended or reduced (and for a limited period of time⁶¹). Duty and volume are specific to each product. In principle, ATQs are only granted to products that are imported to be further processed within the EU. The objective of such a policy is to provide the EU processing industry with raw and semi-raw materials. For the current period – 2016-2018, the ATQ regulation covers up to 770,500 tons of fish products per year⁶².

In the context of the Brexit, the ATQs regulation might have some implications:

- In principle, the quotas agreed on by the European Commission are based on the needs from the processing industry of the different EU MS. However, in practice, there is no official system similar to the relative stability one, with a certain share of the ATQ dedicated to a given country.
- This implies that for the time being, it is not clear to know which are the MS markets benefiting the most of ATQs.
- In case of Brexit, this also means that the UK might need to negotiate bilaterally ATQs with other WTO members.

However, as indicated above, the UK imports a large quantity of seafood products not only for final consumption, but also for processing. This is clearly the case for products like Tuna, Cod and Salmon, but it can also apply for other products such as Alaska Pollock. If the access to the raw material and /or the Common Market is more costly or more complicated due to Tariff and Non-Tariff Barriers, some of the globalised companies currently established in the UK could observe a decrease in their competitiveness, which can also have some impacts on the flow of raw material.

⁶¹ The current list of products being established from 1 January 2016 to 31 December 2018

⁶² <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R2265&from=EN>

CONCLUDING REMARKS

The aim of this study is to present a description of (i) the production of fish from UK waters and (ii) bilateral trade between the UK and the EU-27 in different possible scenarios, based on relevant case-studies to understand the expected consequences of Brexit.

Unless a status quo arrangement is agreed, that follows the fundamental principles of the Common Fisheries Policy as well as other EU treaties (e.g. free movement of goods, people and capital), Brexit is likely to impact the current economic balance of fishing, undertaken in the UK and other EU Member States EEZs, and trade of fisheries products between the UK and other Member States.

The majority of key stocks to EU-27 countries are under TAC (Figure 5), exceptions are species like king scallops, crabs, lobsters, squid and John Dory. Management of shared stocks under TACs would no doubt continue. Mackerel and Herring are the two largest stocks in value to EU-27 and are already subjects of other international agreements (e.g. Norway etc) as transboundary stocks. The potential redistribution of effort inside the EU-27 EEZ is not expected to compensate for the loss of important fishing grounds. This would likely result in a direct loss of revenues for these vessels, even though quota available may remain the same. This would also result in a reduction in raw material available on some EU-27 markets. Up to 70% of UK exports are Intra-EU out of a total estimated export value to the UK of approximately 2 billion Euros (MMO, 2015) versus UK landings value of approx 1 billion Euros.

It is estimated that fishing in the UK EEZ by the UK in 2014 created approximately 700 million Euros of landings value in 2015 versus 500 million Euros for other EU Member States (Table 2). The other EU Member States vary in their activity in UK EEZ, from 50% landings value for Belgium to between 20-25% landings value for Denmark, Germany, Netherlands and France (Table 4). The country with greatest exposure in terms of value from fishing and trade is France.

Not only will Brexit impact sea fisheries, it will reduce aquaculture produced seafood in the EU as the UK is estimated to create 21% of total income from aquaculture (AER STECF Aquaculture Economics, 2015), mostly salmon. More generally, demand for seafood in UK and EU-27 markets from UK waters, especially in the short term, is not likely to change much. However depending on the type of product exported to the EU (i.e. fresh or processed) it will affect producer and consumer prices accordingly, which might be somewhat in line with tariffs imposed. For example, the estimated average UK weighted import tariff is 13% and the export tariff is 11%% in the static analysis above (see section 2.1).

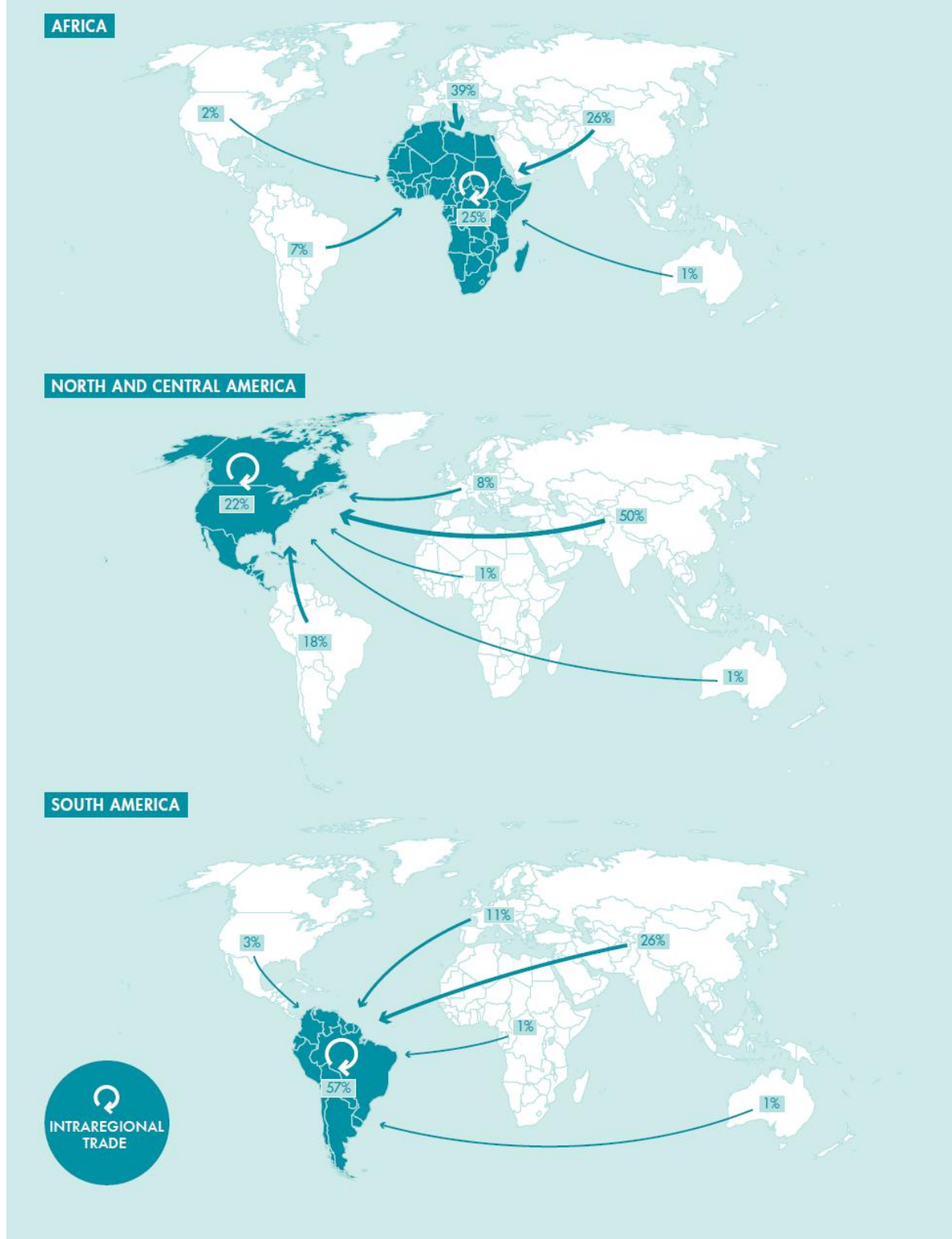
This study highlights some of the difficulties in estimating what might happen but has attempted to make the economics clearer of the UK and EU-27 seafood sectors, particularly with regard to the scale and interactions between UK and EU-27.

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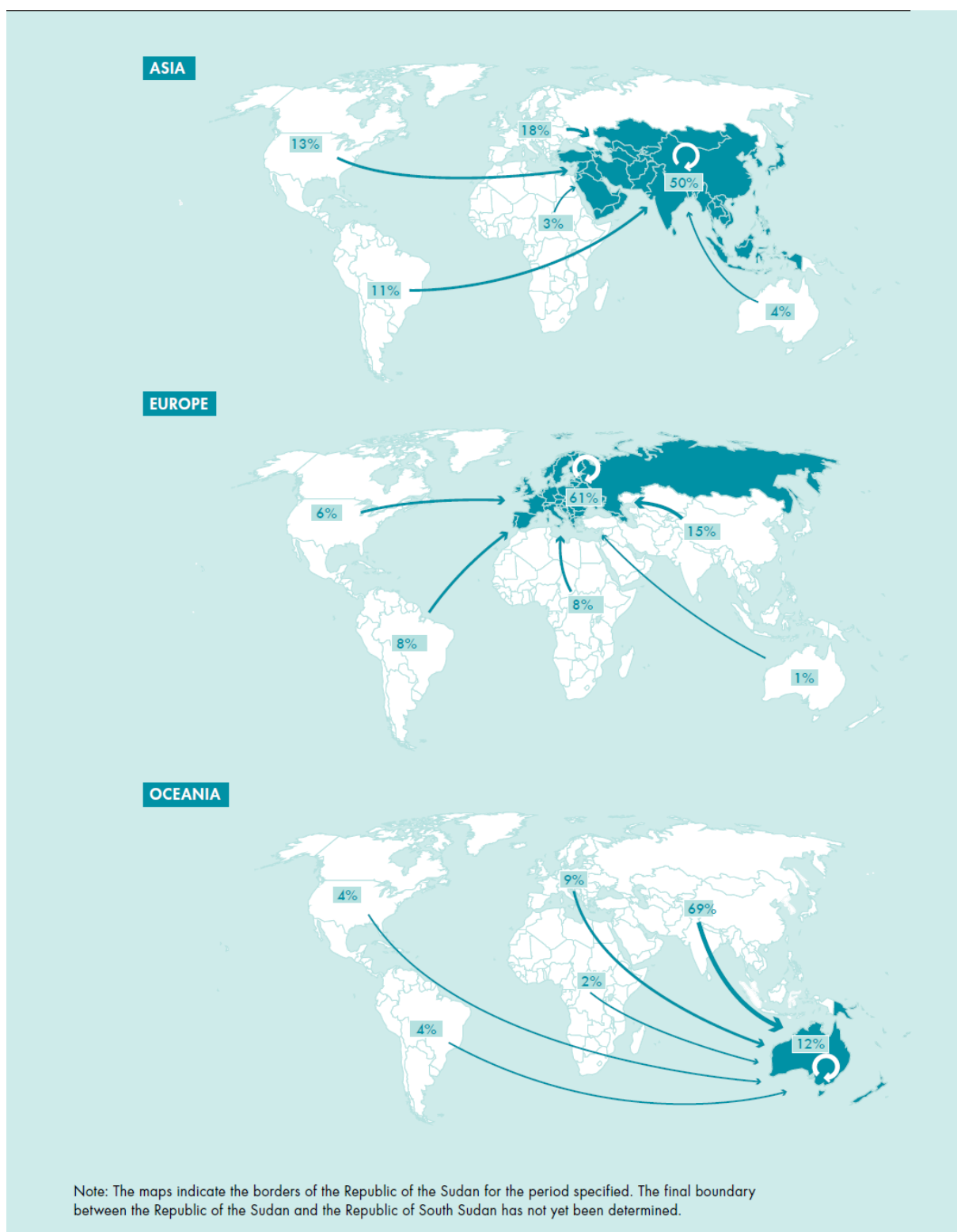
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ANNEX 1: TRADE FLOWS BY CONTINENTS

TRADE FLOWS BY CONTINENT (SHARE OF TOTAL IMPORTS IN VALUE), 2014



Source: FAO, 2016



Source: FAO, 2016

ANNEX 2: UK TRADE (IMPORTS AND EXPORTS) BY TRADING PARTNER AND MAIN SPECIES

Table 17: Import value of fish (& preparations) into the UK by exporting country, 2014 (by value in '000 GBP)

	Cod	Haddock	Mackerel	Salmon	Sardines	Tuna	Other Fish	Total Fish (excl. Shellfish)	Mussels	Shrimps & Prawns	Other Shellfish	Total Shellfish	Total All Fish
Belgium	1	0	-	290	1	108	8 279	8 679	69	6 682	2 123	8 874	17 554
Denmark	29 425	8 592	26 975	16 079	4	801	27 707	109 583	3 509	42 200	9 019	54 729	164 312
France	1 715	1 973	279	4 823	265	11 329	13 653	34 036	398	12 407	14 692	27 497	61 534
Germany	27 811	1 847	6 046	27 962	1 059	566	90 908	156 199	158	8 946	7 144	16 248	172 447
Greece	-	-	-	246	3	92	11 552	11 894	-	0	63	63	11 957
Ireland	1 680	3 790	4 691	3 066	54	4 605	14 236	32 120	633	3 595	15 644	19 872	51 993
Italy	40	-	2	2	46	170	3 420	3 681	3	216	939	1 158	4 839
Netherlands	4 016	215	1 860	1 924	190	6 762	60 592	75 560	945	12 417	2 743	16 106	91 666
Portugal	677	236	3 748	1 108	12 526	7 019	1 854	27 168	-	236	734	969	28 137
Spain	262	185	148	52	649	19 225	16 262	36 782	804	6 859	3 773	11 436	48 218
Sweden	3 615	3 783	616	97 343	-	0	3 600	108 959	-	269	120	389	109 348
Total EU 15	69 242	20 623	44 365	152 913	14 826	50 846	252 261	605 075	6 519	93 829	56 993	157 342	762 417
Total EU 28	82 098	24 140	45 752	168 729	14 841	51 096	303 382	690 038	6 519	93 995	57 241	157 756	847 794
EFTA	225 581	57 338	5339	11 582	-	-	51 537	351 376	24	48 729	1 289	50 042	401 418
OTHERS	102 309	29 621	1449	212 760	18 954	236 367	333 298	934 757	8 544	451 097	92 704	552 344	1 487 101
TOTAL	409 987	111 098	52 540	393 071	33 795	287 463	688 217	1 976 171	15 087	593 821	151 234	760 142	2 736 313

Source: MMO UK (2015)

Table 18: Export value of fish (& preparations) from the UK by importing country, 2014
(by value in '000 GBP)

	Cod	Herring	Mackerel	Saithe	Salmon	Sardines	Other Fish	Total Fish (excl. Shellfish)	Crabs	Mussels	Shrimps & Prawns	Other Shellfish	Total Shellfish	Total All Fish
Belgium	815	2	627	94	13 084	6	3 172	17 799	213	36	4 155	3 271	7 676	25 475
Denmark	510	1 284	8 878	941	4 857	3	2 944	19 417	239	64	3 005	2 304	5 611	25 028
France	13 386	1 008	4 839	5 727	134 303	1 592	54 355	215 211	21 371	226	11 638	116 114	149 349	364 560
Germany	8 489	7 758	5 703	342	18 031	56	8 322	48 701	208	2	14 593	861	15 664	64 365
Greece	2	221	416	-	2 436	1	335	3 409	42	0	1 001	310	1 353	4 762
Ireland	16 145	1 761	2 819	1 019	46 510	1 105	36 463	105 823	2 383	385	17 216	11 769	31 753	137 576
Italy	187	426	126	6	13 828	11	18 435	33 019	1 589	3	5 038	50 210	56 840	89 859
Netherlands	600	9 132	19 376	317	8 256	607	16 135	54 423	716	4 270	4 567	9 467	19 020	73 443
Portugal	1 586	8	1	-	330	4	827	2 756	4 040	1	153	924	5 118	7 874
Spain	6 552	444	481	33	519	190	40 083	48 301	15 568	113	3 664	71 683	91 029	139 330
Sweden	50	13	2 083	89	0	1	3 291	5 528	106	-	851	466	1 423	6 950
Total EU 15	48 408	22 056	45 410	8 566	245 067	3 602	184 993	558 104	46 504	5 144	68 152	267 772	387 572	945 675
Total EU 28	48 971	26 529	66 774	8 585	267 521	3 743	190 122	612 245	46 603	5 170	72 998	271 293	396 064	1 008 309
EFTA	129	-	2 404	3	6 046	1 147	3 426	13 154	316	9	1 263	533	2 122	15 276
OTHERS	3 373	14 142	59 306	20	352 345	2 240	44 181	475 607	9 731	166	1 225	50 033	61 156	536 763
TOTAL	52 472	40 672	128 484	8 608	625 911	7 130	237 730	1 101 007	56 650	5 345	75 486	321 860	459 342	1 560 348

Source: MMO UK (2015)

DIRECTORATE-GENERAL FOR INTERNAL POLICIES
Policy Department for Structural and Cohesion Policies

FISHERIES

**Research for PECH Committee -
Common Fisheries Policy and BREXIT
Resources and Fisheries: a Case Study**

STUDY

Abstract

The aim of this study is to analyse the example of German fisheries in 'North Western waters' and the 'North Sea to describe and discuss potential consequences of Brexit and draw generic conclusions for some the most important principles of the EU Common Fisheries Policy). Brexit will have significant effects on fisheries of 8 MS fishing in UK waters. Main principles of the CFP like relative stability, adoption of technical measures or the implementation of the landing obligation will be affected and likely need to be renegotiated. Additionally, Brexit will affect the scientific research advisory system of the CFP and impact on marine research cooperation, in general.

This document was requested by the European Parliament's Committee on Fisheries.

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Manuscript completed in June 2017
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Please use the following reference to cite this study:

Doering, R. Kempf, A., Belschner, T., Berkenhagen, J., Bernreuther, M., Hentsch, S., Kraus, G., Raetz, H.-J., Rohlf, N., Simons, S., Stransky, C., Ulleweit, J. 2017, Research for PECH Committee – BREXIT Consequences for the Common Fisheries Policy-Resources and Fisheries-a Case Study, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

Please use the following reference for in-text citations:

Doering et al. (2017)

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CONTENTS*

LIST OF ABBREVIATIONS	109
LIST OF TABLES	111
LIST OF FIGURES	112
EXECUTIVE SUMMARY	113
1. INTRODUCTION	117
2. CHARACTERIZATION OF FISHERIES, FISHING EFFORT OF GERMAN VESSELS AND THE DISTRIBUTION OF FISH STOCKS IN THE UK EEZ AND SURROUNDING WATERS	119
2.1 Overview on EU catches in UK waters	121
2.2 Fishing effort, catches and value of landings of German vessels	123
2.3 Quota distribution and dependency on quota swaps of German fisheries	127
2.4 Spatial distribution and management of the key shared stocks according to their biological Cycle	134
2.5 Analysis of trade statistics between Germany and the UK	145
3. ANALYSIS OF EXPECTED CONSEQUENCES ON SOME BASIC PRINCIPLES AND REGULATIONS OF THE CFP	147
3.1 General principles of the CFP TAC-management and distribution of fishing opportunities	148
3.2 Potential consequences for relative stability, the landing obligation and choke species, quota swaps and technical measures	148
3.3 Collection, management and use of data: regional cooperation & funding	151
3.4 Marine research: Cooperation in fishery science and advice	151
CONCLUSIONS FOR EU FISHERIES IN UK WATERS	155
REFERENCES	157

LIST OF ABBREVIATIONS

BLE	Bundesanstalt für Landwirtschaft und Ernährung (Federal Agency for Agriculture and Nutrition)
CCAMLR	The Commission for the Conservation of Antarctic Marine Living Resources
CFP	Common Fisheries Policy
COM	European COMmission
DCF	Data Collection Framework
EC	European Community
EEZ	Economic Exclusive Zone
EMFF	European Marine and Fisheries Fund
EU	European Union
FAO	Food and Agricultural Organisation
FRV	Fisheries Research Vessel
GFCM	General Fisheries Commission for the Mediterranean
IBTS	International Bottom Trawl Survey
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IHLS	International Herring Larvae Surveys
JRC	Joint Research Center
MFV	Motor Fisheries Vessel
MIK	Midwater Isaac Kitts trawl survey
MM	Millimeter
MPA	Marine Protected Area
MS	Member State
MSY	Maximum Sustainable Yield
NAFO	North Atlantic Fisheries Organisation
NASCO	North Atlantic Salmon Conservation Organisation
NEA	North East Atlantic
NEAFC	North East Atlantic Fisheries Commission
NS	North Sea
NSAS	North Sea Autumn Spawner
NWW	North Western Waters
RCG	Regional Coordination Group (DCF)
RCM	Regional Coordination Meeting (DCF)
STECF	Scientific, Technical and Economic Committee for Fisheries

SWC	South West Channel
TAC	Total Allowable Catch
TFEU	Treaty on the Functioning of the European Union
TL	Total Length
UNCLOS	United Nations Convention on the Law of the Sea
UK	United Kingdom
WGMEGS	The Working Group on Mackerel and Horse Mackerel Egg Surveys
WKWIDE	Working Group on Widely Distributed Stocks

LIST OF TABLES

Table 2.1 Average estimated landings value (million Pound) from UK EEZ by EU-8 MS and the UK for 2012-2014 (Napier, 2016)	121
Table 2.2 Average estimated catch (thousand tonnes) from UK EEZ by EU-8 MS and the UK for 2012-2014 (Napier, 2016)	122
Table 2.3 Estimated average value of catches (million euros) from UK EEZ by EU-8 MS for 2012-2014	122
Table 2.4 Share of total effective effort (hours fished) spent inside the UK EEZ in each of the years 2011-2015	125
Table 2.5 German weight of landings and of top 10 species from UK waters in tonnes 2011-2015	126
Table 2.6 German value of landings and 10 Top species from UK waters in € 2011-2015	127
Table 2.7 Annual TAC and national quotas ¹ (tonnes) for industrial fisheries by management unit ² in 2017	128
Table 2.8 Annual TAC and national quotas ¹ (tonnes) for demersal fisheries by management unit ² in 2017	129
Table 2.9 Annual TAC and national quotas ¹ (tonnes) for pelagic fisheries by management unit ² in 2017	130
Table 2.10 Annual TAC and national quotas ¹ (tonnes) for deep sea fisheries by management unit ² in 2017	130
Table 2.11 Quota distribution ¹ for anglerfish in three ICES areas for 2017	131
Table 2.12 Quota distribution ¹ for saithe in two ICES areas for 2017	131
Table 2.13 Quota distribution for herring in six ICES areas for 2017	132
Table 2.14 Quota distribution for mackerel in two ICES areas for 2017	132
Table 2.15 Quota swaps ¹ from Germany to UK (tonnes) for 2011-2017	133
Table 2.16 Quota swaps ¹ from UK to Germany (tonnes) for 2011-2017	134
Table 2.17 Trade ¹ between Germany and the UK: Main species groups, weight and value for 2015	146

LIST OF FIGURES

Figure 2.1 British EEZ and FAO Divisions	120
Figure 2.2 Average distribution of German effective effort (hours fished) by ICES statistical rectangle and gear category for 2011-2015	124
Figure 2.3 Sum of 2011-2015 German landings by ICES statistical rectangle from important shared stocks	126
Figure 2.4 Average annual catch rate (number per hour fishing) for juvenile (<35cm) and adult (≥35cm) saithe in the NS-IBTS and SWC-IBTS survey, 2011-2015	136
Figure 2.5 Landings per ICES statistical rectangle from EU countries in the years 2011 to 2015 (sum over years)	136
Figure 2.6 Map of the northern continental shelf around the British Isles anglerfish survey areas in 2011, shaded according to the survey strata as indicated in the legend	137
Figure 2.7 Commercial herring catches (tonnes) taken by EU fleets as sum over 2011-2015	139
Figure 2.8 Summed abundance of newly hatched herring larvae (< 10 mm TL) at spawning grounds of NSAS herring 2011-2015	139
Figure 2.9 Summed abundance of 0-wintering herring larvae in the North Sea in 2011-2015	140
Figure 2.10 Summed commercial mackerel catches (tonnes) taken by EU fleets for 2011-2015	143
Figure 2.11 Mean egg production (stage 1 eggs/m ² /day) by half ICES rectangle for all MEGS stations in 2013	144
Figure 2.12 UK seafood imports and exports composition by type and origins/destination: shares in value (STECF 2014)	145
Figure 2.13 Seafood trade balance (volume and value) of the UK (STECF, 2014)	145
Figure 2.14 Top 10 UK seafood trade partner countries, 2012 (STECF 2014)	146

EXECUTIVE SUMMARY

In this study we discuss potential consequences of Brexit on some of the most important principles of the EU Common Fisheries Policy (CFP) and analyse data from **German fisheries** as a demonstration **case**.

