

Access2Sea Capitalisation Report

EAPA_1059/2018



Aquaculture represents an essential commitment for the future development of our maritime territories. The ocean, while considered as a resource in its own right, has at the same time to project itself as a source of innovation, growth and employment. In this context, whilst aquaculture constitutes a sector with significant economic potential, to a large extent this potential remains untapped by companies. Access2Sea improves the attractiveness of the Atlantic area resource for sustainable aquaculture development by SMEs through enabling new business opportunities for them and providing sustainable and easier access to the resource.

WORK PACKAGE #3:

Capitalisation

Partner:

Údarás na Gaeltachta

Partner No: 3

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Access2Sea

Capitalisation Report

1.0 Programme Overview

1.1 INTERREG Atlantic Area

As part of the European Union's Cohesion Policy, the INTERREG Atlantic Area programme supports transnational cooperation projects in 36 Atlantic regions across five countries: France, Ireland, Portugal, Spain and the United Kingdom, thus contributing to the achievement of economic, social and territorial cohesion.

The Programmes overall objective is to implement solutions to answer the regional challenges in the fields of:

- Innovation
- Resource efficiency
- Environment and cultural assets
- Supporting regional development and sustainable growth

With a total budget of EUR 185 million, which comprises a fund allocation of EUR 140 million from the European Regional Development Fund (ERDF), this development and investment programme co-finances cooperation projects in the fields of Innovation and Competitiveness, Resource Efficiency, Territorial Risks Management, Biodiversity and Natural and Cultural Assets.

1.2 Access2Sea

Project name:	ACCESS2SEA
Project identification Code number:	EAPA_1059/2018

Marine aquaculture is a leading sector of the Atlantic Area Blue Economy. Maximising the sustainable development of the aquaculture resource represents an essential commitment for the future development of our maritime territories.

In this context, whilst aquaculture constitutes a sector with significant economic potential, to a large extent this potential remains untapped by companies.

The main objective of Access2Sea is to improve the attractiveness of the aquaculture resource in the Atlantic Area for SMEs through creating and enabling new business opportunities for such SMEs and to drive more competitive and sustainable blue growth in the Atlantic Area. Building on the project partners existing knowledge and experience, and through promoting the re-use and transfer of such knowledge among SMEs, development agents and policy makers, the programme will achieve the core objectives laid out by Access2Sea.

1.3 Programme Objective and Budget

1.3(a) Programme Objective

The main goal of Access2Sea is to exploit the opportunity for increasing the volume and value of Atlantic Area aquaculture production in a sustainable way.

As only 10% of Atlantic Area's seafood production is aquaculture-sourced, the Access2sea programme objective is to enhance the exploitation and preservation of the Atlantic Area's natural assets.

Access2Sea's primary objective is to strengthen the transfer of innovation results between key regional institutional stakeholders to facilitate the emergence of new products, services and processes. In order to enhance the exploitation and preservation of the Atlantic Area's natural assets, Access2Sea will focus on the following areas:

- Unlocking the existing identified barriers to provide the industry with technical solutions to give aquaculture enterprises greater access to the resource. These barriers can be summarised as: legal/regulatory, technological, and social acceptance of the sector
- Facilitating terrestrial production.
- Disseminating information, expertise and exemplar projects in relation to new and existing solutions in addressing the identified structural barriers.
- Providing integrated technological, financial and technical scientific supports to aquaculture SMEs in order to strengthen their capability and attract new investors to the Atlantic area territories.

It is also expected that Access2Sea will improve the cooperation between stakeholders, business support organisations, research institutes, national and regional administrations and local councils facilitating innovation and knowledge transfer in the Aquaculture sector.