In the first part basic information on the fisheries of the **8 EU Member States (MS)** fishing in the British Exclusive Economic Zone (EEZ) of the **North Sea (NS)** and of **North Western Waters (NWW)** is provided. This general overview is followed by a more detailed analysis of **fishing effort** and **landings of German fleets** fishing inside the UK EEZ. Potential consequences of changes in quota distribution for German fisheries and the whole EU fleet after Brexit are described. Mapping of the spatial distribution of four important species for German fishing fleets (**saithe, anglerfish, herring and mackerel**) within and around the UK EEZ is carried out as a basis for a discussion of possibilities to compensate potential catch losses inside UK waters by catches outside those areas. Those maps are distinguishing the life cycle between adult and young fish stages, as the claim of the UK for higher fishing opportunities may rest on the assumption that some stocks are principally resident in UK waters and that the **EU relative stability** key for the UK share does not reflect this adequately.

In the second part of the study we analyse the situation between **Norway and EU** as an example of how the management of shared stocks based on zonal attachment could be a model for a tri-lateral agreement between the EU, Norway and the UK after Brexit. The study is rounded up by looking into more general consequences of Brexit on existing management tools and regulations of the CFP as well as its **impact** on **data collection** and **marine research**. There is a lot of cooperation in research developed over a long period of time (including the data collection framework and the EU Framework Research Programs (currently Horizon 2020)).

The analysis of the quantity and spatial distribution of the catches and effort of the German and EU fleets and corresponding economic data regarding consequences of Brexit yielded the following key findings:

- Eight EU MS (EU-8) perform fisheries in the **British EEZ** and catch more than 40% of the value of landings from that area. The fleets of **France, Ireland, The Netherlands** and **Denmark** are the main contributors, accounting for **about 80%** of that share. The fleets of **Belgium, Germany, Spain and Sweden** are fishing the rest. **Belgium, Ireland, Germany, the Netherlands and Denmark** generate **about 20-40%** of their total value of catches in the British EEZ.
- For the **German fleet** British waters are of major relevance: **28%** of the **weight** and **17%** of landings originate from inside the UK EEZ (2011-2015 average), showing an increasing trend over the last years.
- The most important species caught in the **British EEZ** are **pelagic species**, such as herring (*Clupea harengus*), mackerel (*Scomber scombrus*), horse mackerel (*Trachurus trachurus*), blue whiting (*Micromesistius poutassou*), sandeel (*Ammodytes marinus*), and Norway pout (*Trisopterus esmarkii*). These pelagic fisheries are performed by all EU-8 fleets except Belgium. Of the demersal species flatfish (common sole (*Solea solea*), plaice (*Pleuronectes platessa*)), roundfish (hake (*Merluccius merluccius*), saithe (*Pollachius virens*)), anglerfish (*Lophius piscatorius* and *Lophius budegassa*) and Norway lobster (*Nephrops norvegicus*) are the main species. For the German fleet high shares of total effort inside the UK EEZ were only observed for pelagic trawls fishing mainly for herring, mackerel and horse mackerel as well as for blue whiting. Important fishing grounds for

the pelagic fisheries are located in the **NS and in the waters west of Scotland, west of Ireland** and in the **English Channel**.

- **Herring and mackerel** were chosen as **examples** to describe the **stock distributions** for pelagic species. EU landings of herring and mackerel amount to several 100 000 tonnes each year and form the most important resource exploited within the pelagic sector. Both species have a complex population structure and exhibit long spawning and feeding migrations. The majority of EU catches of both species are taken within the boundaries of the UK EEZ. Given the monitored fish and catch distribution of the last five years, it seems unlikely that e.g. the German pelagic fleet would be able to fish their current Total Allowable Catches (TACs) for North Sea herring and Atlantic Mackerel completely outside UK waters.
- Between **2011 and 2015** the only **German demersal fishery** that depended to a larger extent on the waters inside the UK EEZ was the fishery for **anglerfish** with static gears in the northern North Sea and west of Scotland and the fisheries for **saithe** with large meshed otter trawls. For the German demersal fishing fleet it is unlikely that they can utilise the current anglerfish quota entirely outside the UK EEZ given the distribution of anglerfish stocks around the British Islands. Regarding saithe dependencies on UK waters are less and a large part of the stock can be fished outside UK waters.
- The **UK** holds relatively **large shares** of quotas within the **EU system of quotas**, i.e. 14% in industrial fisheries, 33% in demersal fisheries, 34% in pelagic and 11% in deep sea fisheries. In contrast Germany holds much smaller shares: 4% (industrial fisheries), 7% (demersal fisheries), 9% (pelagic fisheries) and 1% (deep sea fisheries), respectively. The EU and UK share in total **132 management units** (defined as a fish species within a specific geographical region) not only in **EU waters** but also in the waters of **third countries**.
- Within the EU's system of fisheries management, Germany engages in substantial **quota swaps** with the UK. The data available for the study however do not reveal to what extent the German fleet depends on quota swaps with the UK since the data neither reveal the motivation of quota swaps nor alternative opportunities for quota swaps with other EU member states.
- The **UK exports** fish products of about 105 million euros to Germany, while it **imports** products of about 230 million euros **from Germany**. Those German exports comprise to a large extent processed products, such as fish fingers and breaded fillets made from raw material of Pacific origin (Alaska Pollock (*Theragra chalcogramma*), Pacific cod (*Gadus macrocephalus*)) or smoked, filleted or frozen salmon (*Salmo salar*) from raw material which is imported as well. Of the German catches only cod (*Gadus morhua*) is of major importance for exports to the UK. Most British exports are based on salmon which is to some extent caught or grown within the UK. German imports of herring and mackerel exceed the exports of these species. Extending the scope to EU trade illustrates that the EU is the main export market for UK fish products. Five of the six most important **UK export markets** for fish products (**France, Ireland, Spain, Germany, The Netherlands**) perform fishing activities in UK waters. France is by far the most important British export market (about 350 million euros).

The following **key findings** were obtained regarding the expected consequences of the Brexit on basic principles and regulations of the CFP:

- EU fisheries management mainly relies on catch limitations (TACs), which are divided into national quotas for the MS. **In 1983** the distribution of **fishing opportunities** among MS was fixed mainly according to historical catches. This distribution has not been changed ever since. This approach is referred to as the **"principle of relative stability"**,

i.e. **TACs** are **changed each** year but **national shares** are **not**. It is obvious that the principle of relative stability in sharing fishing opportunities does not reflect recent national fishing strategies in many cases, due to **dynamics in the self-sustained stocks** (also caused by **climate change**) and **economic markets**. Brexit could lead to worse conditions for quota swaps used to circumvent shortage in national quotas caused by the relative stability principle. The exchange of quota with the UK could become more complicated (as Britain will become a third country) with severe negative consequences for some parts of the EU but also for British fleets. Therefore, **Brexit** may challenge this system and the principle of relative stability, if the UK rejects the current **distribution of fishing opportunities** according to **historical catches**.

- The examples analysed in the study have revealed that **commercially important fish stocks** are distributed to a large extent **in UK** waters. Therefore, UK could be in favour of distributing **fishing opportunities** according to **"zonal attachment"**, i.e. the distribution of fish stocks across the EEZs of the EU and UK (as opposed to historical catches).
- Depending on the decision during Brexit negotiations on quota distributions, the remaining shares of the EU may have different effects on involved MS. MS do not hold the same percentage of the quota for each stock. Therefore, **changes** in the overall quota will **affect MS differently**. That could be a reason for a discussion on relative stability also for the remaining MS. This will raise the question whether the **internal distribution key of the EU needs to be renegotiated**. Considering that the negotiation of the original distribution key applied from 1983 onwards took six years, such a renegotiation is expected to be extremely difficult.
- The introduction of the **landing obligation** has amplified the problem of changes in catch composition and fishing opportunities, as the possibility to discard catches of species for which quotas are either fished out or not available at all to a MS has been severely reduced. To be able to carry on fishing already today exchange of quotas within a country and quota swaps between countries is required. The magnitude of this problem will further increase as an effect of the full implementation of the landing obligation and could become even more severe after Brexit.
- The **EU's** fisheries relations with **Norway** provide an example of EU fisheries relations with non-EU MS and thus a possible scenario for the relationship between the EU and the UK after Brexit. Annual negotiations on fisheries matters are held between the EU and Norway in which the **management of joint stocks** and **mutual access** to stocks occurring in the EEZs of the two parties are regulated. In the relationship between the EU and Norway, conflicts have arisen especially regarding the distribution of fishing opportunities, the application of long-term management plans and the regulation of discarding. Similar conflicts are likely to arise in the relationship between the UK and EU.
- The history of **the CFP** is characterised by continued reforms and amendments regarding the **technical measures**, i.e. a broad set of rules, which govern how, where and when fishermen may fish. Experiences have shown that **non-EU countries**, such as Norway, had and have a high impact on technical regulations. Difficult negotiations with the UK regarding suitable technical measures for joint sustainable exploitation strategies can be foreseen in cases where UK fisheries are impacted disproportionately high (e.g., fisheries for Nephrops, haddock, whiting and cod).

Regarding **regional cooperation in fishery science**, advice and data collection the UK is an essential partner. Due to Brexit the following main fields of collaboration might be impacted:

- **The UK** is an important partner in the **collection, management and use of data** from the fisheries sector under the Data Collection Framework (DCF) co-funded by the EU. It

is unpredictable if the UK will continue the data collection on the same level in the future on national funding only. This refers to the **biological sampling** of **commercial** and **recreational catches**, research surveys-at-sea, economic and social data collection, and regional coordination of sampling activities within the shared fishing regions.

- As a result of the highly efficient work-sharing of the **European science** and **advisory system**, the important role of UK experts within this system, plus the significant contribution of funds from UK into the European fishery science and advisory system, any change to the present set-up in response to Brexit would very likely yield extremely negative consequences for the performance and quality of European fisheries research and advice.

1. Introduction

Before the UK referendum on Brexit, fisheries policy was a major argument of the 'leave' campaign. The narrative was that leaving the EU means getting rid of the CFP, reclaiming exclusive resource use rights in the British EEZ and in consequence increasing the fishing opportunities for British vessels.

Therefore, several studies analysing background information about EU vessels fishing in UK waters and about UK vessels fishing in EEZs of the remaining European MS were already published. The early studies mostly assessed the catches and value of landings of EU vessels in the UK EEZ and of UK vessels in EEZs of other EU countries (e.g. Napier (2016)). However, until today there are not many analyses available about the potential Brexit consequences on the basic policy instruments of the CFP. In this study, we use **Germany** as an **example** to discuss possible consequences on e.g. **relative stability, fishing opportunities** for several stocks and **the landing obligation**.

In the first part of the study, we provide **basic information** on the fisheries of the 8 remaining EU MS with fishing interests in the UK EEZ of the NS and NWW. Since this has already been analysed in several studies, we keep this chapter rather short and refer to (Napier, 2016) for the general overview.

Catches and landings of the German fleet are analysed in more detail and we describe how changes in quota distribution would affect catches and revenues of EU fleets based on spatially resolved information on the abundance of four key species (saithe, anglerfish, herring and mackerel) for the German fishery in and around the UK EEZ. In this analysis we distinguish between juvenile stages and adult fish. The claim of the UK for higher fishing opportunities may rest on the assumption that some stocks spend their entire life-cycle more or less exclusively in UK waters and that the EU relative stability key with a UK share does not reflect this properly. Therefore, we describe the current situation between Norway and the EU and draw conclusions from that example, as the **EU - Norway** agreements on the management of shared stocks could be a possible model for new **tri-lateral agreements** between the EU, Norway and the UK after Brexit.

Further, we analyse potential **Brexit consequences** on some of the existing CFP **management principles** and tools and discuss consequences for **marine research**. The UK has a long history of excellence and leadership in fisheries research and has cooperated for more than a century with other European countries - for example under the auspices of the International Council for the Exploration of the Sea (ICES). Recently, there has been a lot of cooperation and interdependency in research and monitoring within the EU data collection framework (DCF) and within large scale cooperative research projects in the EU Framework Research Programs (presently Horizon 2020⁶³), which might severely be impacted by Brexit.

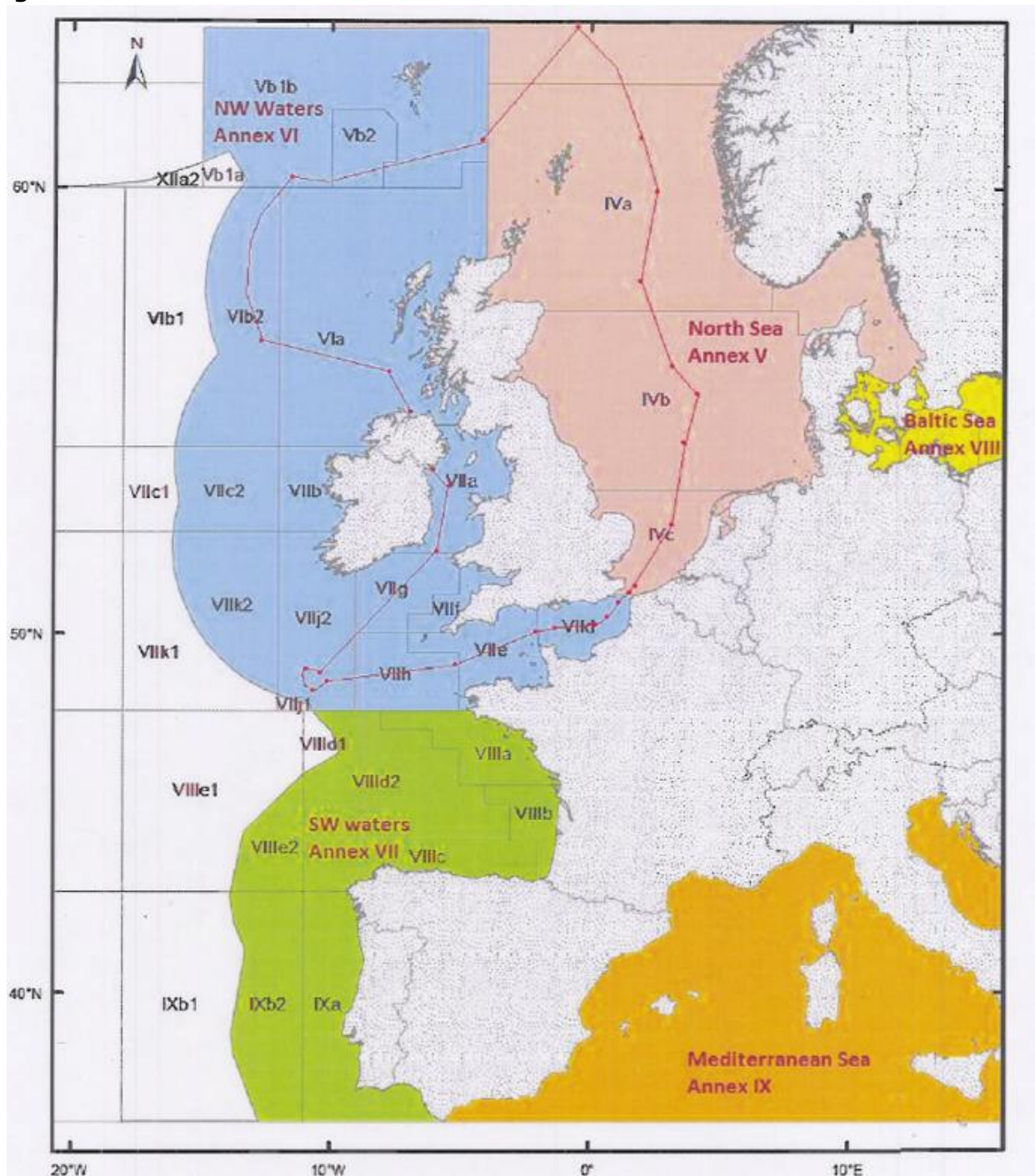
⁶³ See <https://ec.europa.eu/programmes/horizon2020/>

2. Characterization of fisheries, fishing effort of German vessels and the distribution of fish stocks in the UK EEZ and surrounding waters

KEY FINDINGS

- **Eight EU MS (EU-8)** perform fisheries in the British EEZ and catch more than 40% of the value of landings from that area. They catch more fish inside the UK EEZ than UK vessels catch in the EEZs of the 8 MS.
- For the **German fleet** 28% of the weight and 17% of the value of landings originate from inside the UK EEZ (2011-2015 average), showing an increasing trend over the last years.
- The most important species caught in the UK EEZ are pelagic species (herring, mackerel, blue whiting, sandeel, and Norway pout). Of the demersal species flatfish (common sole, plaice), roundfish (hake and saithe), anglerfish and Norway lobster are the main species.
- The main issue for the **German** fishing fleets will be whether the **pelagic fleet** will still have access to UK waters after Brexit and if so, how much quota of small pelagic fish can still be taken in the UK EEZ. The only German **demersal fishery** that depends to a larger extent on the waters inside the UK EEZ is the fishery for anglerfish. For saithe dependencies on UK waters are less and a large part of the stock can be fished outside UK waters.
- The **UK** holds relatively **large shares** of quotas within the EU system of quotas, i.e. 14% in industrial fisheries, 33% in demersal fisheries, 34% in pelagic and 11% in deep sea fisheries.
- Within the EU's system of fisheries management, Germany engages in substantial **quota swaps** with the UK. The data used in this study however neither reveal the motivation of quota swaps nor alternative opportunities for quota swaps with other EU member states.
- The **EU** is the **main export market** for **UK** fish products. Five of the six most important UK export markets for fish products perform fishing activities in UK waters. The UK exports fish products of about 105 million euros to Germany, while it imports products worth about 230 million euros from Germany. In case the UK no longer participates in the common European market this **may increase costs** for **EU** products to be exported to the UK and may also increase costs for imports from the UK.

The UK EEZ covers large parts of the North Sea and North Western Waters (see Figure 2.1). Information about the fleets fishing in these areas is available from the Data Collection Framework of the EU (e.g. the Annual Economic Report by STECF (2016)). These data were used as a basis to assess catches and value of landings of 8 EU MS fishing within UK waters and the UK fleet fishing in EU waters.