1.3 (b) Total budget

ERDF	€1,400,329.44
National match-funding	€ 466,776.48
Eligible costs	€1,867,105.92
Total costs	€1,867,105.92

1.4 Summary of Work Packages

Access2Sea work Plan

Number	Activity name	Start date	End date
WP nr. 0	Preparation	02/04/2018	13/06/2018
WP nr. 1	Coordination	01/03/2019	28/02/2022
WP nr. 2	Communication	01/03/2019	31/12/2021
WP nr. 3	Capitalization	01/03/2019	28/02/2022
WP nr. 4	Spatial planning to foster aquaculture activities	01/03/2019	28/02/2022
WP nr. 5	Developing social acceptability methods	01/09/2019	31/12/2020
WP nr. 6	Business models building for aquaculture farms	01/05/2019	30/11/2021
WP nr. 7	Access2Sea project pilots	01/09/2019	31/12/2021

Assigned work plan tasks		PARTNER'S CONTACT LIST		
Name of the Work Packages	Work Package description & partner responsibilities	PARTNER	COUNTRY	ORGANIZATION
Leading WP1, WP2. Implementation of WP7(Action 2). Will contribute to the development of all other WPs.	CEEI Bahía de Cádiz is the Lead Partner of the project and will be Leading WP 1 and 2. Will contribute to the development of all other WPs, taking part in the development of a pilot project on WP7.	Lead Partner	SPAIN	CEEI BAHIA DE CÁDIZ
Leading WP7. In the other WPs will act as expert consultant, providing their knowledge and experience, specifically with respect to the envisaged spatial planning, capitalization, and social acceptability actions.	CTAQUA will be responsible partner for WP7: • Assist existing seaweed farm to improve land-based farming, develop new techniques for yield optimization (high density seeding, innovative new substrates, direct seeding). • Develop and improve energy-efficient land-based (both indoor and outdoor) cultivation methods for promising new species with proven potential for their application in the human food market / high value component extraction in CTAQUA's facilities, that can be scaled-up and implemented in existing seaweed farm and make available technology for potential new companies. As WP leader, CTAQUA will also be involved in project coordination and general project communication /dissemination. In the other WPs will act as expert consultant, providing their knowledge and experience, specifically with respect to the envisaged spatial planning, capitalization, and	Partner 4		CTAQUA
Coordinator of WP6. Implementation of WP7(Action 3). Will contribute to the development of all other WPs.	Acting as Lead for Work Package No. 6 on the development as business models. Supporting partner in implementing the project objectives in our region. Dissemination of project activities, events and findings to stakeholders, industry representatives and companies. Hosting seminars and workshops. Working with the industry in our region to carry out knowledge transfer activities.	Partner 2	IRELAND	WestBIC
WP3 Implementation of WP7(Action 3) Will contribute to the development of all other WPs.	Udaras na Gaeltachta will participate in all WP, contributing our skills in project management, SME development and communications. We will lead the capitalisation and work with all partners to optimise capitalisation. We will also design and implement the Pilot Project in WP 7 and will contribute to all the other Work Packages.	Partner 3		UDARAS NA GAELTACHTA
Leading WP4 IEF will share its experience of spatial planning in activities requiring access to the sea (aquaculture and marine biotechnology) Will contribute to the development of all other WPs.	As leader of WP 4, IEF main activities will be: 1. to be the link between all partners on the topic of spatial planning 2. to present and share its project about the sea access (Cartography and GIS – Geographic Information System) 3. to identify the actions carried out by its AA partners 4. to define the best practises 5. to study possibilities to implement the best practises and shared tools. Within the WP5 and 6, IEF will provide information and local contacts about the Finistère state of art. For WP7, IEF could participate to experiment planning of a new area.	Partner 5	FRANCE	INVESTIR EN FINISTERE