Figure 2.1: ICES zones with UK EEZSource: European Parliament⁶⁴

So far, all studies conducted have shown that the UK EEZ is a very important fishing area for the EU MS. As catches by country and EEZ have been already analysed in former studies, we provide an overview based on one of these studies (Napier, 2016). As more detailed data from **logbooks and sales** slips were only available for German fisheries, we use Germany as a case study to conduct an in-depth analysis on the structure of the **German fisheries** in UK waters. The first step was to plot the effort and landings of the German fleet **within** and **outside** of the

⁶⁴ In this study most of the figures and tables were produced by using available data within the database of the Thünen-Institute of Sea Fisheries (own data) from the Joint Research Centre of the EU (publically available data) or name the EU regulations from which the data is retrieved (e.g. for quota distribution). We, therefore, add a source only in case the table or figure was reproduced from other studies etc.

UK EEZ. In a second step the **spatial distribution of the economically** most relevant species for Germany (saithe, anglerfish, herring and mackerel) in and outside UK waters were **mapped** to get an overview of the importance of the UK EEZ for Germany in terms of available fishing grounds and fishing opportunities. Thereby, it was differentiated between young (below the minimum conservation reference size) and adult (above the minimum conservation reference size) fish.

2.1 Overview of EU catches in UK waters

Besides the UK, **eight EU countries** fish in the UK EEZ. These countries are **Belgium, Germany, Denmark, France, Ireland, The Netherlands, Spain and Sweden**.

The sources of information are Napier (2016) and data collected for STECF (2016) and provided through the dissemination tool (<https://stecf.jrc.ec.europa.eu/dd/fleet>) as well as own calculations from German logbooks and sales slips. For the general overview of the main fleets fishing in UK waters results from Napier (2016) were applied, whereas the detailed analysis of the German fleets was based on logbook and sales slips data. Both, the approach based on German data and the study by Napier (2016) distinguish between waters inside versus outside the UK EEZ.

Relative amount of value of landings and percentage of total catches per country from UK waters are listed in Table 2.1.

Table 2.1: Average estimated landings value (million Pound) from UK EEZ by EU-8 MS and the UK for 2012-2014. (Napier, 2016)⁶⁵

	All species		Demersal Fish		Pelagic Fish		All Finfish		Shellfish		Industrial Fish	
	GBP	%	GBP	%	GBP	%	GBP	%	GBP	%	GBP	%
UK EEZ												
Belgium	25	6	23	13	0	0	23	6	3	8	0	0
Denmark	64	16	4	2	51	28	55	15	0	1	9	77
France	121	30	95	53	12	7	107	30	14	39	0	0
Germany	29	7	4	2	25	14	29	8	0	0	0	3
Ireland	76	19	11	6	48	26	59	16	16	47	1	9
Netherlands	71	17	26	15	43	23	69	19	2	4	0	2
Spain	16	4	16	9	0	0	16	4	0	1	0	0
Sweden	6	1	0	0	5	3	5	1	0	0	1	9
Total EU	408	100	179	100	183	100	362	100	35	100	11	100
Total EU	408	43	179	51	183	52	362	52	35	15	11	93
Scotland	356	38	113	32	132	38	245	35	111	46	0	4
EWNI	185	20	57	16	34	10	91	13	94	39	0	3
Total UK	542	57	170	49	166	48	336	48	205	85	1	7
Total	950	100	349	100	349	100	698	100	239	100	12	100

Source: Data from Napier, 2016

Tables 2.2 and 2.3 illustrate that the relative importance of UK waters for catches and value of landings varies substantially between MS. **Belgium, Germany, Spain, and Sweden** together account for less than 20% of the value of EU-8 landings from UK waters. However, over 40% of the landings and about 37% of the value of landings of the **Belgian fleet** originate from UK waters. For all EU-8 MS (except for Spain) catches in the UK EEZ have been of major importance for the value of national landings.

⁶⁵ Industrial fish: Catch of small mostly pelagic species for the purpose of producing fishmeal and fish oil (in the North Sea especially sandeel, Norway pout and sprat fisheries).

Table 2.2: Average estimated catch (thousand tonnes) from UK EEZ by EU-8 MS and the UK for 2012-2014. (Napier, 2016)

UK EEZ	All species		Demersal Fish		Pelagic Fish		All Finfish		Shellfish		Industrial Fish	
	Wt.	%	Wt.	%	Wt.	%	Wt.	%	Wt.	%	Wt.	%
Belgium	11	45	10	46	0	27	10	45	2	44	0	0
Denmark	218	34	3	4	129	67	133	51	0	0	86	27
France	94	17	57	31	29	13	86	21	8	9	0	2
Germany	68	31	3	5	62	47	64	36	0	0	4	20
Ireland	94	35	6	21	72	46	78	42	6	21	10	19
Netherlands	133	39	13	23	117	45	130	41	1	2	2	41
Spain	7	1	7	2	0	0	7	1	0	0	0	0
Sweden	24	15	0	0	15	19	15	16	0	0	10	14
Total EU-27	650	15	99	10	424	19	523	16	16	4	111	18
UK	476	71	101	60	266	79	367	72	101	65	8	87
Total	1,127	23	199	18	691	27	890	24	117	21	119	19

Source: Data from Napier 2016

Table 2.3: Estimated average value of catches (million euros) from UK EEZ by EU-8 MS for 2012-2014.

MS	Value UK EEZ (Mill. €) ¹	Value total (Mill. €) ²	% value UK EEZ (Mill. €)
Belgium	29	78	37%
Denmark	75	386	19%
France	142	1101	13%
Germany	37	211	18%
Ireland	89	265	34%
Netherlands	84	368	23%
Spain	19	1996	1%
Sweden	7	119	6%

¹ Values in UK EEZ from Napier (2016)(1€=0.85 Pound); ² total values from (STECF, 2016)

Source: Napier, 2016 and STECF, 2016

The **Belgian catches** in the UK EEZ comprise mainly flatfish, in particular sole. Large beam trawlers mainly target these species. The value of these fisheries adds up to about 29 million euros, which is about 37% of the total value of Belgian landings.

About 36% (88 million euros) of the **Irish landings** in value originate from British waters. Within these catches, Norway lobster and small pelagic species such as mackerel, herring, and jack mackerel, are most important. Mainly medium sized demersal trawlers target Norway lobster, whereas large and medium sized pelagic trawlers target the aforementioned pelagic species.

Danish catches in the UK EEZ consist almost exclusively of pelagic species: herring, mackerel, sandeel, and Norway pout. Large pelagic trawlers mainly perform these fisheries. On average, about 74 million euros, i.e. 19% of the value of all Danish catches refer to British waters.

The Dutch fleet catches on average about 23% of its total value or 82 million euros in British waters. The main catches comprise flatfish (sole and plaice) as well as small pelagic species (herring, mackerel, blue whiting, and horse mackerel). UK waters are the main origin of Dutch catches of pelagic species (60-80%). The value share of sole and plaice is in the range of 25-30%. Accordingly, large pelagic trawlers and large beam trawlers are the Dutch fleet segments, which are most dependent on catches from UK waters.

An annual average of 140 million euros in value of landings from British waters is caught by the **French fleet**, thus representing the highest value fished amongst the EU-8 MS. They account for about 13% of the total value of French catches. In terms of value, demersal species like monkfish, saithe, and hake are dominant. A broader range of trawlers and vessels using passive gears targets these species.

Swedish catches in British waters have the lowest value amongst the EU-8 MS. These catches account for about 7 million euros of the total value of Swedish landings. Only small pelagic species are of major relevance – herring, sandeel and mackerel. Exclusively large pelagic trawlers perform the fishery (for the Annual Economic Report on the EU Fishing Fleet (AER), however, these vessels are displayed as clusters together with demersal trawlers).

Less than 1% of the value of landings of the **Spanish fleet** originate from British waters. Main species are hake, megrim, anglerfish and ling.

This overview shows the huge importance of UK waters as fishing grounds for the 8 EU MS presently fishing in UK waters. However, such a general overview is not sufficient to conclude what effects Brexit will have on the fishing fleets of the 8 MS. In the following section we provide a detailed **analysis of German vessels** fishing in the UK EEZ as an **example** of the type of **conclusions** that can be drawn at this early stage of **Brexit** negotiations for EU fisheries.

2.2 Fishing effort, catches and value of landings of German vessels

For the German fleet the UK EEZ contains important fishing grounds. In this chapter the distribution of fishing effort and respective catches of the German vessels inside and outside UK waters are described.

Datasets used for this analysis were downloaded from the JRC data dissemination tool (Effort and landings by ICES statistical rectangle, downloaded from <https://stecf.jrc.ec.europa.eu/dd/effort/graphs-quarter-on-6>, April 2017). Data were aggregated by ICES statistical rectangle and gear category and the share of effort inside and outside the UK EEZ was calculated. For rectangles that straddle the UK EEZ, the proportion of the surface area of such rectangles that lies within the UK EEZ was calculated and effort was allocated accordingly. The share of effort inside the UK EEZ by gear category was calculated taking into account the years 2011 to 2015.

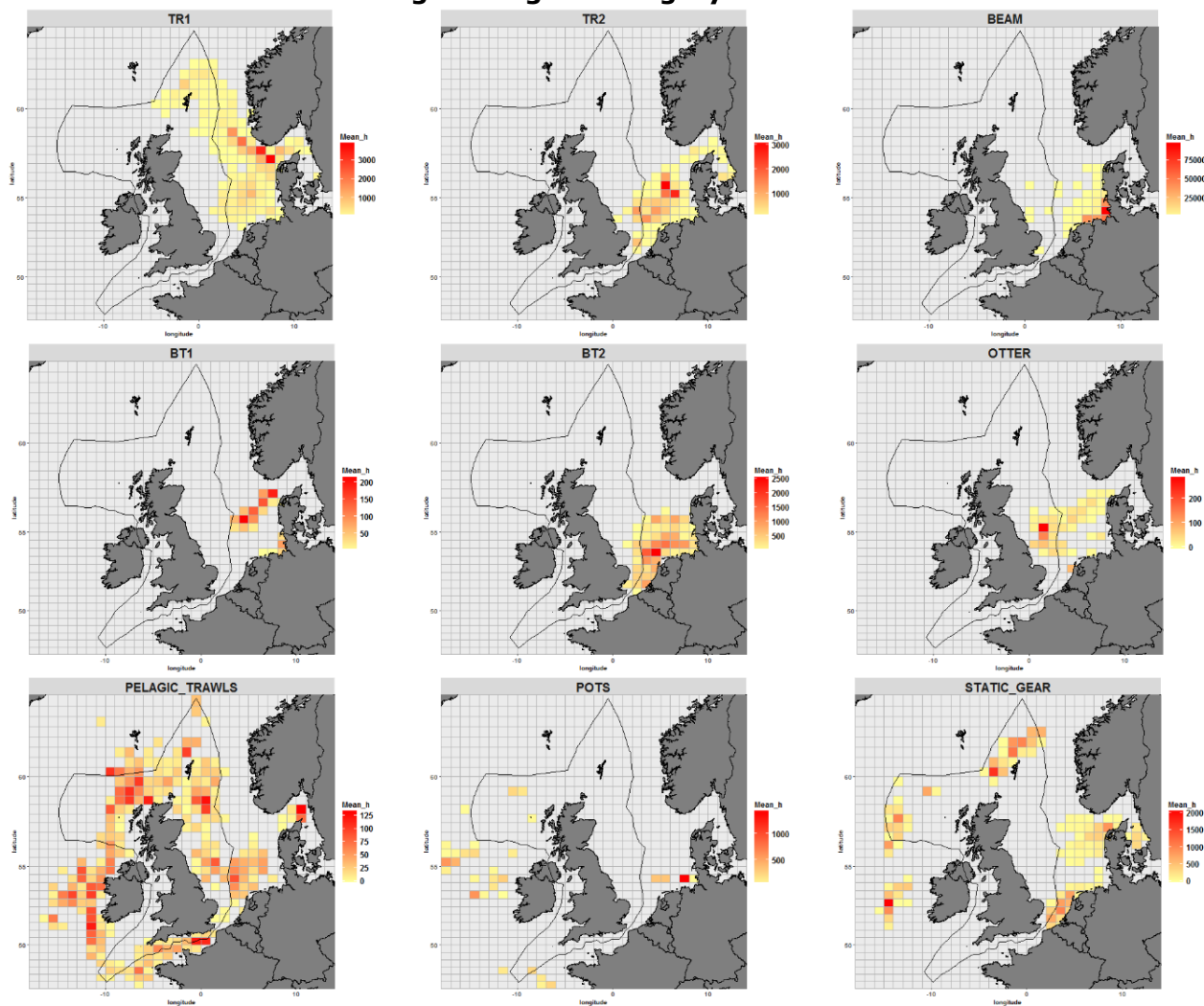
The distribution of **effective effort** (hours fished) by rectangle for the main gear categories revealed that the importance of UK waters is much higher for the German pelagic fisheries than for the demersal fisheries (Figure 2.2). High shares of total effort (average 2011 to 2015) inside the UK EEZ were only observed for pelagic trawls fishing mainly for herring, mackerel, horse mackerel and blue whiting (Table 2.4).

Important fishing grounds for the **pelagic fisheries** are located in the NS and in the waters west of Scotland, west of Ireland as well as in the English Channel. The gear category "Otter"

includes small meshed otter trawls used in the sandeel fishery. This fishery took place inside the North Sea UK EEZ to a large extent in 2011 to 2015 (Figure 2.2).

However, the overall importance of this fishery is relatively low for Germany. The only **demersal fishery** that depended to a larger extent on the waters inside the UK EEZ between 2011 and 2015 was a fishery for anglerfish with static gears in the northern North Sea and west of Scotland (Table 2.4 and Figure 2.2). Other demersal gear categories spent a maximum of 14% of their total effective effort in UK waters during these years (Table 2.4 and Figure 2.2).

Figure 2.2: Average distribution of German effective effort (hours fished) by ICES statistical rectangle and gear category for 2011-2015.⁶⁶



Source: own compilation

⁶⁶ TR1 includes Otter Trawls and demersal seines with mesh sizes ≥ 100 mm. TR2 includes Otter trawls and demersal seines with mesh sizes 70-99mm. BT1 includes beam trawls with mesh sizes ≥ 120 mm and BT2 beam trawls with mesh sizes 80 – <119mm. "Beam" includes small meshed beam trawls (mainly brown shrimp fishery with mesh sizes <32 mm). "Otter" includes small meshed otter trawls (mainly sandeel fishery with mesh sizes around 8mm). Static gears include gill nets and trammel nets of all mesh sizes.

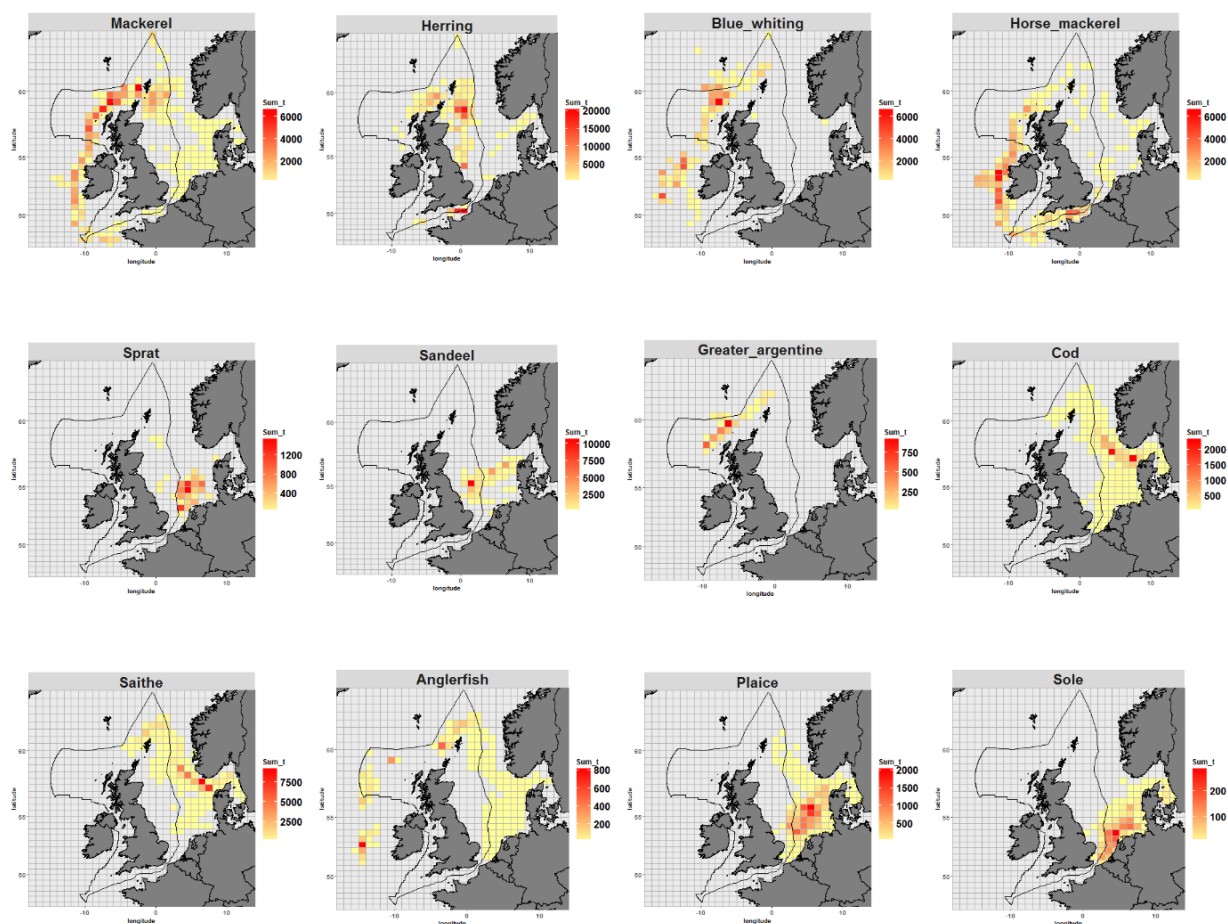
Table 2.4. Share of total effective effort (hours fished) spent inside the UK EEZ in each of the years 2011-2015. ¹

Gear Category	2011	2012	2013	2014	2015
BEAM	0	0	0	0	0
BT1	0	0	0.03	0	0
BT2	0.11	0.03	0.04	0.03	0.08
OTTER	0.86	0.97	0.66	0.66	0.8
PELAGIC_TRAWLS	0.23	0.43	0.48	0.54	0.57
POTS	0.09	0	0.02	0	0.04
STATIC_GEAR	0.25	0.37	0.41	0.34	0.3
TR1	0.1	0.11	0.14	0.07	0.05
TR2	0.12	0.08	0.09	0.09	0.12

Source: own compilation

This general pattern is also reflected in the distribution of landings from the most important **shared stocks** for Germany (Figure 2.3). Demersal fish landings came to a large extent from outside the UK EEZ between 2011 and 2015 while a large part of small pelagic fish landings were fished inside the UK EEZ (Figure 2.3 and Table 2.5). For example, **herring** in the **North Sea** was fished nearly exclusively in the UK EEZ during the years 2011 to 2015. Of the demersal stocks on average 36% of the German anglerfish landings and 13% of the saithe landings stem from UK waters between 2011 and 2015 (Table 2.5). Regarding the total value of landings the same patterns become obvious (Table 2.6). Overall, British waters are of major relevance for the German fleet: 28% of the weight and 17% of the value of landings originate from there (5 year average), showing an increasing trend over the last years (see Tables 2.5 and 2.6).

The **main question** for the German fishing fleets will be, if **the pelagic fleet** will still have access to UK waters after Brexit and if so, how much quota of small pelagic fish can still be taken in the UK EEZ. Regarding **demersal fisheries** only the fishery for **anglerfish** with static gears will be influenced to a large extent, if there is no access to UK waters after Brexit. The fishery for **saithe** will be influenced to a smaller extent.

Figure 2.3: Sum of 2011-2015 German landings by ICES statistical rectangle from important shared stocks.

Source: own compilation

Table 2.5: German weight of landings and of top 10 species from UK waters in tonnes 2011-2015.

Species	2011	2012	2013	2014	2015	2011-2015 average	Landings from the UK EEZ as a proportion (%) of the national landings (all species) from the UK EEZ	Landings from the UK EEZ as a proportion (%) of the national landings reported for each species (all areas)
atlantic herring (HER)	10 883	22 860	44 363	33 552	43 447	31 021	48,1 %	55,3 %
atlantic mackerel (MAC)	13 766	13 874	13 909	15 651	16 966	14 833	23,0 %	61,5 %
blues whiting (= poutassou) (WHB)	0	3 333	3 584	10 660	11 700	5 855	9,1 %	44,0 %
jack and horse mackerels nei (JAX)	4 128	2 959	8 331	6 061	2 016	4 699	7,3 %	21,4 %
sandeels (=sandlances) nei (SAN)	9 022	1 625	5 784	850	3 273	4 111	6,4 %	61,2 %
saithe (=pollock) (POK)	1 831	1 242	1 791	1 385	171	1 284	2,0 %	13,0 %
greater argentine (ARY)	0	1 143	305	170	986	651	1,0 %	97,9 %
argentine (ARU)	0	538	417	1 147	1 034	627	1,0 %	96,7 %
european plaice (PLE)	451	230	537	213	523	391	0,6 %	8,0 %
anglerfishes nei (ANF)	187	353	377	406	425	350	0,5 %	48,6 %
total landings from UK EEZ (top 10 species)	40 268	48 158	79 398	70 095	80 541	63 822	98,9 %	45,9 %
total landings from UK EEZ (all species)	40 748	48 550	79 988	70 593	82 826	64 541	100,0 %	28,0 %
total landings from UK EEZ (all species) as a proportion (%) of all national landings	17,2 %	23,6 %	35,7 %	30,2 %	33,0 %	28,0 %		

Source: own compilation

Table 2.6: German value of landings and 10 Top species from UK waters in € 2011-2015.