WP1-2-3, Support WP6-7 Will contribute to the development of all other WPs.	TQC will be involved in the whole project implementation and promotion (WP1-2-3). Regarding its expertise as BIC and responsible for the strategic domain for Aquaculture for the R&D Sea Cluster, TQC will support the definition, formalisation, implementation of pilot projects and experimentations (WP6-7). Support will be given to the enterprises/professionals to define strategy, project, business plans, marketing issues, etc. (incubation & development levels) together with experts from research, technical centres, stakeholders. TQC has capitalised some expertise in social acceptance regarding marine energies & aquaculture issues (WP5) TQC will interact with the professionals and their representatives & stakeholders in the	Partner 7		Technopole Quimper-Cornouaille
Contribute to the communication activities of the project. The "Campus Mondial de la Mer" initiative gathers economic and scientific actors from the maritime sector, TBI will ensure that the project actions and results are well disseminated within this network.	As an associated partner, TBI will participate in the organisation of workshops & events that will take place in Brittany in collaboration with the 2 french main partners. TBI could also help to identify innovative companies which might be interested in participating in aquaculture pilot projects.	Associated Partner 10	PORTUGAL	Technopôle Brest Iroise
Responsible for WP 5 Will contribute to the development of all other WPs.	The University of Algarve will contribute to all WPs and will be responsible for WP5 – Developing Social Acceptability Methods. The activities to be implemented will include a study on the current state of the difficulties linked to the aquaculture sector; an inventory of new consultative initiatives to improve the social acceptability, taking into account all the aquaculture and aquiculture stakeholders; a selection of new approaches to be experimented in the field of aquaculture; an implementation of actions enhancing the social acceptability of aquaculture activities. The University of Algarve, through its Division of Entrepreneurship and Technology Transfer, will contribute with expertise in innovation and also stakeholders relationships, building the link between the researchers and the companies of the sector of aquaculture.	Partner 6		University of Algarve
WP 7 Action 5. Through LANUCE they will contribute with their expertise to in fish feeding and nutrition. Will contribute to the development of all other WPs.	As the aquaculture sector continues to expand, its increasing impact on coastal resources through waste disposal have been shading the aquaculture venture as a commercial success The ultimate source of waste in an aquaculture system is uneaten feed Since the production of fish biomass is ultimately based on the feed consumption of fish, a model that can simulate feed consumption at various husbandry conditions would be extremely useful to reduce waste discharges to aquatic systems and at the same time minimizing feed waste, thus operational costs The aim of action 5-WP7 is to develop a simulation model based on experimental data on some of the regulatory mechanisms of feed intake as a function of the interactive effects of fish weight, water temperature&salinity. To create a computer software, as a tool for providing training, information & guidance for the stakeholders to determine the actual feed intake of fish reared at different conditions, thus minimizing waste of unconsumed feed.	Partner 9	UK	CIIMAR
WP7 lead the development of the pilot project on "Wider acceptance of the aquaculture activities along the Atlantic shore". Will contribute to the development of all other WPs.	SU-CSAR will contribute to the development of all WPs, support the implementation of the project objectives and participate in the delivery of the project outputs in its region. SU-CSAR will lead the development of the pilot project on "Wider acceptance of the aquaculture activities along the Atlantic shore" in WP7	Partner 8		Swansea University