Species	2011	2012	2013	2014	2015	2011-2015 average	Landings from the UK EEZ as a proportion (%) of the national landings (all species) from the UK EEZ	Landings from the UK EEZ as a proportion (%) of the national landings reported for each species (all areas)
atlantic mackerel (MAC)	12 374	12 694	12 944	14 057	15 232	13 460	37,1 %	62,3 %
atlantic herring (HER)	5 190	9 812	18 873	14 462	18 572	13 382	36,9 %	57,6 %
blues whiting (= poutassou) (WHB)	0	1 350	1 132	3 731	4 031	2 049	5,6 %	45,1 %
jack and horse mackerels nei (JAX)	1 761	726	2 799	2 187	806	1 656	4,6 %	22,8 %
saithe (= pollock) (POK)	2 037	1 752	1 733	1 815	209	1 509	4,2 %	13,1 %
sandeels (= sandlances) nei (SAN)	1 949	466	2 572	158	563	1 142	3,1 %	67,1 %
anglerfishes nei (ANF)	1 074	351	439	631	499	599	1,6 %	36,5 %
european plaice (PLE)	595	323	654	251	789	523	1,4 %	8,6 %
common sole (SOL)	562	330	298	420	664	455	1,3 %	8,5 %
greater argentine (ARY)	0	457	110	77	445	272	0,8 %	97,7 %
total landings from UK EEZ (top 10 species)	25 543	28 261	41 552	37 788	41 811	34 991	96,4 %	42,0 %
total landings from UK EEZ (all species)	26 638	29 176	42 676	39 187	43 762	36 288	100,0 %	17,1 %
total landings from UK EEZ (all species) as a proportion (%) of all national landings	13,2 %	14,1 %	20,3 %	18,1 %	19,4 %	17,1 %		

Source: own compilation

2.3 Quota distribution and dependency on quota swaps of German fisheries

The reformed CFP (Reg. (EU) No 1380/2013 of the European Parliament and of the Council) stipulates that Union fishing vessels should have equal access to Union waters and resources subject to the rules of the CFP. However, **within Union waters**, UK grants the following MS defined access to coastal waters for exclusive fishing activities, i.e. Belgium, France, Germany, Ireland and The Netherlands. Germany grants access to UK to **coastal waters** for exclusive fishing rights.

The UK holds major shares in Union waters (including UK EEZ) and beyond, i.e. in bilateral **agreements with non-EU MS**, e.g. Norway and Greenland, as well as in living marine resources managed in convention areas of the high seas covered by international Regional Fisheries Management Organisations or international conventions, e.g. North East Atlantic Fisheries Commission (NEAFC), Northwest Atlantic Fisheries Organization (NAFO) and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

The following **tables 2.7-2.16** list the TAC settings and allocations for 2017 for the EU, UK and Germany respectively (Coun. Reg. (EU) 2017/127 and (EU) 2016/2285) to illustrate the complex situation of quota shares. The tables stipulate such **fishing opportunities** by species and management unit for industrial (see Footnote 3), demersal, pelagic and deep sea fisheries where UK holds an allocation, respectively. Within these fisheries EU and UK share 12, 89, 19, and 12 management units, 132 altogether. The major role of the UK in European fisheries can be interpreted from the relative shares of UK allocations in EU quotas, which amount to 14% in industrial fisheries, 33% in demersal fisheries, 34% in pelagic and 11% in deep sea fisheries. The German figures are minor and amount to 4%, 7%, 9% and 1%, respectively, with a dominance in demersal fisheries in North Atlantic regions, e.g. Norway and Greenland.

Table 2.7: Annual TAC and national quotas¹ (tonnes) for industrial fisheries by management unit² in 2017.

Type	Species	Management Unit	Areas or ICES Div.	Zone	Type	TAC	EU quota	UK quota	GER quota
industrial	Sandeel	SAN/04-N	IV	NOR	analytical	n.a.	0	0	n.a.
industrial	Sandeel	SAN/234	IIa, IIIa and IV	EU	analytical	0	0	0	0
industrial	Boarfish	BOR/678	VI, VII and VIII	EU and int	precautionary	27288	27288	1734	n.a.
industrial	Herring	HER/2A47DX	IIa, IV and VIIId	EU	analytical	11375	11375	207	56
industrial	Blue whiting	WHB/24-N	II and IV	NOR	analytical	n.a.	0	0	n.a.
industrial	Blue whiting	WHB/1X14	I-VII, VIIIabde, XII and XIV	EU and int	analytical	n.a.	385254	76319	22869
industrial	Sprat	SPR/2AC4-C	II and IV	EU	analytical	33830	33830	1241	376
industrial	Sprat	SPR/7DE	VIIId	EU	precautionary	4120	4120	2163	21
industrial	Norway pout	NOP/2A3A4	IIa, IIIa and IV	EU	analytical	238981	141950	n.a.	27
industrial	Norway pout	NOP/04-N	IV	NOR	analytical	n.a.	0	0	n.a.
industrial	Capelin	CAP/514GRN	V and XIV	GRN	analytical	n.a.	0	0	0
industrial	Blue whiting	WHB/2A4AXF	IIa and IV	FAR	analytical	n.a.	2500	1100	75
Sum							606317	82764	23424

¹ annual quotas for EU, UK and Germany according to (Coun. Reg. (EU) 2017/127)) where UK holds an allocation. Not applicable is abbreviated as n.a.; ² management units are defined by species and area.

Source: Coun. Reg. (EU) 2017/127)

Table 2.8: Annual TAC and national quotas¹ (tonnes) for demersal fisheries by management unit² in 2017.

Type	Species	Management Unit	Areas or ICES Div.	Zone	Type	TAC	EU quota	UK quota	GER quota
demersal	Tusk	USK/1214EI	I, II and XIV	EU and int	precautionary	21	21	6	6
demersal	Tusk	USK/04-C	IV	EU	precautionary	235	235	96	19
demersal	Tusk	USK/567EI	V, VI and VII	EU and int	precautionary	3860	937	234	13
demersal	Tusk	USK/04-N	IV	NOR	precautionary	n.a.	170	4	1
demersal	Cod	COD/2A3AX4	IIa and IV	EU	analytical	39220	32553	15275	4222
demersal	Cod	COD/5W6-14	Vb west 12W, VIIb, XII and XIV	EU and int	precautionary	74	74	45	1
demersal	Cod	COD/5B6A	Vb east 12W and VIa	EU	analytical	0	0	0	0
demersal	Cod	COD/07A	VIIa	EU	analytical	146	146	42	n.a.
demersal	Cod	COD/7XAD34	VIIbce-k, VIII, IX, X, CECAF 34.1.1	EU and int	analytical	2830	2830	193	n.a.
demersal	Cod	COD/07D	VIIId	EU	analytical	2059	2059	190	n.a.
demersal	Megrim	LEZ/2AC4-C	IIa and IV	EU	analytical	2639	2639	2540	7
demersal	Megrim	LEZ/56-14	Vb, VI, XII and XIV	EU and int	analytical	5682	5682	1782	n.a.
demersal	Megrim	LEZ/07	VII	EU	analytical	13691	13691	1963	n.a.
demersal	Dab and flounder	D/F/2AC4-C	IIa and IV	EU	withdrawn	n.a.	n.a.	n.a.	n.a.
demersal	Anglerfish	ANF/2AC4-C	IIa and IV	EU	precautionary	13521	13521	11003	515
demersal	Anglerfish	ANF/04-N	IV	NOR	precautionary	n.a.	1500	269	18
demersal	Anglerfish	ANF/56-14	Vb, VI, XII and XIV	EU and int	precautionary	7650	7650	2354	314
demersal	Anglerfish	ANF/07	VII	EU	precautionary	33516	33516	6027	345
demersal	Haddock	HAD/2AC4	IIa and IV	EU	analytical	33643	26405	22225	858
demersal	Haddock	HAD/6B1214	VIIb, XII and XIV	EU and int	analytical	4690	4690	3739	36
demersal	Haddock	HAD/5B6A	Vb and VI	EU and int	analytical	3697	3697	2879	5
demersal	Haddock	HAD/7X7A34	VIIb-k, VIII, IX, X, CECAF 34.1.1	EU and int	analytical	7751	7751	775	n.a.
demersal	Haddock	HAD/07A	VIIa	EU	precautionary	2074	2074	993	n.a.
demersal	Whiting	WHG/2AC4	IIa and IV	EU	analytical	16003	14703	9838	354
demersal	Whiting	WHG/56-14	Vb, VI, VII and XIV	EU and int	analytical	213	213	122	1
demersal	Whiting	WHG/07A	VIIa	EU	precautionary	80	80	31	n.a.
demersal	Whiting	WHG/7X7A-C	VIIb-k	EU	analytical	27500	27500	2951	n.a.
demersal	Northern hake	HKE/2AC4-C	IIa and IV	EU	analytical	3928	3928	707	261
demersal	Northern hake	HKE/571214	Vb, VI, VII, XII and XIV	EU and int	analytical	67658	67658	12159	n.a.
demersal	Lemon sole and witch flounder	L/W/2AC4-C	IIa and IV	EU	precautionary	6391	6391	3904	122
demersal	Blue ling	BLI/5B67	Vb, VI and VII	EU and int	analytical	11314	11014	2117	116
demersal	Blue ling	BLI/12INT	XII	Int	precautionary	357	357	3	n.a.
demersal	Blue ling	BLI/24	II and IV	EU and int	precautionary	53	53	14	4
demersal	Ling	LIN/1/2	I and II	Int	precautionary	36	36	8	8
demersal	Ling	LIN/3A/BCD	IIIabcd	EU	precautionary	87	87	6	6
demersal	Ling	LIN/04-C	IV	EU	precautionary	3494	3494	2689	216
demersal	Ling	LIN/05EI	V	EU and int	precautionary	33	33	6	6
demersal	Ling	LIN/6X14	VI-X, XII, XIV	EU and int	precautionary	20396	13696	4634	187
demersal	Ling	LIN/04-N	IX	NOR	precautionary	n.a.	1350	106	33
demersal	Norway lobster	NEP/2AC4-C	IIa and IV	EU	analytical	20034	20034	17353	15
demersal	Norway lobster	NEP/04-N	IV	NOR	analytical	n.a.	1000	53	0
demersal	Norway lobster	NEP/5B6C	Vb and VI	EU and int	analytical	16407	16407	16019	n.a.
demersal	Norway lobster	NEP/07	VII	EU	analytical	25356	25356	8317	n.a.
demersal	Northern prawn	PRA/2AC4-C	IIa and IV	EU	precautionary	2446	2446	538	n.a.
demersal	Plaice	PLE/2A3AX4	IIa and IV	EU	analytical	129917	120822	34388	6970
demersal	Plaice	PLE/56-14	Vb, VI, VII, XII and XIV	EU and int	precautionary	658	658	388	n.a.
demersal	Plaice	PLE/07A	VIIa	EU	precautionary	1098	1098	281	n.a.
demersal	Plaice	PLE/7DE	VIIId	EU	analytical	10022	10022	2915	n.a.
demersal	Plaice	PLE/7FG	VIIIfg	EU	precautionary	405	405	52	n.a.
demersal	Plaice	PLE/7HJK	VIIHjk	EU	precautionary	128	128	16	n.a.
demersal	Pollack	POL/56-14	Vb, VI, XII and XIV	EU and int	precautionary	397	397	145	n.a.
demersal	Pollack	POL/07	VII	EU	precautionary	12146	12146	2118	n.a.
demersal	Saithe	POK/2A3A4	IIa, IIIa and IV	EU	analytical	100287	47888	8010	10447
demersal	Saithe	POK/56-14	Vb, VI, XII and XIV	EU and int	analytical	9994	9484	3300	527
demersal	Saithe	POK/7/3411	VII-X, CECAF 34.1.1	EU and int	precautionary	3176	3176	434	n.a.
demersal	Turbot and brill	T/B/2AC4-C	IIa and IV	EU	precautionary	4937	4937	762	197
demersal	Skates and rays	SRX/2AC4-C	IIa and IV	EU	precautionary	1378	1378	892	11
demersal	Skates and rays	SRX/67AKXD	VIIab, VIIabce-k	EU	precautionary	8434	8434	2180	10
demersal	Small-eyed ray	RJE/7FG	VIIIfg	EU	precautionary	154	154	40	0
demersal	Undulate ray	RUJ/67AKXD	VIIe	EU	precautionary	161	161	42	0
demersal	Skates and rays	SRX/07D	VIIId	EU	precautionary	1063	1063	160	n.a.
demersal	Undulate ray	RUJ/07D	VIIId	EU	precautionary	19	19	3	n.a.
demersal	Skates and rays	SRX/89-C	VIII and IX	EU	precautionary	3762	3762	8	n.a.
demersal	Undulate ray	RUJ/8-C	VIII	EU	precautionary	30	30	0	n.a.
demersal	Undulate ray	RUJ/9-C	IX	EU	precautionary	48	48	0	n.a.
demersal	Greenland halibut	GHL/2A-C46	IIa, IV, Vb and VI	EU and int	analytical	2500	1400	1017	28
demersal	Common sole	SOL/24-C	IIa and IV	EU	analytical	16123	16113	691	1074
demersal	Common sole	SOL/56-14	Vb, VI, XII and XIV	EU and int	precautionary	57	57	11	n.a.
demersal	Common sole	SOL/07A	VIIa	EU	analytical	40	40	10	n.a.
demersal	Common sole	SOL/07D	VIIId	EU	analytical	2724	2724	524	n.a.
demersal	Common sole	SOL/07E	VIIe	EU	analytical	1178	1178	693	n.a.
demersal	Common sole	SOL/7FG	VIIIfg	EU	analytical	845	845	238	n.a.
demersal	Common sole	SOL/7HJK	VIIHjk	EU	analytical	382	382	64	n.a.
demersal	Picked dogfish	DGS/15X14	I, V-VIII, XII and XIV	EU and int	precautionary	270	270	100	4
demersal	Cod	COD/1N2AB	I and II	NOR	analytical	n.a.	23002	10784	2779
demersal	Cod	COD/N1GL14	NAFO 1F and XIV	GRN	analytical	n.a.	2200	400	800
demersal	Cod	COD/1/2B	COD/1/2B	SVAL	analytical	n.a.	33025	4374	6554
demersal	Cod and haddock	C/H/05B-F	Vb	FAR	analytical	n.a.	950	817	19
demersal	Haddock	HAD/1N2AB	I and II	NOR	analytical	n.a.	1200	789	259
demersal	Ling and blue ling	B/L/05B-F	Vb	FAR	precautionary	n.a.	2000	114	586
demersal	Saithe	POK/1N2AB	I and II	NOR	analytical	n.a.	2550	182	2040
demersal	Saithe	POK/05B-F	Vb	FAR	analytical	n.a.	2800	650	347
demersal	Greenland halibut	GHL/1N2AB	I and II	NOR	analytical	n.a.	50	25	25
demersal	Greenland halibut	GHL/514GRN	V and XIV	GRN	analytical	n.a.	4515	226	4289
demersal	Redfish	RED/1N2AB	I and II	NOR	analytical	n.a.	1500	150	766
demersal	Redfish	RED/N1G14D	NAFO 1F, V and XIV	GRN	analytical	n.a.	1600	11	1581
demersal	Redfish	RED/05B-F	Vb	FAR	precautionary	n.a.	400	4	368
demersal	Flatfish	FLX/05B-F	Vb	FAR	precautionary	n.a.	100	68	18
demersal	Cod	COD/N3M	3M	NAFO	analytical	13931	7945	1298	649
Sum							710733	233583	48037

¹ annual quotas for EU, UK and Germany according to (Coun. Reg. (EU) 2017/127)) where UK holds an allocation. Not applicable is abbreviated as n.a.; ² management units are defined by species and area.

Source: Coun. Reg. (EU) 2017/127)

Table 2.9: Annual TAC and national quotas¹ (tonnes) for pelagic fisheries by management unit² in 2017.

Type	Species	Management Unit	Areas or ICES Div.	Zone	Type	TAC	EU quota	UK quota	GER quota
pelagic	Greater silver smelt	ARU/1/2	I and II	EU and int	precautionary	90	90	39	24
pelagic	Greater silver smelt	ARU/34-C	III and IV	EU	precautionary	1028	1028	16	9
pelagic	Greater silver smelt	ARU/567	V, VI and VII	EU and int	precautionary	3384	3384	217	296
pelagic	Herring	HER/4AB	IV north 53.30	EU and int	analytical	481608	288788	66268	51032
pelagic	Herring	HER/5B6ANB	Vb, VIaN and Vb	EU and int	analytical	4170	4170	2520	466
pelagic	Herring	HER/06ACL	Vla	EU Clyde	precautionary	t.b.d.	t.b.d.	t.b.d.	n.a.
pelagic	Herring	HER/07A/MM	VIIa	EU	analytical	4127	4127	3053	n.a.
pelagic	Herring	HER/7EF	VIIef	EU	precautionary	930	930	465	n.a.
pelagic	Herring	HER/7G-K	VIIghjk	EU	analytical	14467	14467	18	161
pelagic	Mackerel	MAC/2A34	IIa, IIIabc, IV, 22-32	EU	analytical	1020996	35286	1877	666
pelagic	Mackerel	MAC/2CX14	IIa, Vb, VI, VII, VIIIabde, XII and XIV	EU and int	analytical	n.a.	407517	237677	25928
pelagic	Mackerel	MAC/8C3411	VIIIc, IX, X, CECAF 34.1.1	EU and int	analytical	n.a.	46631	n.a.	n.a.
pelagic	Horse mackerel	JAX/4BC7D	IVbc and VIId	EU	precautionary	18247	14697	1659	616
pelagic	Horse mackerel	JAX/2A-14	IIa, IVa, Vb, VI, VIIa-cek, VIIIabde, XII and XIV	EU and int	analytical	83829	82229	7660	6351
pelagic	Herring	HER/1/2	I and II	EU, FAR, NOR, int	analytical	646075	42059	9213	2524
pelagic	Redfish shallow	RED/51214S	V, XII and XIV	EU and int	analytical	0	0	0	0
pelagic	Redfish deep	RED/51214D	V, XII and XIV	EU and int	analytical	7500	1159	2	707
pelagic	Redfish	RED/N1G14P	NAFO 1F, V and XIV	GRN	analytical	n.a.	974	7	962
pelagic	Albacore	ALB/AN05N	Atlantic north 5°	EU and int	analytical	28000	26939	259	n.a.
Sum							974475	330950	89742

¹ annual quotas for EU, UK and Germany according to (Coun. Reg. (EU) 2017/127)) where UK holds an allocation. Not applicable is abbreviated as n.a.; ² management units are defined by species and area.

Source: Coun. Reg. (EU) 2017/127)

Table 2.10: Annual TAC and national quotas¹ (tonnes) for deep sea fisheries by management unit² in 2017.

Type	Species	Management Unit	Areas or ICES Div.	Zone	Type	TAC	EU quota	UK quota	GER quota
deep sea	Sharks	DWS/12INT	XII	Int	precautionary	0	0	0	n.a.
deep sea	Black scabbardfish	BSF/1234	I, II, III and IV	EU and int	precautionary	9	9	3	3
deep sea	Black scabbardfish	BSF/56712	V-VII and XII	EU and int	precautionary	2954	2954	168	34
deep sea	Alfonsinos	ALF/3X14	III-X, XII and XIV	EU and int	analytical	280	280	9	n.a.
deep sea	Roundnose grenadier	RNG/124	I, II, and IV	EU and int	precautionary	10	10	1	1
deep sea	Roundnose grenadier	RNG/5B67	Vb, VI and VII	EU and int	analytical	3052	3052	148	6
deep sea	Roundnose grenadier	RNG/8X14	VIII-X, XII and XIV	EU and int	analytical	2623	2623	8	17
deep sea	Red seabream	SBR/678	VI-VIII	EU and int	analytical	144	144	14	n.a.
deep sea	Red seabream	SBR/10	X	EU and int	analytical	517	517	5	n.a.
deep sea	Greater forkbeard	GFB/1234	I, II, and IV	EU and int	analytical	33	33	15	9
deep sea	Greater forkbeard	GFB/567	V, VI and VII	EU and int	analytical	2166	2166	869	11
deep sea	Greater forkbeard	GFB/1012	X and XII	EU and int	analytical	58	58	9	n.a.
Sum						11846	11846	1249	81

¹ annual quotas for EU, UK and Germany according to (Coun. Reg. (EU) 2016/2285) where UK holds an allocation. Not applicable is abbreviated as n.a.; ² management units are defined by species and area.

Source: Coun. Reg. (EU) 2016/2285

Out of this long list of stocks that are fished by European fleets four species with large stock shares in UK waters are of specific interest for German fisheries: Herring, mackerel, saithe and anglerfish.

Anglerfish

There are three management units for anglerfish, which lie partly within the UK's EEZ in which Germany holds a quota (see Table 2.11). Brexit may thus affect these German quotas for anglerfish. Overall the German quota in the three areas amounts to 1174 tons.

Table 2.11: Quota distribution¹ for anglerfish in three ICES areas for 2017.

State	Union waters of IIa and IV	VI; Union and international waters of Vb; international waters of XII and XIV	VII	Sum
Belgium	478	275	3097	3850
Denmark	1054			1054
Germany	515	314	345	1174
Spain		294	1231	1525
France	98	3383	19875	23356
Ireland		765	2540	3305
The Netherlands	361	265	401	1027
Sweden	12			12
UK	11003	2354	6027	19384
TAC	13521	7650	33516	

¹data extracted from Council Regulation (EU) 2017/127 of 20 January 2017*Saithe*

The saithe fishery is very important for the German fishing fleet. There are two management units in which Germany holds a quota which lie partly within the UK's EEZ (see Table 2.12). Overall, Germany holds a quota of 10974 tons in these two areas.

Table 2.12: Quota distribution¹ for saithe in two ICES areas for 2017.

State	IIIa and IV; Union waters of IIa	VI; Union and international waters of Vb, XII and XIV	Sum
Belgium	35		35
Denmark	4137		4137
Germany	10447	527	10974
France	24587	5230	29817
Ireland		427	427
The Netherlands	104		104
Sweden	568		568
UK	8010	3300	11310
Norway	52399	510	52909
TAC	100287	9994	

¹data extracted from Council Regulation (EU) 2017/127 of 20 January 2017*Herring*

There are six management units for herring touching the UK's EEZ in which Germany holds a quota (see Table 2.13). Overall, the German quota in these management units amounts to 54980 tons.

Table 2.13: Quota distribution for herring in six ICES areas for 2017.

State	Union & Norwegian waters of IV north of 53° 30' N	IV, VIId, Union waters of IIa	IVc, VIId	Union and int. waters of Vb, VIb, VIaN	VIIg(1), VIIh(1), VIIj (1), VIIk	Union, Faroese, Norwegian, int. waters of I and II	Sum
Belgium		56	9308			15	15
Denmark	82745	10891	1201			14409	14409
Germany	51032	56	741	466	161	2524	54980
Spain						48	48
France	23561	56	13136	88	893	622	38356
Ireland				630	12502	3731	16863
The Netherlands	60285	56	23463	466	893	5157	90320
Poland						729	729
Portugal						48	48
Finland						223	223
Sweden	4897	53				5340	5340
UK	66268	207	5105	2520	18	9213	83331
Faroe Islands	200					6000	6000
Norway	139666					37854	37854
TAC	481608	11375	481608	4170	14467	646075	

¹data extracted from Council Regulation (EU) 2017/127 of 20 January 2017*Mackerel*

There are two management units for mackerel touching the UK's EEZ in which Germany holds a quota (see Table 2.14). Overall, the German quota in the two management units amounts to 26594 tonnes.

Table 2.14: Quota distribution for mackerel in two ICES areas for 2017.

State	IIIa and IV; Union waters of IIa, IIb, IIc and Subdivisions 22-32	VI, VII, VIIa, VIIb, VIIc and VIId; Union and inter- national waters of Vb; international waters of IIa, XII and XIV	Sum
Belgium	639		639
Denmark	22031		22031
Germany	666	25928	26594
Spain		28	28
Estonia		216	216
France	2013	17287	19300
Ireland		86426	86426
Latvia		159	159
Lithuania		159	159
The Netherlands	2026	37811	39837
Poland		1826	1826
Sweden	6034		6034
UK	1877	237677	239554
Norway	211560	18261	229821
Faroe Islands		38576	38576
TAC	1020996	1020996	

¹data extracted from Council Regulation (EU) 2017/127 of 20 January 2017.

The distribution of quotas as summarised in tables 2.7-2.16 demonstrates that **different EU MS may be affected by Brexit** to different degrees. This raises the question how the EU would share **potential losses** resulting from a renegotiation of fishing opportunities with the UK. If Brexit results in disproportionate losses for some MS, this might challenge the distribution of **fishing opportunities within the EU** ("relative stability").

Already today, the distribution of quotas between MS does not match the catches/landings of most of the fleets and, therefore, countries are **exchanging quotas** (so-called quota swaps) to allow their fishing vessels to keep on fishing although the national quota of the species in question may be exhausted. In the following tables (Tables 2.15-2.16) **quota swaps between Germany and the UK** between **2011 and 2017** are listed. However, the data do not allow strong conclusions regarding the dependence of the German fleet on quota swaps with the UK for two main reasons: First, the data do not reveal **the motivation behind** each of the quota swap. Quota swaps may be performed because the **national quota** for a species is **exhausted**, but also because a different species is **economically more lucrative** or more easy to exploit for a specific fleet segment (Hoefnagel et al., 2015). Second, the data do not reveal whether there are alternative options for quota swaps, which the German fleet could engage in should quota swaps with the UK no longer be possible after Brexit.

Table 2.15: Quota swaps¹ from Germany to UK (tonnes) for 2011-2017.

	2011	2012	2013	2014	2015	2016	2017
Demersal							
Anglerfish	75	90	25	39	28	192.90	35
Cod	1357	1510	3805.2	2585.25	66	2561.1	1768.8
Haddock	163	458.60	611.99	401.70	498	0	8
Hake	43	119	35	32	68	0	10
Nephrops	70	29.5	0	0	0	0	0
Saithe	1439	812.3	1123	409.4	480	422	679.5
Common Sole	0	80	165	4	0	0	60
Total demersal	3147	3099.4	5765.19	3471.35	1140	3176	2561.3
Pelagic							
Herring	0	169	0	0	275	303	464
Horse mackerel	0	0	0	500	3000	3000	3000
Mackerel	176	200	15	0	0	0	80
Sandeel (only main stock, without management areas)	0	450	0	0	14.40	0	0
Sprat	100	0	0	0	0	0	0
Whiting	155	217	215	197.6	235	236	85
Blue Whiting	6	0	0	0	0	154	0
Total Pelagic	437	1036	230	697.6	3524.4	3693	3629

¹ data received by Bundesanstalt für Landwirtschaft und Ernährung (BLE)

Table 2.16: Quota swaps¹ from UK to Germany (tonnes) for 2011-2017.

	2011	2012	2013	2014	2015	2016	2017
Demersal							
Anglerfish	40	10	0	0	16	0	0
Cod	402.5	2231	2002.5	801.750	2500.9	366	580
Haddock	59	242.5	195	113	123.7	35	194
Nephrops	421	790	435	407	385	806	485
Saithe	1055	444	385	73.7	396.70	195	70
Plaice	492.996	265	355	0	0	60	75
Common sole	0	0	0	0	0	9	32
Total demersal	2434.496	3982.5	3372.5	1395.45	3422.3	1471	1436
Pelagic							
Herring	200	1002	90.10	0	240	351.24	478
Horse Mackerel	0	2170	5050.40	984	3530	3224	3000
Mackerel	285	539	455.8	620	300	30	0
Sandeel (only main stock, without management areas)	996	942	2010	0	4033	13.9	3776.9
Sprat	0	266	65.80	0	0	400	0
Blue Whiting	0	0	1254.3	0	316	436.80	6770.40
Whiting	0	0	0	0	0	3	0
Total pelagic	1481	4919	8926.4	1604	8419	4458.94	14025.3

¹ data received by Bundesanstalt für Landwirtschaft und Ernährung (BLE)

2.4 Spatial distribution and management of the key shared stocks according to their biological cycle

The distribution of quotas between EU MS was fixed at the time of the introduction of the **CFP in 1983**. This was after countries surrounding the regional seas declared their EEZ. Britain joined the EC in 1973 before the declaration of the EEZs. At that time waters outside of 12nm around the UK were open for all fishing vessels. When the EEZs were declared and the European Community decided to implement the CFP all MS declared catches in the waters covered by the EEZs in a reference period (1973-1978).

In negotiations with **Norway** on shared stocks in the **North Sea and North East Atlantic** (NEAFC area) the spatial distribution and biological cycle of the respective species built the basis for the decision how to distribute quota shares between the EC and Norway. In case of the internal distribution of quota shares within the EC the **spatial distribution/biological cycle** of the species played no role.

The UK already claims that vessels from the EU are fishing much more inside the EU EEZ than UK vessels fish in the EEZs of other MS. Due to the **original decision** on the **internal quota** distribution within the **EC** (which is not based on the spatial distribution of stocks), there were claims before and after the Brexit referendum to **negotiate new quota distributions** between the remaining EU and the UK. The expectation during the campaign for Brexit was that the share

for the UK would be higher after leaving the EU as the spatial distribution of the stocks allows claiming a higher share of the overall **quota**.

Analyses of spatial distribution patterns and life cycles provide a basis for discussing whether a fleet might be able to fish the remaining quota **outside of UK waters**, if -as an extreme scenario- there would be no access to British waters. This type of exercise would be needed for each shared stock of which the UK holds a quota in order to get a complete EU-wide picture of dependencies. However, as such a comprehensive analysis is far beyond the scope of this case study, we conducted exemplary analyses of spatial distribution patterns for juveniles and spawning stocks for those pelagic and demersal stocks, which are first and second most important for Germany in terms of landings from inside the UK EEZ.

Saithe

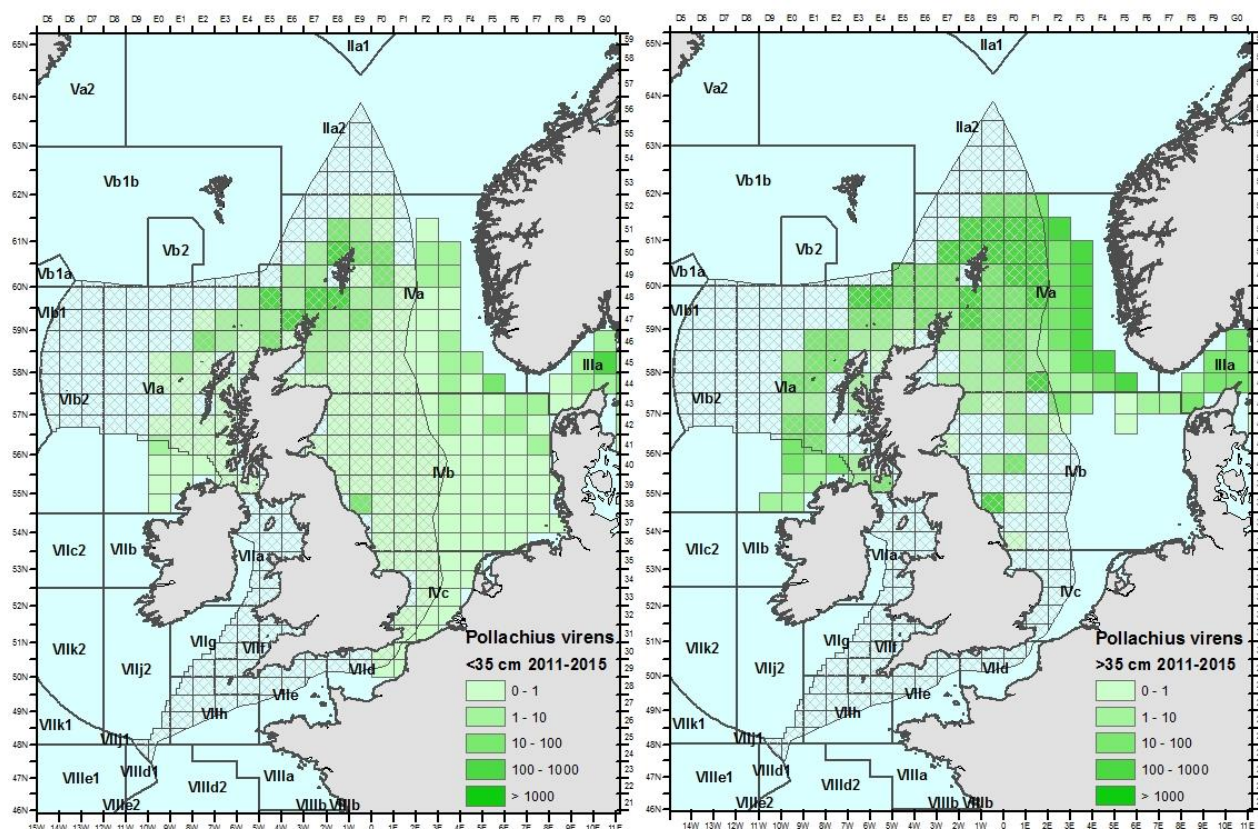
Saithe is a high value species, well suited for human consumption and an important commercial species for Germany and many other European countries. It belongs to the family of cod-like fishes (gadoids). It is a semi-pelagic North Atlantic species that occurs in deeper waters over the shelf edge and beyond. Although saithe is **frequently** caught in **bottom trawls** it may form dense layers in midwater. In particular, adults can display extensive diel vertical migrations and may be found hundreds of meters above the bottom during night time, as well as close to the bottom, down at depths of more than 300m during day time (Bergstad, 1991). Juveniles occur inshore and recruit to the exploitable stock at an age of 2-3 years. Due to the different habitat of juveniles and adults **discards** in the targeted saithe fishery are **generally low**. In the North Sea and west of Scotland the minimum conservation reference size for saithe is at 35 cm. It was used as a reference point to map the distribution of juvenile (< 35cm) and adult (> 35cm) saithe. For the years **2011 to 2015** the mapped average annual catch rate (number per hour fishing) was derived from North Sea International Bottom Trawl Surveys (covering ICES areas IV, IIIa and VIIId) and International Bottom Trawl Surveys in the Western and Southern Areas (covering ICES areas VI and VII except VIIId) and was used as a proxy of abundance (Figure 2.4).

The **distribution of saithe** in the area covered by the **two surveys** highlights their concentration in the northern part of the North Sea and in the Skagerrak along the shelf edge (Figure 2.4). Young saithe (< 35cm) are most abundant according to the surveys in the more coastal waters near Shetland and in the Skagerrak. However, juvenile saithe stays to a large extent in coastal areas (i.e. in Norwegian fjords) and enter the survey and fishing areas when they are three to four years old. **Tagging experiments** have shown that young saithe gradually leave their coastal nurseries during spring to join the offshore component of the stock (Newton, 1984; Nedreaas, 1985). Therefore, the survey catches cannot be seen as fully representative for juvenile saithe. Larger saithe (\geq 35cm) are more widely distributed according to the bottom trawl surveys, with a clear zone of high abundance along the edge of the Norwegian Deep and along the shelf edge (Figure 2.4). **Spawning** takes place from January (in the southern part of the distribution area) to May (further north), and generally occurs along the edge of the continental shelf (Reinsch, 1976). However, **little is known** about **migrations of the North Sea** saithe from and to adjacent waters of ICES area IIa and beyond.

Germany holds **saithe quotas** for TAC areas **IV, IIIa, IIIbc** and ICES SD 22-24 (>70% of the total German saithe quotas). A smaller amount of quota is available for TAC area **VI, Vb, XII and XIV** (<3% of the total German saithe quotas). In addition, Germany has quotas for saithe in **Norwegian and Faroes waters**. Currently more than 85% of German saithe landings originate from waters outside the UK EEZ (i.e. Norwegian EEZ, see chapter 2b and c). Therefore, under current conditions it is likely that Germany is able to fish its saithe quotas outside the UK EEZ. However, competition for catch options outside UK waters may increase as presently also **France and Norway** have important fisheries for **saithe inside the UK EEZ**. In case all EU

countries and Norway are **no longer allowed to fish in UK waters**, a **concentration** of fishing effort on the fishing grounds **outside the UK EEZ** will occur. The effects of such effort concentrations on the stock and its feedback into the fishing fleets are unclear at present. If such an **extreme scenario** of a complete loss of fishing rights in UK waters is realistic, at all, is similarly unclear as Brexit negotiations just started and any assumptions on future fishing rights and relative stabilities are pure speculation.

Figure 2.4: Average annual catch rate (number per hour fishing) for juvenile (<35cm) and adult (≥35cm) saithe in the NS-IBTS and SWC-IBTS survey, 2011-2015.



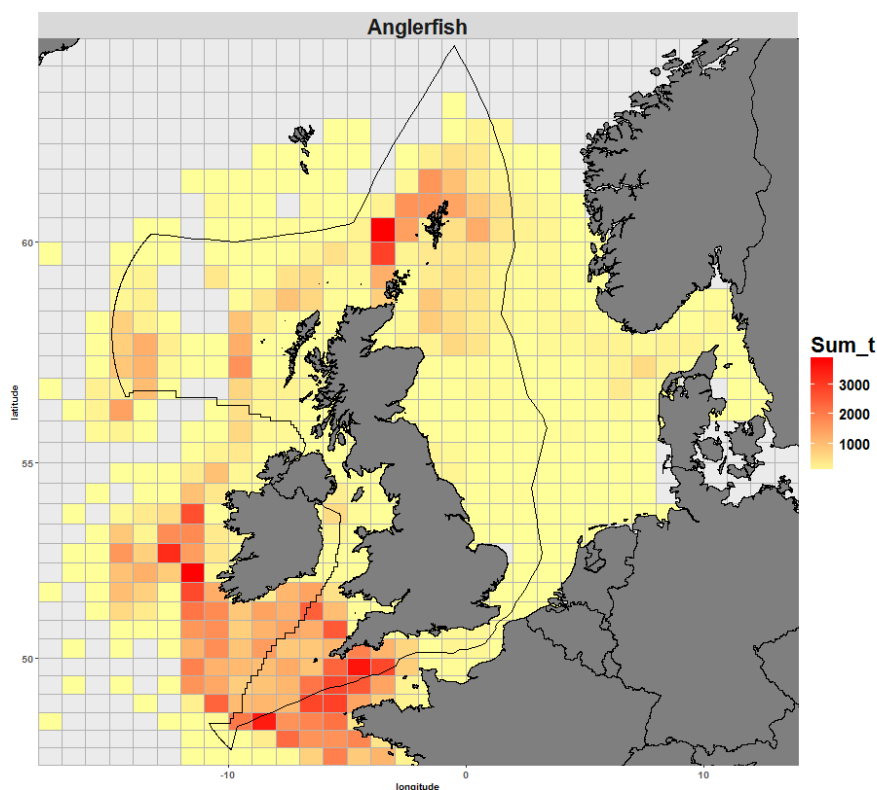
Source: International Council for the Exploration of the Sea, ICES

Anglerfish

The white anglerfish (*Lophius piscatorius*) is a bottom-living species, found from 50 to >1000 m (Whitehead et al., 1986; Dardignac, 1988). They inhabit the **Northeast Atlantic** from the Barents Sea to the Strait of Gibraltar and also the Mediterranean and the Black Sea. The distribution overlaps considerably with the black anglerfish (*Lophius budegassa*), which has generally a more southern distribution (Whitehead et al., 1986). Both species are marketed as one.

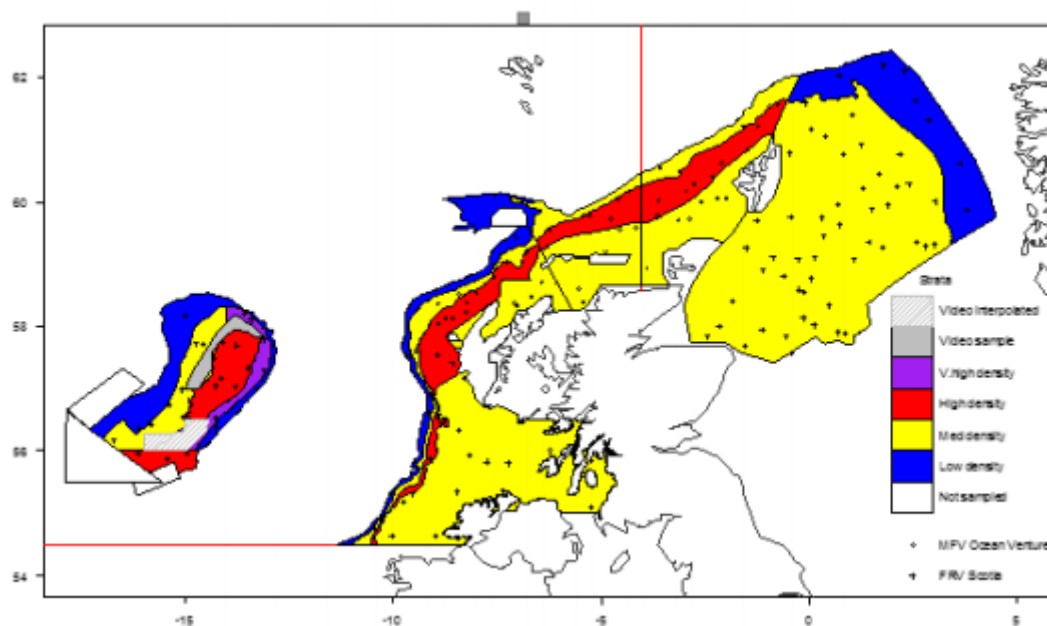
ICES distinguishes the stocks on the **northern shelf** (Division IIIa, Subareas IV and VI) from the **northern stocks of the southern shelf** (Divisions VIIb–k and 8a, b, d) and the southern stocks of southern shelf (Divisions VIIc and IXa). The latter is of no interest for this study. The **main distribution areas** around the **Shetlands, west of Scotland and Rockall** as well as **west of Ireland** (i.e. Porcupine bank), Celtic Seas and Bay of Biscay can be also identified from the anglerfish landings of all EU fleets (Figure 2.5). Somewhat higher anglerfish catches also occur along the **Norwegian trench in the North Sea and Skagerrak**. For the northern shelf stock, a dedicated anglerfish survey takes place (Sco-IV-VI-AMISS-Q2 survey). This survey is stratified according to expected low and high densities (Figure 2.6). The expected high and low density areas match well the areas of high landings on the northern shelf.