1.5 Partner Organisations

Partners involved
1. CEEI BAHIA DE CÁDIZ
2. WestBIC
3. UDARAS NA GAELTACHTA
4. CTAQUA
5. INVESTIR EN FINISTERE
6. University of Algarve
7. Technopole Quimper-Cornouaille
8. Swansea University
9. CIIMAR
10. Technopôle Brest Iroise



2.0 Objective of this Work Package and the Capitalisation Report

2.1 Work Package – Capitalisation Report accompanying

The INTERREG Capitalisation initiative is an approach that focuses on collecting, analysing and disseminating the thematic knowledge gained from projects working on the same topic.

2.2 Overview of Capitalisation Report – why it is being undertaken			2.3 Methodology Employed – how was the data collected	
What areas of the aquaculture sector will this report examine?	What are the objectives?	Who are the target audiences?	Methodology Employed – how was the data collected?	What are the expected results?
Strategic, Policy and Institutional Framework	To increase the visibility of the programme and its impact on the policy making process at regional, local, national and European levels.	Decision makers: politicians and their professional staff involved in development of regional policy at local, regional, national or EU level.	This document is a conclusion's report on the current state of the aquaculture sector in the Atlantic Area and is compiled by Údarás na Gaeltachta based on an analysis of previous AA projects in the aquaculture sector and based on input from partner regions (<i>see Appendix 1: Diagnostic and Mapping Tool: Baseline Assessment of the Aquaculture Sector</i>).	The ACCESS2SEA project (Interreg EAPA_1059/2018) consists of 10 partners from the Atlantic Area (Ireland, UK, France, Spain and Portugal) Result: Strengthen the transfer of innovation results to facilitate the emergence of new products, services and processes in the aquaculture sector.
Summary Analysis of Aquaculture Sector	To better exploit the knowledge resulting from projects working on a similar topic for the benefit of local and regional authorities in Europe.	Programme bodies: members of the Monitoring Committee, MA, JTS, IPs	Individual Partner Reports: Ireland Spain UK Portugal France Appendix 1: Questionnaire - Diagnostic and Mapping Tool: Baseline Assessment of the Aquaculture	Aquaculture could boost economic development and jobs creation in regard to seafood by enhancing the exploitation and preservation of the AA natural assets. Result: Creating new sustainable farms is a key element for the blue economy in the region. However, it is often constrained by complex regulations and low social acceptability. Access2Sea improves the attractiveness of the Atlantic shore for aquaculture SMEs by enabling new business opportunities and providing sustainable and easier access to it.
Summary of key supports for Aquaculture Development	The ACCESS2SEA project seeks to capitalise on the learnings achieved through previous AA projects in the aquaculture and related sectors including the NETALAGAE, SEAFARE, INTEGRATE and ATLANTICBLUETECH projects.	End-users (i.e. the people directly affected by the projects) and other interested people living in the area around the projects' activities.	Analyse the projects' NETALAGAE, SEAFARE, INTEGRATE and ATLANTICBLUETECH features and results and identify their added value in their specific thematic field. Compiled by Údarás na Gaeltachta with the support of the Project Officers. Identifying, analysing and interpreting patterns of meaning within qualitative data.	As only 10% of Atlantic shore seafood is aquaculture-sourced there is great opportunity for raising AA aquaculture production in a sustainable way which is the main goal of Access2Sea. The objective is to enhance the exploitation and preservation of the AA's natural assets by unlocking the existing barriers (legal/regulatory, technological, existence of suitable areas in coastal zones, social acceptance) to provide the industry with technical solutions to give aquaculture businesses access to shore by enabling onshore production, by disseminating existing and new solutions and providing support to the aquaculture SMEs, to fix them or attract them to the Atlantic Area.
Key challenges and constraints for Aquaculture Development	Access2Sea improves the cooperation between stakeholders, business support organisations, research institutes, national and regional administrations and local councils facilitating the innovation and knowledge transfer in the aquaculture sector.	Multipliers: journalists, regional agencies, etc.	The project partners contribute by providing all relevant information on thematic issues and participating in thematic workshops. The capitalisation initiative is followed by stakeholder groups per topic that gather interested parties (Member States, national & EU experts etc) who can contribute to the discussions.	Enable SMEs to assess spatial opportunities to settle in the Atlantic shore new aquaculture business, supporting them in exploiting the natural assets in a sustainable way as well as in improving its performance through the improvement of their business model and be better accepted by local communities.

3.0 Capitalisation Report

This capitalisation report presents the collection and analysis of innovative, progressive and useful development practices in the Aquaculture industry across the European Union.

An exploration of change projects that have been previously supported by the INTERREG programme has been conducted and an overview is set out below highlighting the policies and procedures that were developed and implemented in each of these projects.



The Access2Sea capitalisation report will reinforce the standing and reputation of the Member States of the EU as world leaders in technology and research, creating a well-trained and flexible human resource and ensuring the management of environmental conditions necessary for growing many of the species with the highest market and consumer demand.

3.1 Introduction - Overview and Structure of the Report

Report Overview

This document is a conclusion's report on the current state of the aquaculture sector in the Atlantic Area and is compiled by Údarás na Gaeltachta based on an analysis of previous AA projects in the aquaculture sector and based on input from partner regions (see Appendix 1: Diagnostic and Mapping Tool: Baseline Assessment of the Aquaculture Sector).