Figure 2.5: Landings per ICES statistical rectangle from EU countries in the years 2011 to 2015 (sum over years).⁶⁷



Source: own compilation

Figure 2.6: Map of the northern continental shelf around the British Isles anglerfish survey areas in 2011, shaded according to the survey strata as indicated in the legend.⁶⁸



Source: International Council for the Exploration of the Sea, ICES

⁶⁷ Landings per rectangle were downloaded on 9 May from the JRC data dissemination tool (<https://stecf.jrc.ec.europa.eu/dd/effort/graphs-quarter>).

⁶⁸ Sample positions (n=153) are indicated by the black crosses (FRV Scotia, n=104) and black circles (MFV Ocean Venture, n=49). Copied from ICES stock annex for Anglerfish in Subareas 4 and 6, and in Division 3, downloaded 16.05.2017.

The key features of the species' life history in relation to its **exploitation** are the **location** of the **main spawning areas**, and whether or not there is any systematic migration of younger fish back into the deeper waters to spawn (ICES stock annex for anglerfish in Subareas 4 and 6, and in Division 3, downloaded 16.05.2017). At present, despite the large **increase in catches** during the **mid-1990s**, there is no apparent contraction in distribution; fish are still **recruiting** to relatively **inshore areas** such as the **Moray Firth** in the northern North Sea. The fact that spawning may occur largely in deep water off the edge of the continental shelf may offer the stock some degree of refuge. However, this assumes that the spawning component of the stock is resident in the deep water, and is thus not subject to exploitation. It is not known to what extent this is true.

Germany holds **quota** for anglerfish in TAC areas **IIa and IV** (40% of the German anglerfish quotas) as well as in **Vb, VI, XII and XIV** (23% of the German anglerfish quotas) and VII (37% of the German anglerfish quotas). While the quota in VII is currently fished in Irish waters by German fleets, landings from the northern shelf stock originate mainly from UK waters and it is likely that the respective catches cannot be compensated from outside UK waters. In addition, countries like **France and Spain** have important fisheries for anglerfish inside the UK EEZ especially in ICES subareas VI and VII. **In case** all EU countries would no longer be allowed to fish in UK waters, **a concentration of fishing effort** on the fishing grounds **outside the UK EEZ** will occur. The effects of such effort concentrations on the stock and its feedback into the fishing fleets are unclear at present.

Atlantic Herring

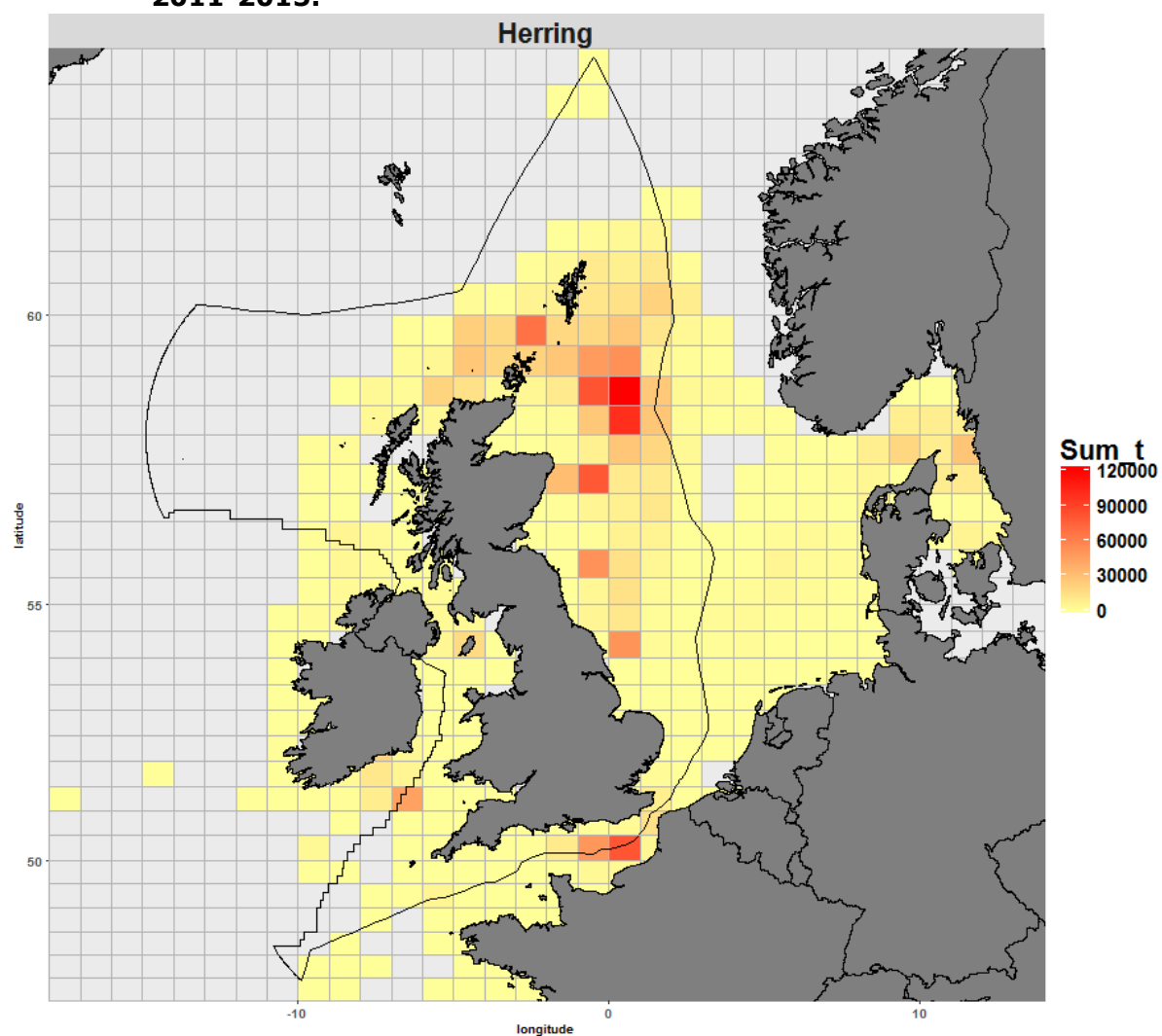
Atlantic Herring is a pelagic fish species, typically aggregated in large and dense shoals. Several coastal stocks are found in the northern hemisphere, which are all important and valuable resources of exploitation. In general, herring populations are migratory and their stock separation and distribution is complex. With regards to **EU-waters**, several stocks are abundant in the **North Sea, the Irish and Celtic Sea, West of Scotland and in the Baltic Sea**. While the stock in the North Sea is dominated by autumn spawners and in the Baltic Sea by spring spawners, all type of spawners exist west of Britain. Mixing of populations does occur to a variable extend.

The North Sea autumn spawning herring (NSAS, her-47d3) is the most important stock for exploitation by EU-Fleets. TACs have increased from 150 000 t to almost 500 000 t in recent years. A separate TAC (11% of the total for the human consumption fishery) is set for herring in Division 4.c and 7.d.

The EU fishery is concentrated in the north-western part of the North Sea, around the Fladen Ground area (Figure 2.7). The majority of the fishery takes place in the Orkney/Shetland area in the 3rd quarter (roughly 60% of the total annual catch), and in the English Channel (Division 7.d) in the 4th quarter. A landing obligation is in place since 2015. Besides the human consumption fishery, also an **industrial fishery** (B-Fleet) operates in the **North Sea**. This fishery is targets sprat shoals for reduction purposes and takes juvenile herring as by-catch. Most of these catches are taken in Division 4.b.

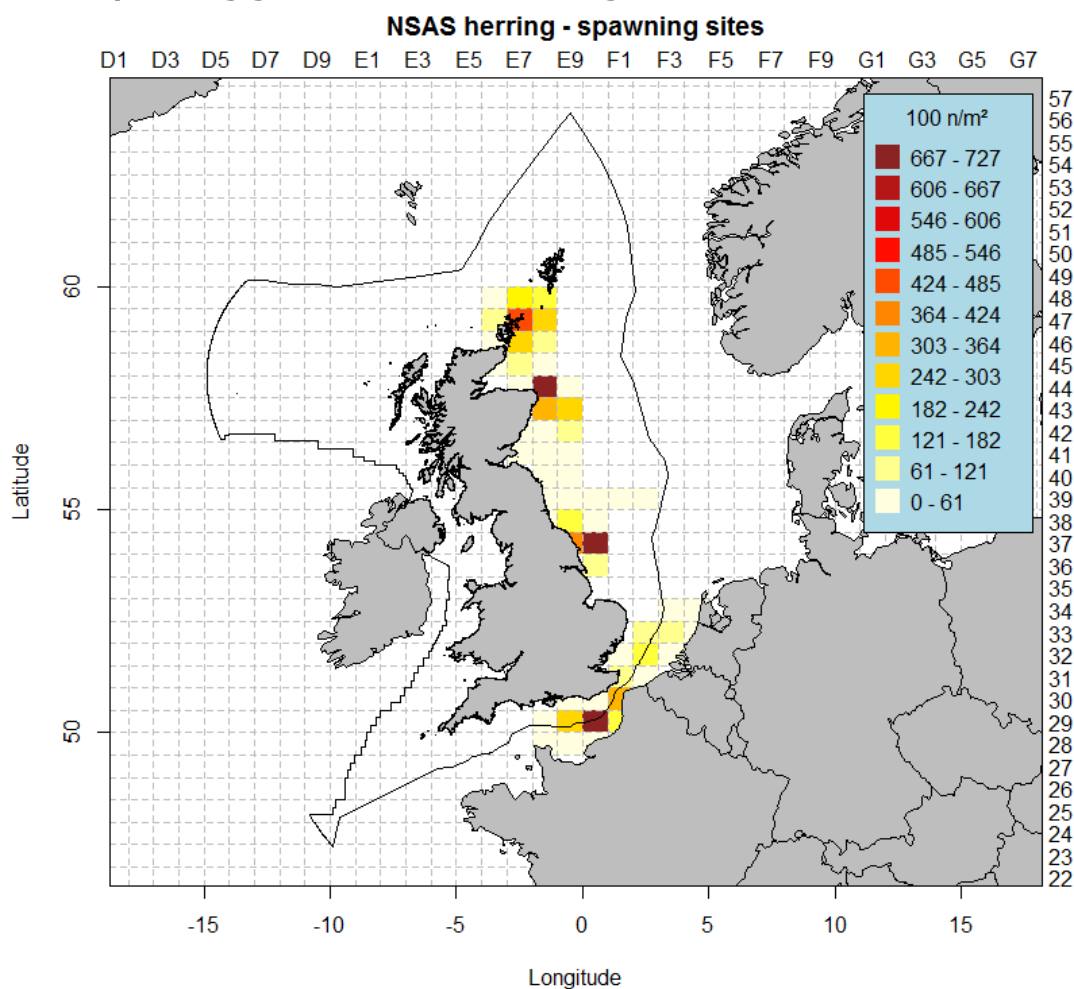
NSAS herring consists of four major spawning components. They all **spawn in coastal waters**, around the **Orkneys and Shetland**, the **Buchan area** and on **Banks** in front of England and in the **English Channel** (Downs herring). The majority of **spawning habitats** are located **within UK-waters**. Only some grounds in the English Channel belong to the French, Belgian and Dutch EEZs. (Figure 2.8). The spawning ground at the Dogger Bank has been extinct since the collapse of the North Sea stock in the middle of the 1970s.

Figure 2.7: Commercial herring catches (tonnes) taken by EU fleets as sum over 2011-2015.



Source: own compilation

Figure 2.8: Summed abundance of newly hatched herring larvae (< 10 mm TL) at spawning grounds of NSAS herring 2011-2015⁶⁹.



Source: own compilation

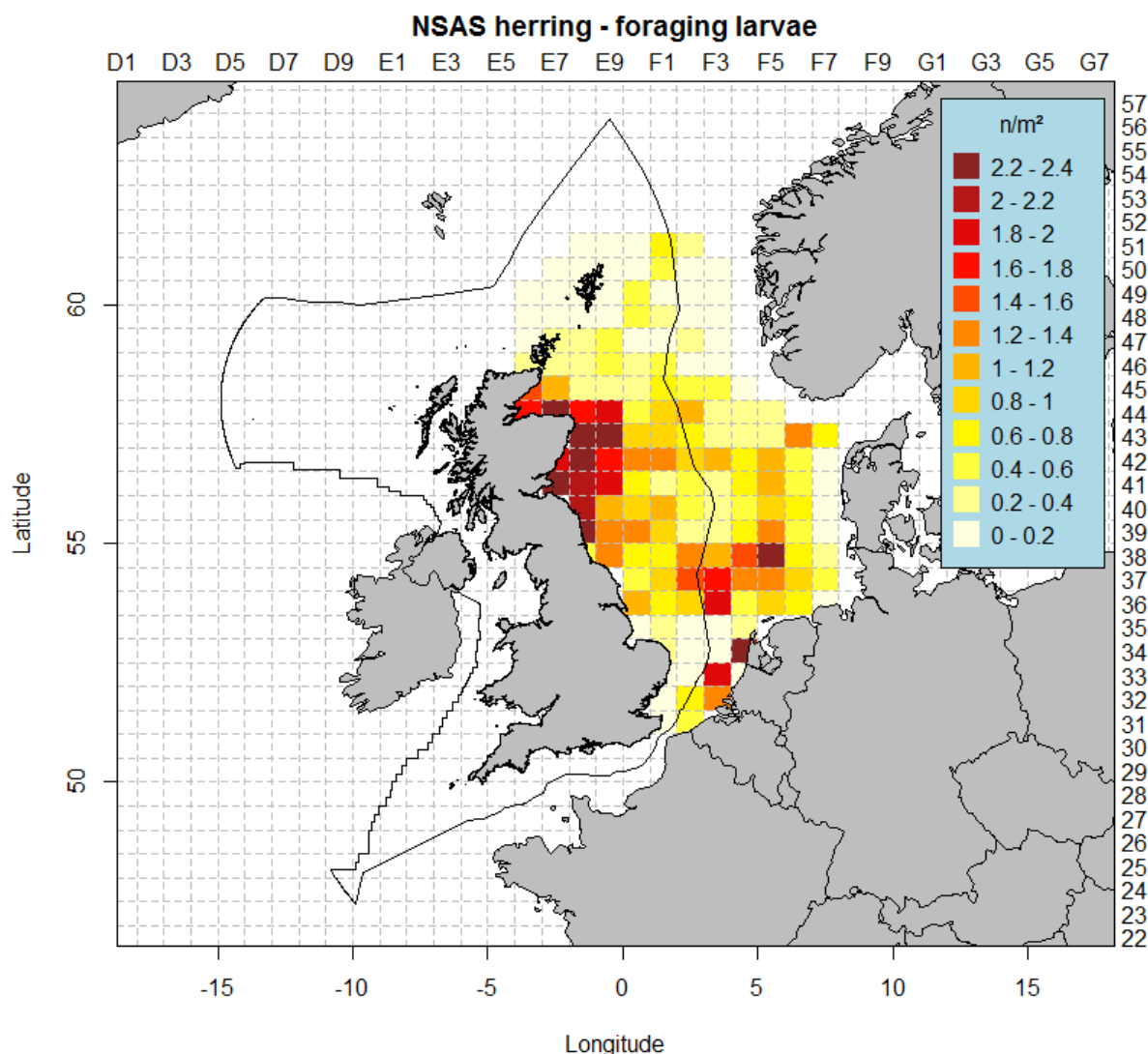
After hatching, herring larvae drift and spread out from the spawning grounds into the North Sea. Foraging larvae are more abundant in waters associated to the eastern part of the North Sea, e.g. the German Bight and the Danish coast, where they grow up and metamorphose into juveniles. However, there is a large annual variability in these drift pattern, resulting occasionally in larger quantities of herring larvae remaining in the Murray Firth and areas relatively close to the spawning grounds (Figure 2.9).

Juvenile herring are largely distributed in the southern and east central North Sea. They start shoaling and are often aggregated within sprat shoals, and recruit into the fishery when targeted by the B-Fleet. With ongoing life span, herring migrate into the feeding areas of the adult population in the northern North Sea, becoming object of the human consumption fishery. This fishery takes place nearly exclusively inside the UK EEZ by EU fleets (data from 2011 to 2015; Figure 2.7).

The majority of the German herring quota is allocated to the North Sea and fished inside the UK EEZ (approximately 80%). As far as other populations in EU waters are concerned, larger quantities of German herring quotas are utilized in the Baltic Sea, and, to a much lower extent, in the UK EEZ West of Scotland and in Area 7g,h. Thus it is very unlikely that Germany would be able to fish its herring quotas outside the UK EEZ.

⁶⁹ Data are derived from the International Herring Larvae Surveys (IHLS).

Figure 2.9: Summed abundance of 0-wintering herring larvae in the North Sea in 2011-2015⁷⁰.



Source: own compilation

Mackerel

Mackerel is a widely distributed and migratory pelagic species. ICES currently uses the term "**Northeast Atlantic (NEA) mackerel**" to define the mackerel present in the area extending from the Iberian peninsula in the south to the northern Norwegian Sea in the north, and Iceland in the west to the western Baltic Sea in the east.

In the Northeast Atlantic, mackerel spawn from the Portuguese waters in the south to Iceland in the north and from Hatton Bank in the west to Kattegat in the east. Spawning starts in January/February in Iberian Peninsula waters along the continental shelf edge and ends in July to the northwest of Scotland and in the North Sea. NEA mackerel is divided **into three distinct entities**, namely the **Southern, Western and North Sea spawning components** (ICES, 1977; ICES, 2013a). Catches cannot be allocated specifically to spawning area components on biological grounds, but by convention; catches from the Southern and Western components are separated according to the areas in which these are taken.

⁷⁰ Data are derived from the Midwater Isaac Kitts trawl survey (MIK), which is part of the 1st quarter IBTS.

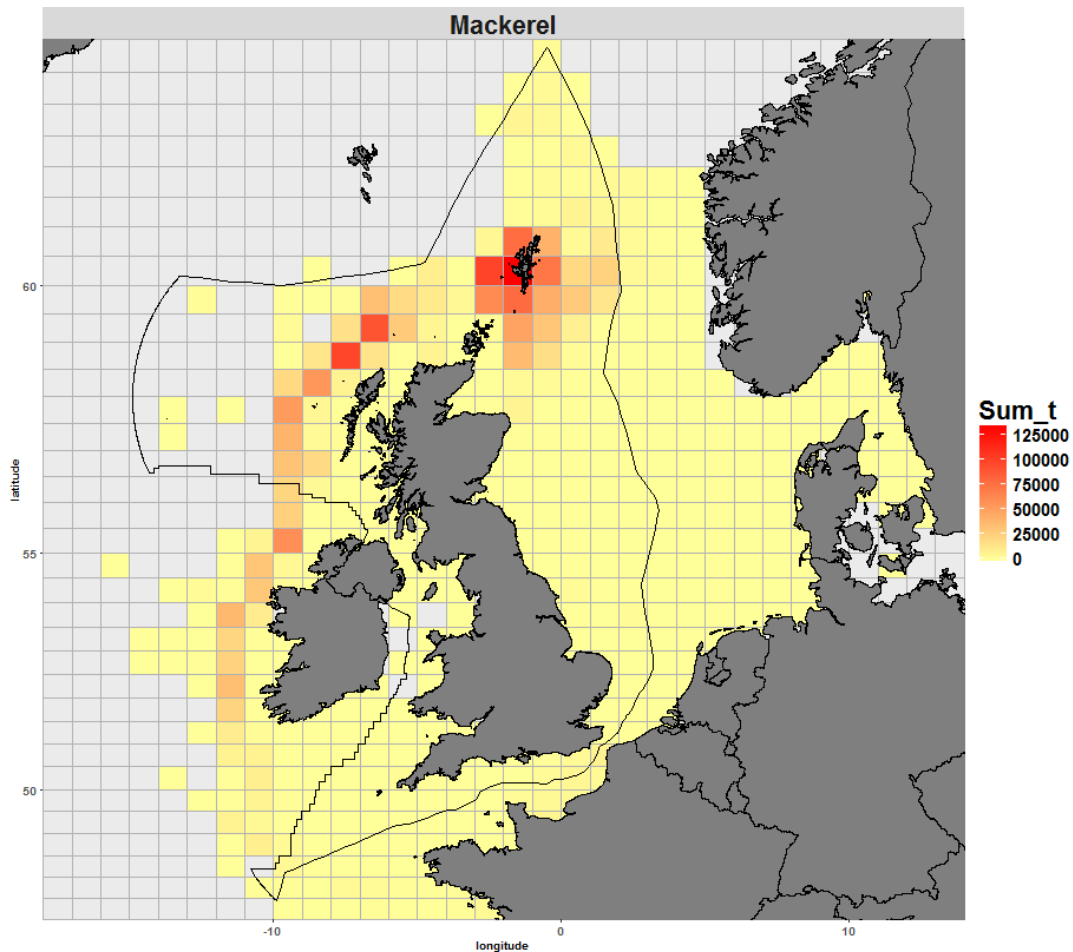
The **Western component** is defined as mackerel spawning in the western area (ICES Divisions and Subareas 6, 7, and 8.a,b,d,e). This component currently accounts for ~75% of the entire Northeast Atlantic stock. Similarly, **the Southern component** (~22%) is defined as mackerel spawning in the southern area (ICES Divisions 8.c and 9.a). Although the North Sea component has been at an extremely low level since the early 1970s, ICES considers that the North Sea component still exists as a discrete unit (~3%). This component spawns in the North Sea and Skagerrak (ICES Subarea 4 and Division 3.aN).

As a widely distributed and migratory species, NEA Mackerel is exploited over a wide geographic range throughout the year. Significant fisheries extend from the **Gulf of Cadiz**, along the **western and northern Iberian coasts**, through the **Bay of Biscay**, **South**, **West** and **North of the United Kingdom and Ireland**, into the **northern North Sea** and the **Norwegian Sea** and, in more recent years as far north as 72°N and west into **Icelandic and east Greenland waters**.

The **fishery is international** and, as such it is exploited by several nations using a **variety of techniques** determined by both the national fleet structure and the behaviour of the mackerel. At the onset of the **spawning migration**, large mackerel shoals move out of the northern North Sea initially to the west before moving south down the west coast of Scotland and Ireland. The timing of this **migration is variable** but generally occurs around the end of quarter 4 and the start of quarter 1. During this time, they are targeted primarily by **Scottish and Irish pelagic trawlers** and also **freezer (factory) vessels** (primarily **Dutch and German**). Prior to the onset of this migration the mackerel are overwintering, relatively static and are targeted by a large Norwegian purse-seine fleet. During summer the mackerel are more widely dispersed as they feed in Northern waters. At this time **Russian pelagic freezer trawlers** and in more recent times **Icelandic, Faroese and Greenlandic** pelagic vessels are active. The southern fishery takes place at the start of the spawning season upon completion of the spawning migration. The **Spanish fleet** is comprised of both bottom and pelagic trawlers and also a large artisanal fleet. There are other smaller scale fisheries such as a **Norwegian gillnet fleet** and an English handline fleet that operates in the otherwise restricted area known as the Cornwall box.

The vast **majority of EU catches** are taken **within the UK EEZ**, around the **Shetlands and northwest of the Hebrides** (Figure 2.10). The total catch of NEA mackerel in all areas as estimates by ICES has increased from 481 000 t in 2006 to about 1 070 000 tonnes in 2016, exceeding the recommended catch level by more than 400 000 tonnes. However, the ICES estimated catch in the North Sea, Skagerrak and Kattegat (Subarea 4 and 3.a) was relatively stable between 200 000 and 300 000 t in the last ten year's period.

Figure 2.10: Summed commercial mackerel catches (tonnes) taken by EU fleets for 2011-2015.



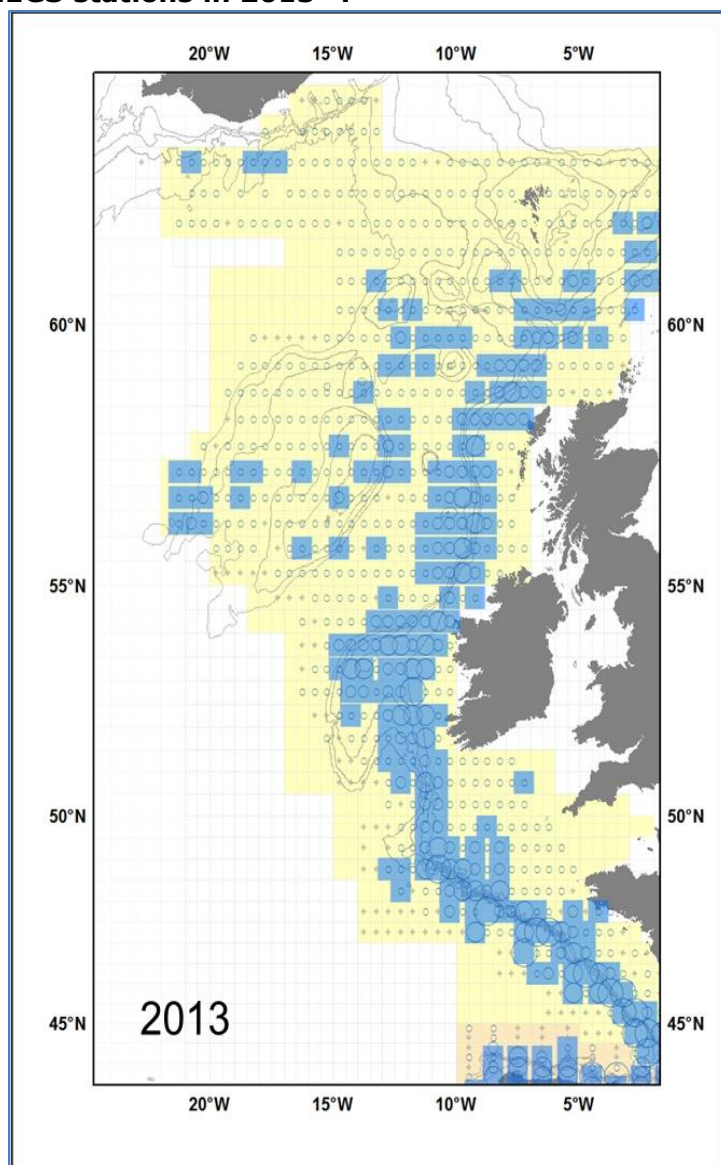
Source: own compilation

There exist a **number of national and international agreements** to control the exploitation of the NEA Mackerel stock. Targeted fishing is prohibited in the North Sea with the purpose of protecting the North Sea stock component which has failed to recover from extremely heavy exploitation during the 1970s. The Cornwall box is an area off the SW coast of England that is a known juvenile area. Since 2015 within the EU a landing obligation has been in force, under this new law all the species managed through TACs and quotas must be landed.

Even though **spawning** occurs widely on the shelf and shelf edge from the Bay of Biscay to the southern Norwegian Sea, most of the egg production is concentrated in two core spawning areas. One elongated area along the shelf break of the Spanish peninsula in the beginning of the year, and one around southwest Ireland to the west of Scotland later in the year (Figure 2.11). In the central North Sea spawning takes place in May–July.

In the recent period (since the 2007 survey) an **expansion** of the **spawning distribution** for the western spawning component has been observed (ICES, 2013b). Spawning occurs now further to the west (up to 20° of longitude west) and to the north (up to the southern Norwegian Sea) (Nøttestad, 2012; Nøttestad, 2013; ICES, 2013b). However, **most of the egg production** of the **western component** remains in the **traditional spawning grounds**, located on the shelf edge in the southwest of Ireland to the west of Scotland. The egg production **in the new areas** remains **marginal**. As a consequence of this expansion of spawning to the North, juveniles 0-group mackerel are now found in the Nordic seas (Iceland, Barents sea, ICES (2013a)).

Figure 2.11: Mean egg production (stage 1 eggs/m²/day) by half ICES rectangle for all MEGS stations in 2013⁷¹.



Source: International Council for the Exploration of the Sea, ICES

In conclusion, Mackerel performs **extensive migrations** between **spawning grounds, feeding grounds and overwintering areas**. The migration pattern has changed substantially through time.

When the NEA mackerel return in late summer and autumn from the feeding areas on the European shelf and in the Nordic Seas, they aggregate through autumn and early winter along the continental shelf edge, where they are targeted by commercial trawlers and purse-seiners. Most of **EU mackerel catches** are taken **within the UK EEZ**. Any assumptions on future fishing rights in the UK EEZ or TACs shares with foreign nations are highly speculative. Under the current considerations, it seems unlikely that Germany would be able to fish its mackerel quotas outside the UK EEZ.

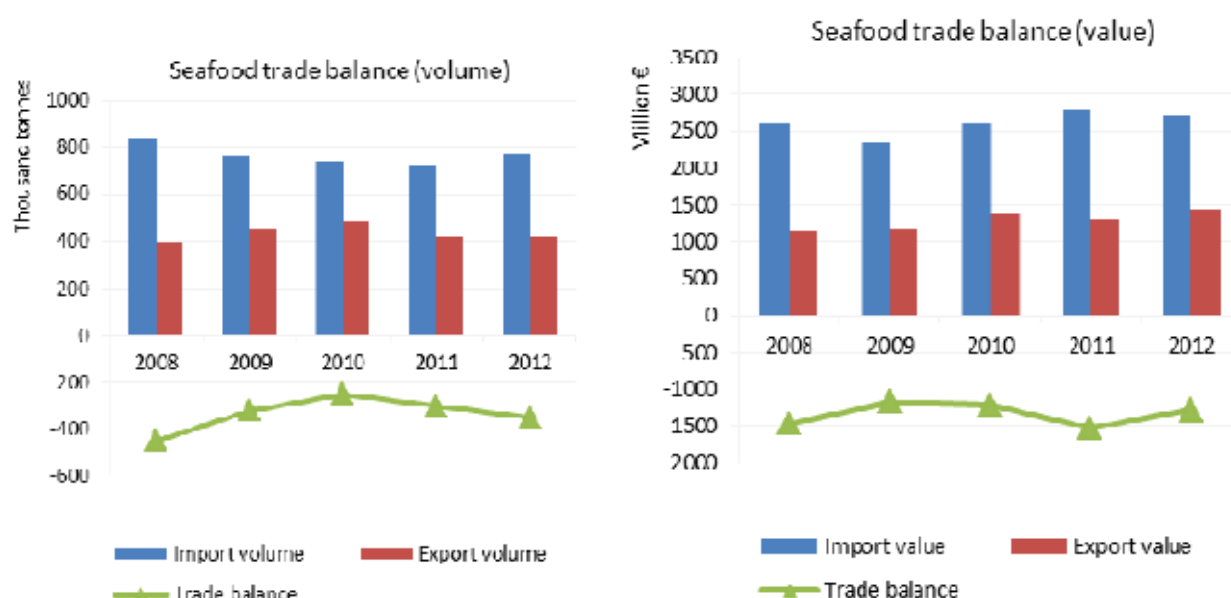
⁷¹ Egg production values are square root transformed. (Crosses denote locations where sampling was undertaken but where no spawning was recorded). Area in yellow denotes the maximum geographical survey extent for the western survey area. Area/stations capturing 90% of spawning activity within that year are overlaid (Figure taken from Burns, O'Hea & Costas, 2016, WGMEGS Presentation to WKWIDE 2016).

(Please note: this section was derived from the Stock Annex of WGWISE 2016 on Mackerel (*Scomber scombrus*) in subareas 1-7 and 14 and divisions 8.a-e, 9.a).

2.5 Analysis of trade statistics between Germany and the UK

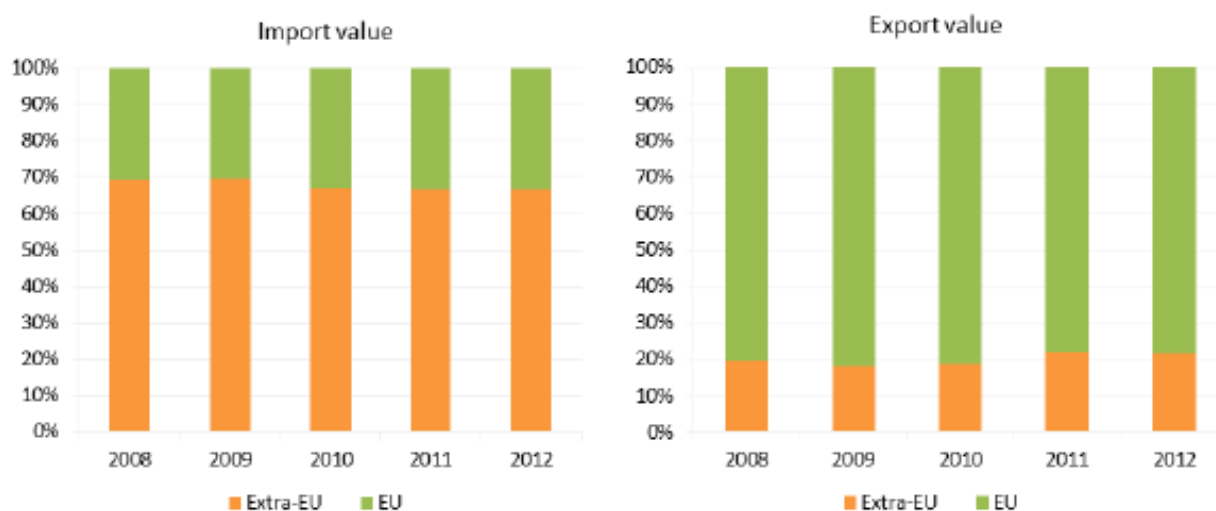
In contrast to catches, where EU vessels fish much more in UK waters than vice versa, regarding trade the situation is different. Although in discussions about fish trade with the UK and the potential influence of Brexit it is always mentioned that the **UK exports significant amounts** of fish, the UK has a trade imbalance with higher imports than exports (Figure 2.12). This includes EU and Non-EU trade partners (Figure 2.13).

Figure 2.12: UK seafood imports and exports composition by type and origins/destination: shares in value (STECF 2014).



Source: STECF, 2014

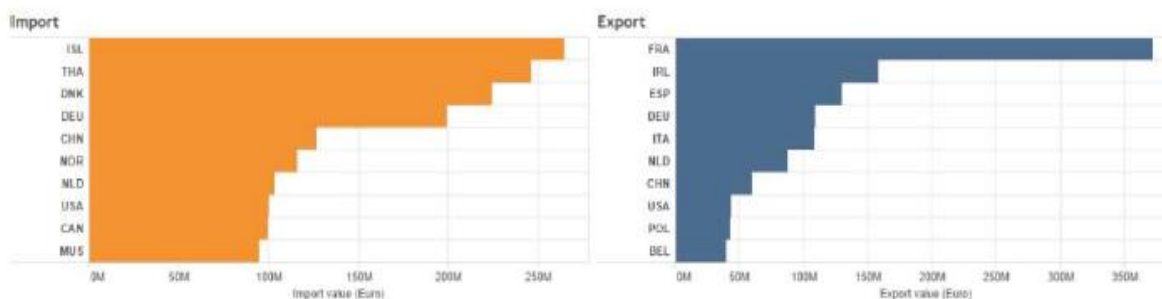
Figure 2.13: Seafood trade balance (volume and value) of the UK (STECF, 2014).



Source: STECF, 2014

However, the **UK imports** comparably **small amounts** of seafood **from EU countries** compared to imports from the rest of the world. On the contrary, exports to mainland EU are quite significant compared to overall UK exports. Overall, the EU and here especially France, is an important export market for the UK (see also Figure 2.14 for 10 most important countries regarding Import and Export).

Figure 2.14: Top 10 UK seafood trade partner countries, 2012 (STECF 2014).



Source: STECF, 2014

For Germany, the UK is an important trading partner for fish products. In contrast to the trade balance between the UK and the EU, Germany exports more seafood to the UK than it imports. Brexit may complicate the access to the British market. In case the UK no longer participates in the common European market this may increase costs for EU products to be exported to the UK and may also increase costs for imports from the UK.

Table 2.17 illustrates the main species groups traded between the United Kingdom and Germany. The vast majority of **German exports** is based upon **imported raw material** (Alaska pollock, Pacific pollock, Pacific cod, salmon, sea bass). Amongst the species of major export importance only cod is to some extent based on German catches, while mackerel and herring as major species of the German pelagic fleet are of minor importance for export. Most British exports are based on salmon, which is to some extent caught or grown within the UK. German imports of herring and mackerel exceed the exports of these species.

Table 2.17: Trade¹ between Germany and the UK: Main species groups, weight and value for 2015.

Species (group)	Import 1.000 €	Import tons	Export 1.000 €	Export tons
Alaska/Pacific pollock, Pacific cod (incl. breaded fillets)	3,350	1,063	93,653	29,041
Salmon fresh, smoked, frozen, filleted	22,423	3,276	47,400	5,192
Sea bass fresh, chilled	24	2	7,498	1,415
Mackerel smoked, filleted, frozen	9,078	5,280	2,784	812
Herring frozen, chilled, filleted	8,545	7,083	5,197	1,661
Cod frozen, fresh, whole, filleted	6,739	1,058	30,449	5,502
Sum	50,159	17,762	186,981	43,623
Share	50%	72%	79%	84%
National total	99,587	24,687	235,372	51,666

¹Import= import of UK goods to Germany; source: Federal Statistical Office, Germany).

3. ANALYSIS OF EXPECTED CONSEQUENCES ON SOME BASIC PRINCIPLES AND REGULATIONS OF THE CFP

KEY FINDINGS

- Brexit could lead to worse conditions for **quota swaps** used to circumvent shortage in national quotas caused by the relative stability principle. The exchange of quotas with the UK could become more complicated (as Britain will become a third country) with severe negative consequences for some parts of the EU but also for British fleets. Therefore, Brexit may **challenge** this **system** and the **principle of relative stability**, if the UK rejects the current distribution of fishing opportunities according to historical catches.
- The examples analysed in the study have revealed that commercially important fish stocks are distributed to a large extent in UK waters. Therefore, the UK could be in favour of distributing fishing opportunities according to **"zonal attachment"**, i.e. the distribution of fish stocks across the EEZs of the EU and Norway (as opposed to historical catches).
- Depending on the decision during Brexit negotiations on quota distributions, the remaining shares of the EU may have different effects on involved MS. MS do not hold the same percentage of the quota for each stock. Therefore, changes in the overall quota will affect MS differently. That could be a reason for a discussion on relative stability also for the remaining MS.
- Since the implementation of relative stability catch compositions has changed significantly since the reference period lies at the end of the 1970ies. Climate change will further affect the distribution of fish stocks. Additionally, the **landing obligation** and the corresponding choke species problem further amplify the problem of relative stability.
- In the relationship between the **EU and Norway**, conflicts have arisen especially regarding the distribution of fishing opportunities, the application of long-term management plans and the regulation of discarding. Similar conflicts are likely to arise in the relationship between the **UK and EU**.
- Difficult negotiations with the UK regarding suitable technical measures for joint sustainable exploitation strategies can be foreseen in cases where UK fisheries are impacted disproportionately high (e.g., fisheries for **Nephrops, haddock, whiting and cod**).
- The UK is an important partner in the **collection, management and use of data** from the fisheries sector under the Data Collection Framework (DCF) co-funded by the EU. It is unpredictable if the UK will continue the data collection on the same level in the future on national funding only.
- As a result of the highly efficient work-sharing of **the European science and advisory system**, the important role of UK experts within this system, plus the significant contribution of funds from the UK into the European fishery science and advisory system, any change to the present set-up in response to the Brexit would very likely yield extremely **negative consequences** for the performance and quality of European fisheries research and advice.

Brexit will have consequences not only for fishing activities of British and EU vessels, but also for some key elements of the CFP itself. This includes the distribution of **fishing opportunities**, the **landing obligation** and several **technical measures** including spatial management measures.

3.1 General principles of the CFP TAC-management and distribution of fishing opportunities

The EU has an **exclusive competence** for the “conservation of marine biological resources” (Art. 3d), TFEU). The EU’s most important policy instrument to achieve this purpose are **TACs**, which are fixed for individual stocks and divided into national quotas (Gezelius, 2008). Annual TACs and quotas are fixed by the Council upon proposal of the Commission (Art. 43(3), TFEU), i.e. not according to the “ordinary legislative procedure” laid out in the Lisbon Treaty. **Multiannual plans** have however been decided according to the ordinary legislative procedure (see Art. 43(2), TFEU) since the entry into force of the Lisbon Treaty. These plans, where available, provide the framework for annual decisions on TACs by setting **conservation goals** for the stocks in question.⁷²

TACs are divided into **national quotas** according to the “**principle of relative stability**”, i.e. for each stock the relative shares of MS are set and these percentages are not renegotiated during the annual Council meetings (Peñas Lado, 2016). The principle of relative stability is enshrined in article 16(1) of the CFP Basic Regulation. The allocation of national quota shares is still based on the first TACs and quotas which were decided in 1983. In 1983, **three criteria** were used to fix national quotas: **historical catches** (between 1973-78), **specific needs** of areas dependent on fishing, and **losses of fishing opportunities** in third countries (due to the creation of Exclusive Economic Zones in the 1970s) (Churchill and Owen, 2010). There is no **legally binding method** established for fixing the **distribution of new fishing opportunities**; the CFP Basic Regulation merely states that when new fishing opportunities are distributed, “the interests of each Member State shall be taken into account” (Art.16(1)). In the past, historical catches have played an important role in distributing the fishing opportunities for stocks not covered by the 1983 regulation (Churchill and Owen, 2010).