This report examines in particular the following four broad areas with respect to the current available knowledge of the aquaculture sector in each of the partner regions and within the Atlantic Area to identify the available knowledge that should be capitalised on in the project activities and implementation process:

- * Strategic, Policy and Institutional Framework
- * Summary Analysis of Aquaculture Sector
- * Summary of key supports for Aquaculture Development
- * Key challenges and constraints for Aquaculture Development

Summary of available knowledge in the Atlantic Area
Individual Partner Reports¹

- *Ireland
- *Spain
- *UK
- *Portugal
- *France

Report Structure

Programme Overview

INTERREG Atlantic Area

Access2Sea

Programme Objective and Budget

Summary of Work Packages

Partner Organisations

Objective of this Work Package and the Capitalisation Report

Work Package – Capitalisation Report

Overview of Capitalisation Report – why it is being undertaken

Methodology Employed – how was the data collected

Capitalisation

Introduction - Overview and Structure of the Report

Strategic Policy and Institutional Framework

Building on Existing Analysis

Summary Analysis of Aquaculture Sector

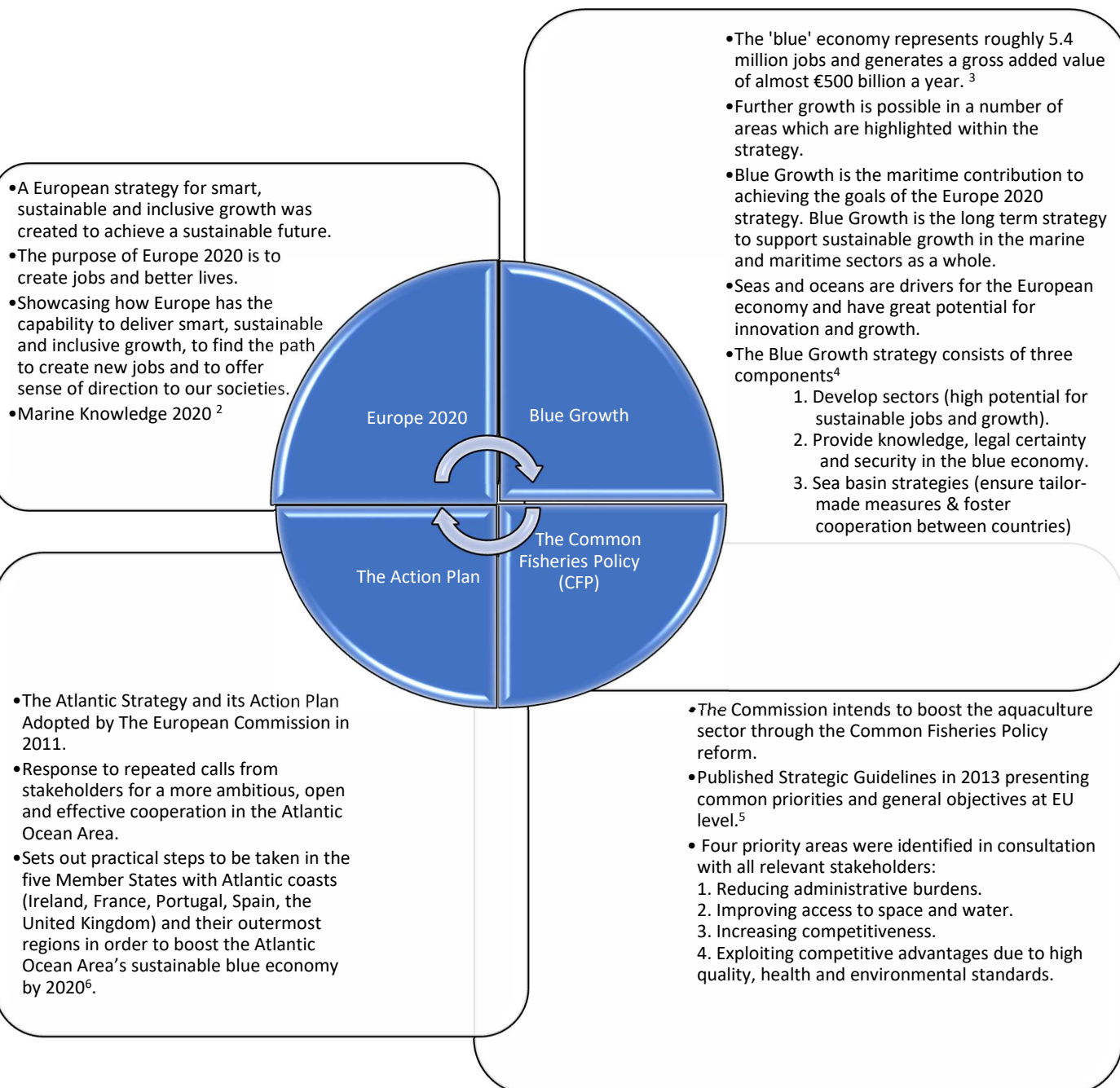
Summary of Key Supports for Aquaculture Sector

Conclusions

¹Appendix 1: Questionnaire - Diagnostic and Mapping Tool: Baseline Assessment of the Aquaculture

3.2 Strategic Policy and Institutional Framework

Access2Sea addresses priorities 1,2 and 4 of the Atlantic Action plan and components 1 and 2 of the Blue Growth Strategy, providing new solutions to the challenges faced by the blue economy. The project will provide a set of new technical solutions to aquaculture SMEs to access and unlock new business opportunities and support the improvement of their performance and sustainability.



²(/* SWD/2014/0149 final *)

³https://ec.europa.eu/maritimeaffairs/policy/blue_growth_en

⁴https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/swd-2017-128_en.pdf

⁵https://ec.europa.eu/fisheries/cfp_en

⁶<https://www.agriculture.gov.ie/media/migration/customerservice/publicconsultation/sustainableaquaculturedevelopment/NatStratPlanSustAquaculDevelopdraftconsult100615.pdf>

The following table provides an overview of the Policy Hierarchy:

LEVEL	FUND	ADMINISTRATIVE BODY	DESCRIPTION	LINK
European	EU Horizon 2020	European Commission	Horizon 2020 is the biggest EU Research and Innovation programme. It consists in three pillars: Excellent science; Social challenges; and Industrial leadership. The three pillars contain aquaculture related calls and topics targeted to public and private entities, research centres, universities, etc.	https://ec.europa.eu/programmes/horizon2020/en
	EULife	European Commission	The LIFE Program is the only financial instrument of the European Union focused exclusively on the environment and climate. Its main objective for the period 2004-2020 is to contribute to sustainable development and to the achievement of the objectives and goals of the Europe 2020 Strategy. Then, the sustainable development of aquaculture activities is also included within its challenges.	https://ec.europa.eu/easme/en/life
	European Regional Development Fund (ERDF)	European Commission	Interreg is one of the key instruments of the European Union supporting cooperation across borders through project funding. It aims to jointly tackle common challenges and find shared solutions in fields such as health, environment, research, education, transport, sustainable energy and more. It is divided in 4 different programs: Cross border, Transnational, Interregional and IPA.	https://interreg.eu/
	European Maritime and Fisheries Fund (EMFF)	European Commission	The EMFF is a European funding scheme which will support fisheries, inland waters, aquaculture and maritime sectors. The fund provides support for sustainable development within the fishing and aquaculture sectors and conservation of the marine environment, alongside growth and jobs in coastal communities. The purpose of the scheme is to provide European Member States with a financial support mechanism to the fisheries, inland waters, aquaculture and maritime sectors.	https://ec.europa.eu/fisheries/cfp/emff_en

Country specific frameworks (see Appendix 1: Diagnostic and Mapping Tool: Baseline Assessment of the Aquaculture Sector 1.C).

3.3 Building on Existing Analysis

The ACCESS2SEA project seeks to capitalise on the learning achieved through previous Atlantic Area projects in the aquaculture and related sectors including the NETALAGAE, SEAFARE, INTEGRATE and ATLANTICBLUETECH projects.

Netalgae

Throughout the period when the NETALGAE project was implemented (2007 – 2013), it was estimated that the production of macro algae increased yearly by 5.7% worldwide with almost 14 million tonnes of macro algae being produced from either aquaculture or capture in the year 2008⁷.