The **timetable** for the fixing of **fishing opportunities** within the EU follows a series of **steps**. **ICES** publishes advice regarding fishing opportunities in May/June⁷³. This is followed by a **Commission communication** which sets out the Commission’s approach to the setting of TACs for the following year (see for instance COM(2016) 134 final). The Commission’s communication (also known as the “policy statement” (Peñas Lado, 2016)) provides the basis for a stakeholder consultation process. In the period from September to December, the Commission proposes TACs for stocks managed under the CFP, which are then decided upon by the Council. This decision-making process is split up according to different categories of stocks and regions (Baltic Sea, deep-sea stocks, Atlantic/North Sea/Black Sea) (COM(2016) 134 final, p. 10), i.e. for each category there is one Commission proposal and one Council Regulation.

Regarding **joint fisheries management of the EU and third countries**, the most relevant example in economic terms is the relationship between the **EU and Norway**. The relationship with Norway is based on an agreement from 1980 in which both parties aim for “establishing a mutually satisfactory balance in their reciprocal fisheries relations”⁷⁴. The allocation of fishing opportunities between the EU and Norway is based on the principle of zonal attachment, i.e. “each party’s share of the TAC should correspond to the proportion of the stock which is of catchable size found in its economic/fishing zone” (Churchill and Owen, 2010). Norway allocates fishing opportunities to the EU as a whole, not to individual MS. The EU then applies the principle of relative stability when distributing fishing opportunities among its MS (Churchill and Owen, 2010). Apart from the 1980 agreement between the EU and Norway, the 1992 agreement on

⁷² https://ec.europa.eu/fisheries/cfp/fishing_rules/multi_annual_plans_en

⁷³ <http://www.ices.dk/community/advisory-process/Pages/Advice%20requests%20and%20advice%20release%20dates.aspx>

⁷⁴ Agreement on Fisheries between the European Economic Community and the Kingdom of Norway (Art. 2(1b)).

the European Economic Area is relevant for the relationship between the EU and Norway in fisheries matters. This agreement reduced trade restrictions between Norway (and other EFTA states⁷⁵) and the European Community regarding fisheries products. This benefitted mainly the EFTA states. In return for improved market access, Norway offered the EC improved access to some fish stocks, although the changes to the distribution of fishing opportunities were modest (Churchill and Owen, 2010).

Within the **framework of the 1980 agreement between** Norway and the EU, the two parties hold annual consultations on fisheries management. These consultations deal with the management of shared stocks and with reciprocal access to national stocks. In the context of national stocks, cod equivalents serve as the currency for organising **exchanges of fishing opportunities**. Negotiations between the EU and Norway are based on ICES advice for the stocks in question and are concluded before the December Council which sets TACs for the North Sea (Griffin, 2013). Apart from distributing fishing opportunities, the EU and Norway aim at **harmonising** other fisheries **management measures** (e.g. technical measures) in their bilateral negotiations (Churchill and Owen, 2010). Regarding the implementation of the agreements, the EU's decision-making procedure is analogous to the procedure applied for fisheries management among MS, i.e. the allocation of fishing opportunities can be decided upon by the Council based on a Commission proposal while other management measures (e.g. technical measures, multiannual plans) also require the consent of the European Parliament.

A number of conflicts have arisen in the EU's relationship with Norway. One such issue was the use of long-term management decisions, which the EU was initially opposed to, but which have been implemented for several stocks since 1999 (Churchill and Owen, 2010). Furthermore, the distribution of TACs led to conflicts, for instance in the context of the **mackerel stock**, since the EU did not agree that mackerel was a shared stock until the late 1980s (Churchill and Owen, 2010). Finally, the issue of **discarding** led to conflicts, since the policies of the two parties regarding this issue were contradictory until the latest CFP reform. The relationship with Norway also leads to tensions within the EU, since stocks within the Norwegian zone are economically relevant for specific MS while different MS are interested in the stocks for which Norway fishes in EU waters (Peñas Lado, 2016).

3.2 Potential consequences for relative stability, the landing obligation and choke species, quota swaps and technical measures

Background

The EU has an exclusive competence for the "conservation of marine biological resources" under the CFP (TFEU, Art. (3d)) and relevant regulations are adopted on EU level (TFEU, Art.14, ordinary legislative procedure⁷⁶). After more than three decades of **common management** of the marine living resources in the EEZs of the EU MS there is reason to believe that the current situation provides a solid ground and well-functioning model to base Brexit negotiations between EU and UK on. UNCLOS requires a common management approach **for shared resources** – to name an international basic legal requirement fully implemented in the CFP. The uncertainty related to Brexit relates to the question, to which degree basic principles of the CFP and joint regulations may remain as UK policy. Changes to the agreed procedures of sharing fishing opportunities between the EU and UK may lead to **immediate, medium and long term consequences** for the fishing fleets of the remaining EU MS and UK. In this chapter we describe some of the basic principles and regulations of the current CFP and how Brexit may influence them.

⁷⁵ Iceland, Liechtenstein, and Switzerland

⁷⁶ The ordinary legislative procedure is however not applied to the setting of TACs and quotas (see above).

Relative stability

Since the implementation of the first basic regulations of the CFP relative stability of the distribution of fishing opportunities between the MS is a main principle. The allocation of national quotas is still based on the **initial sharing**, which was decided **in 1983**. In negotiations with third countries such as Norway, the principle of relative stability has been considered as a valid argument among others, such as consistent geographical and seasonal distribution patterns of the living resources and their life **stages (zonal attachment)**.

It is obvious that the principle of relative stability in sharing fishing opportunities does not reflect **recent national fishing strategies** in many cases, due to changes in the **dynamics** of fish **stocks** and economic **markets**. Would the EU call for and apply **a new reference period** as a basis for **calculating the TAC sharing**, the fishing opportunities of individual MS would certainly amount to quite different volumes. The catch composition of European fleets has already been and will continue to be influenced by the **effects of climate change** via changes in the distribution and productivity of fish stocks in EU waters and beyond. **ICES** currently published **advice on changes in the distribution on fish stocks** in the **North East Atlantic** and concluded that "Distributional changes were already found for 16 of the 21 fish species analysed. Half of these distributional changes in fish stocks affect the distribution of these species across TAC management areas. The drivers for changes in distribution of most of the analysed species were linked to **changes in environmental conditions** (i.e. mostly through sea temperature), but for some species fishing also played an important role." ... "Future changes in these drivers will further affect the fish distribution and may affect more species/stocks than currently detected. ICES cannot predict these changes at present." (ICES Special Request Advice Northeast Atlantic sr.2017.05). To **mitigate** unforeseeable **ecological consequences** and changed fishing patterns, MS regularly defined by-catch regulations and exchange quotas (quota swaps) as management tools to accommodate and maximise their national fishing interests. Brexit may have the **following consequences**:

- 1) Conditions for **quota swaps** may change and the exchange of quota with Great Britain may become more complicated (as Britain will become a third country). As the German case shows, this can have severe negative consequences for some segments of the EU fleet, but also British fleets.
- 2) Depending on the decision of quota distributions between then at least three negotiating parties (**Britain, EU and Norway in many cases**) the changes in the remaining shares of the EU may affect involved MS differently, as MS do not hold the same percentages of quota for each species. Therefore, changes in the overall quota will affect MS in different ways. As a further consequence, MS have a strong incentive to **re-discuss the issue of the reference period** for relative stability or relative stability as guiding principle, in general.

Landing obligation and choke species problem

The UK was one of the **driving MS** for the decision to introduce the **landing obligation** during the last reform of the CFP. The respective Article 15 of the basic regulation (EU 1380/2013) includes, however, certain exemptions from the general rule to land all catches of regulated species. The landing obligation is currently implemented via **delegated acts** considering specific fisheries following joint recommendations by MS with fishing interests in that region (regionalised management). This strategy is interpreted as a progressive transition towards **full implementation** of the landing obligation **by 2019**. The regional management groups of MS will also discuss and propose technical measures in the future (see below).

The introduction of the **landing obligation amplified the problem** of changes in catch composition and fishing opportunities, as the possibility to discard catches of species for which quotas are either fished out or not available at all to a Member State has been severely reduced.

Especially in **multi-species fisheries** the catch composition may not match the available fishing opportunities of a MS. Therefore, having to land all catches of regulated species may lead to a **closure of a fishery** in case the **quota** of a **by catch species** is exhausted before the quota of the target species is fully taken. To be able to carry on fishing already today requires exchange of quota shares within a country and quota swaps between countries. The magnitude of this problem will further increase as an effect of full implementation of the landing obligation and accelerated **climate change**, and is, therefore, regarded as a serious problem for the actual distribution key of fishing opportunities as well as relative stability in general.

The move from **a landing quota to a catch quota** (which is the basic consequence of the landing obligation) will therefore have consequences for the **distribution of fishing opportunities**. Discards are assessed in the respective fisheries and the amount is added as top-up on the quota later distributed to the MS. However, it may happen that a MS has high discards but a low quota of a certain stock. The **top-up catch opportunities**, however, would not be assigned to the MS with high discards and low landings, but following relative stability, this MS will only get a small increase in the existing low quota reflecting its historic low landings. This possible consequence of the LO may have additional severe fishing effects following historically agreed fixed quota distribution between the remaining MS after Brexit.

Technical measures

The history of the CFP is characterised by **continued reforms** and amendments regarding the technical measures, i.e. a broad set of rules, which govern how, where and when fishermen may fish. The latest reformed version of technical measures is currently being negotiated among MS and close to an agreement. However, experiences have shown that negotiation with non-EU countries, such as Norway, can have a **high impact** on agreed technical regulations of the CFP, which can either have the potential to improve species and size selectivity patterns of the fishery (improve selectivity in fisheries), but can also have negative consequences, if interests differ between EU and the third country and the technical regulations has to be less ambitious to reach an agreement (e.g. selectivity shall not be improved that much). Undoubtedly, the UK has specific interests, e.g. regarding cod by-catches and the Nephrops fishery, which may lead to difficult negotiations with the UK regarding suitable technical measures for joint sustainable exploitation strategies.

3.3 Collection, management and use of data: regional cooperation & funding

Background

The collection, management and use of data from the fisheries sector in EU MS is predominantly taking place under the **Data Collection Framework** (DCF; Council Reg. 199/2008, Commission Implementing Decision 2016/1251). The UK is an important partner in this context and has taken several leading roles in EU fisheries data collection fora (e.g. meeting chairs; key experts for certain aspects such as statistically sound sampling and data quality; collation and synthesis of Member States' comments on legislative proposals for data collection). These **functions** will have **to be re-distributed** to the remaining MS. There are several elements and aspects within the overall EU data collection that are affected by Brexit:

Funding

The costs for the collection, management and use of data from the fisheries sector are co-financed by the EU within the European Maritime and Fisheries Fund (EMFF, Reg. 508/2014, art. 77). In principle, 80% of the expenses for the fisheries data collection of the MS are reimbursed by the EU if the activities are according to the DCF multiannual work plans (Commission Implementing Decision 2016/1701). The share of the overall EU **EMFF budget** that is allocated

to the **DCF work** is approx. **9%** (Reg. 508/2014, art. 13⁷⁷). In the UK, however, a substantially higher share of 21.6 % of the national EMFF budget is allocated to the DCF work, illustrating the importance of funding of data collection in the UK, similar to Germany (16.9 %). It is unclear if the UK will continue the data collection on the same level in the future on national funding only. Furthermore, the remaining MS will not be able to take over additional tasks originally carried out by the UK when the UK DCF share will be deducted from the total DCF budget.

Biological sampling of commercial and recreational fisheries

One of the major DCF tasks is to achieve a **sufficient coverage of the fisheries- and stock-based sampling** within the sea basins (regions) to ensure a high level of data quality for data end-users such as **ICES**. In the North Sea and North Atlantic, the UK holds significant shares in the fisheries and exploitation of stocks, which determines the shares in data collection obligations of the UK compared to the other MS in a region. These obligations are clearly defined within the DCF legal framework including the requirements of the data end users. The data end users set up data calls for e.g. landings, discards, biological data like age-length distributions and/or effort data for certain fish species and the MS are obliged to deliver these data within a certain time frame. These data calls are not legally binding for non-EU countries. Data delivery obligations, however, are part of the scientific collaboration between ICES member countries.

Research surveys at sea

The **monitoring** of fish stocks by **MS (including the UK)** is another important element for informing stock assessment and is a very cost-intensive element of the EU data collection. Most surveys are **internationally coordinated** and are of common interest to the scientific community and fisheries management. It is currently unpredictable if and how (with which effort) international surveys will be continued by the UK and if there will be other/new surveys conducted by the UK on stocks that are monitored by other countries. Regional agreements on cost-sharing of surveys will also be affected.

Economic and social data collection

The UK currently delivers significant contributions to the Annual Economic Report on the European fishing fleet, as well as reports on the European Aquaculture and Processing Industry. Prior to these reports, the European Commission issues economic data calls and sets up Expert Working Groups of the Scientific, Technical and Economic Committee for Fisheries (STECF) to collate and synthesize this information. After Brexit, the overall picture on the status of these sectors could be incomplete to a large degree and the presentation of economic data and indicators might not be comparable to the remaining EU MS' data.

Regional coordination

All EU MS are obliged to participate in the **regional coordination** for the EU fishing regions – the Baltic Sea, North Sea and Eastern Arctic, North Atlantic, the Mediterranean and the Long Distance Fisheries - which were organised in Regional Coordination Meetings (RCMs) until 2016. From this year onwards, it will be organised by the Regional Coordination Groups (RCGs), with an extended mandate that foresees legally binding rules for the MS in the form of **Regional Sampling Plans**. Within the RCGs, the fishing and sampling activities of all MS in the region will be analysed. The RCGs are going to set up regional sampling schemes in order to have the best possible coverage for the fish species and fisheries. These sampling plans will then be formally binding for the MS.

⁷⁷ See https://ec.europa.eu/fisheries/cfp/emff_en for an overview of the EMFF. The overall budget of the EMFF is appr. 5.8 bln. €. 520 mln. € of the overall amount are allocated for data collection.

Fisheries and sampling data have to be uploaded into Regional Data Bases which are/were checked by the RCMs/RCGs. These data bases are in place for all regions with the exception of the Mediterranean. Within the RCMs/RCGs, task-sharing agreements between MS are adopted in order to e.g. ensure the sampling of foreign catches in national harbours. At present, Germany has six bilateral and multilateral agreements with other MS, including the UK.

Currently, the **UK** has a major share of the fishing and sampling activities within the **North Sea & Eastern Arctic and the North Atlantic** region. It is uncertain in which way the UK will be involved in the regional coordination in the future and if for instance task-sharing agreements will persist.

3.4 Marine research: Cooperation in fishery science and advice

The CFP is science based and the Basic Regulation institutes an obligation for MS to “*carry out fisheries and aquaculture research and innovation programs. They shall coordinate their fisheries research, innovation and scientific advice programs with other MS, in close cooperation with the Commission, in the context of the Union research and innovation frameworks, involving, where appropriate, the relevant Advisory Councils*”.

In order to comply with the above, all European coastal states have established **fisheries research institutes**, which are responsible i) to carry out **data collection** under the EU data collection framework (DCF, see previous chapter), ii) to **carry out applied research** to increase our understanding of **marine ecosystems and the fisheries** using them, iii) as well as to **provide scientific advice** for the sustainable management of our resources and the ecosystems they live in. At present, there is a range of **EU and international organizations** that coordinate and utilize the scientific expertise from the national research institutes to provide advice to policy clients including, inter alia, ICES, STECF, ICCAT, NEAFC, NASCO, GFCM etc. Among these, the most important ones for European Atlantic waters including the North- and Baltic Seas are the International Council for the Exploration of the Sea (ICES convention) coordinating science and advice, the STECF is building the most important interface to the EU-COM and the Association of European Fisheries and Aquaculture Research Organizations (EFARO), an association of the directors of all major European fisheries and aquaculture research institutes being responsible for managing the scientific staff fueling the European science and advisory system outlined above.

Thus, the European science and advisory system is well-governed, internationally coordinated and efficient through this highly-interconnected network of national research institutes and international coordination and advisory bodies. Within this landscape **UK** fisheries research is well-recognized, and is a **substantial contributor** to the research landscape. At the same time, the UK provides a significant amount of funds to the European research funding system. More generally speaking most important funding lines for the European Science and advisory system for fisheries are i) national institutional funding and research programs, ii) EU money from the DCF (EMFF), iii) tenders of different DGs of the EU-COM, and iv) EU Framework Research Programs (e.g. H2020) supporting novel research beyond routine data collection and monitoring.

As a result of the highly efficient work-sharing of the European science and advisory system, the **important role of UK experts** within this system, plus the significant contribution of funds from the UK into the system, any change to the present set-up in response to the Brexit would very likely yield extremely negative consequences for the performance and quality of European fisheries research and advice.

CONCLUSIONS FOR EU FISHERIES IN UK WATERS

In this study, we discussed potential consequences of Brexit on some of the most important principles of the current CFP and analysed fleet and economic data from German fisheries as a demonstration case.

The CFP regulates European fisheries. Although the CFP includes fisheries beyond the MS' EEZs, the main focus lies on fisheries within the EEZs of the MS. The MS negotiated a distribution key for fishing opportunities and have also agreed on other **management principles and measures**. These include e.g. the Maximum Sustainable Yield (MSY) objective, the ecosystem approach including a landing obligation as well as technical measures stretching from mesh size regulations to MPAs and real time closures.

The UK EEZ is an important fishing ground for 8 MS besides the UK. Those 8 MS catch more fish inside the UK EEZ than UK vessels catch in the EEZ of the 8 MS. Denying access into the UK EEZ for the vessels of these 8 MS would lead to a **substantial loss of profits and employment**. **Germany**, as one of the 8 MS, fishes large parts of the quotas for **pelagic species** and **smaller** parts of quotas for **demersal species** in the **UK EEZ**. Between the years 2011 to 2015 a total of 28% of the weight and 17% of the value of landings of the German fleet originated from the UK EEZ. Given the observed stock and catch distribution over the last five years, it is unlikely that the German pelagic fleet would be able to fish out their current TACs of North Sea herring and Atlantic Mackerel outside UK waters.

The distribution of fishing opportunities within EU waters depends on the principle of 'relative stability'. This principle is based on the catches of a country's fleet in a **reference period (1973-1978)**. In contrast to that, the EU and Norway agreed to **distribute fishing opportunities** based on **fish habitats, life cycles and abundances ('zonal attachment')**. It is unclear how the quota distribution for shared stocks in the NS and NWW will be affected by Brexit. A change of the overall quota shares for the EU in case the UK will receive a higher portion of the overall catch possibilities (e.g., following the principle of zonal attachment), will have severe consequences for the principle of relative stability since **losses of fishing opportunities** within the UK EEZ would affect MS unevenly. This will raise the question whether the **internal distribution key of the EU needs to be renegotiated**. Considering that the negotiation of the original distribution key applied from 1983 onwards took six years (Peñas Lado, 2016), such a renegotiation is expected to be extremely difficult.

For **Germany**, a reduction of fishing opportunities will have severe **negative consequences**, especially for the long distant **fleet catching pelagic species** and for the **fish processing sector**. As both, the fleet and the major processing plant, are based on the island of Rügen, the negative impact would be amplified by the fact that it would especially affect a deprived rural region. On the other hand, Germany's exports of fish products to the UK are about 2.5 times higher in value than British exports to Germany. The vast majority of German exports are processed products based on globally imported raw materials (e.g. Pacific whitefish, salmon). For the UK, Germany is the 5th most important export market. From the German perspective the UK is ranking similarly. **From an EU perspective**, the **UK exports about 4/5 of its fish products into the EU**, mainly to the EU-8, fishing in UK waters. In conclusion, any trade restraints in context with Brexit would impair the British fish trade sector, while the consequences would vary amongst the EU-27 MS, depending on their trade balance with the UK. Given the positive balance, German trades would face major harm.

Brexit is a significant factor putting pressure on the principle of relative stability. Even without Brexit, the principle of relative stability has become problematic for several reasons. The catch composition of MS fleets has changed compared to the **historical reference** period due to

changes in fishing patterns and **catch efficiency** of various fleet segments. Climate change will further change the distribution of fish stocks and will further influence catch composition. At the same time the introduction of the landing obligation amplified the problem of mismatches between quotas and actual catches as the problem can no longer be “solved” through discarding.

Quota swaps which are required to carry on fishing under the landing obligation are differing from year to year, but some swaps seem to be particularly important for the UK and Germany. Therefore, it is important that possibilities for quota swaps will be still available after Brexit, as this might be favorable for both countries. This case might also apply to other EU countries.

The international law (UNCLOS) will require cooperation between the UK, the EU, and Norway regardless of Brexit. It is unclear what this means for the implementation of e.g. technical measures or the landing obligation. We believe that it is in the interest of both parties to **maintain the main principles that are in place**, at present, in order to minimise the costs of renegotiation and to guarantee the **compatibility of fisheries management measures between the UK, the EU and Norway**.

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PHOTO CREDIT: iStock International Inc., Photodisk, Phovoir



ISBN 978-92-846-0758-7 (paper)
ISBN 978-92-846-0757-0 (pdf)

doi:10.2861/670902 (paper)
doi:10.2861/621765 (pdf)