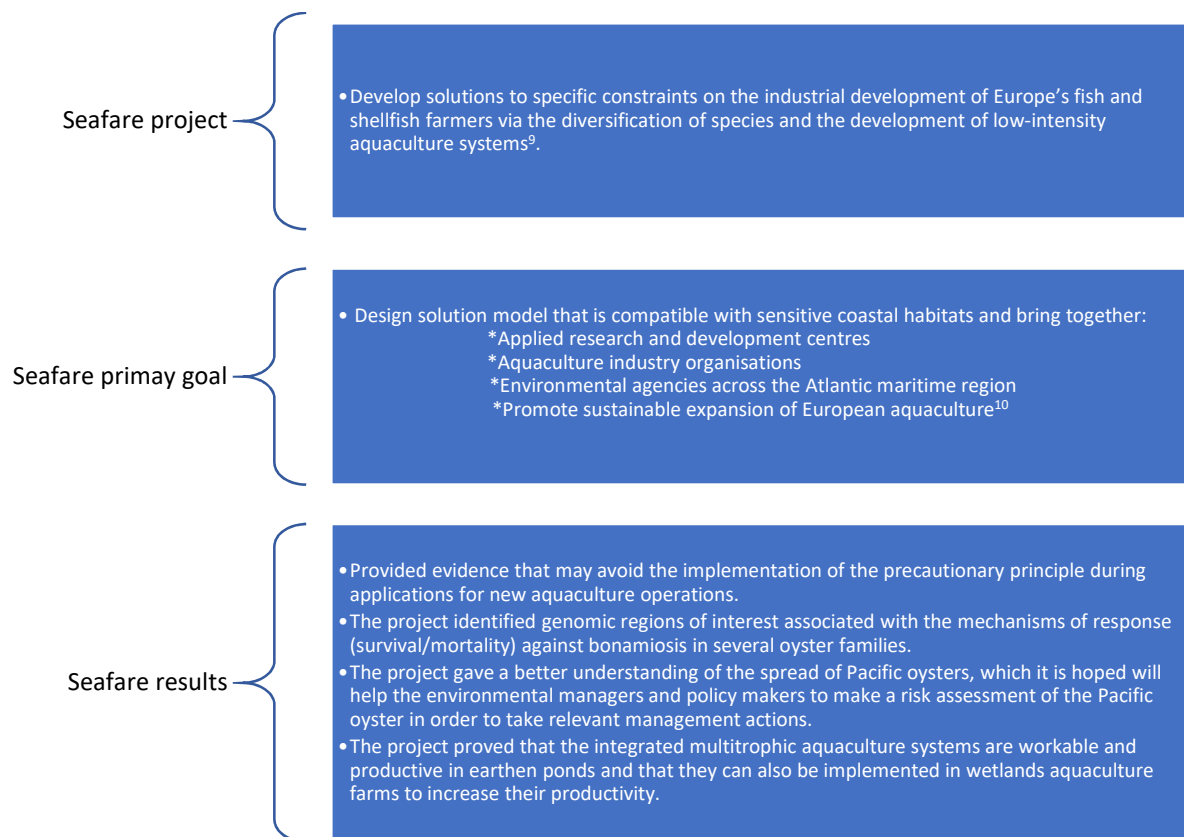


⁷ <http://www.netalgae.eu/index-en.php>

⁸ Inter-regional network to promote sustainable development in the marine algae industry, available: <https://www.keep.eu/project/410/inter-regional-network-to-promote-sustainable-development-in-the-marine-algal-industry>.

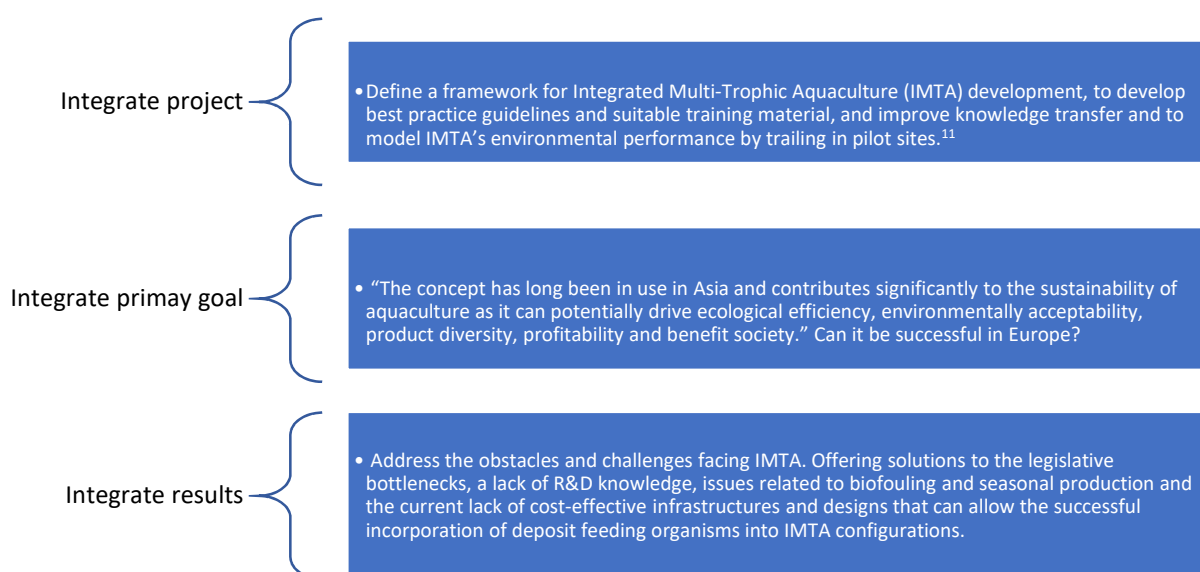
SEAFARE

This initiative sought to address the fact that the expansion of European aquaculture has levelled off largely due to the necessity of working within a stringent regulatory framework.



INTEGRATE

This project will run until May 2020 and aims to develop effective tools to increase competitiveness while removing barriers to sectoral green growth and improving the quality and public image of aquatic products.



⁹ <https://www.seafareproject.eu/>

¹⁰ Sustainable and Environmentally Friendly Aquaculture For the Atlantic Region of Europe, available: <https://www.keep.eu/project/418/sustainable-and-environmentally-friendly-aquaculture-for-the-atlantic-region-of-europe>

¹¹ <http://integrate-imta.eu/project/>

ATLANTIC BLUETECH

Atlantic Bluetech is an Atlantic Area INTERREG Programme funded project which aims to promote and develop the marine bioresources sector at the Atlantic level.



3.4 Summary Analysis of Aquaculture Sector

The sea and the coast are key drivers for economic growth and sustainable development. A new energy has focused on the opportunity for maximising blue growth and developing the endogenous resource in an innovative and sustainable manner. Evidence of this emerging consensus as to the potential of the blue economy is seen in the development of the various policies introduced at European level which direct regional and local practices to raise awareness and strengthen communication of the needs of the aquaculture sector and its potential for sustainable economic development over the longer term.

EU policies are designed to reinforce the efforts of member states and their regions and provide common building blocks for developing a successful, innovative and sustainable blue economy. Such policies include:

- (1) A Commission initiative on maritime spatial planning and integrated coastal zone management, which will provide business investors with the legal certainty it needs to invest.
- (2) The "Marine Knowledge 2020" initiative¹³. This will provide an integrated knowledge infrastructure based on national data collection systems delivering data products at a European-level through the internet. This will include a flagship multi-resolution digital seabed map of European waters as well as up to-date information on the water column by 2020. Benefits of at least €500 million a year¹⁴ through increased efficiency and innovation are expected.
- (3) A Common Information Sharing Environment (CISE)¹⁵ for the surveillance of the EU maritime domain. This will allow maritime authorities responsible for activities such as safe navigation or fisheries control to share information on risks and threats. This reduces their costs and the risk to businesses operating at sea.

¹² <https://www.cvpp.eu/english/european-projects/atlantic-blue-tech/>

¹³ COM(2012) 473 final.

¹⁴ European Marine Observation and Data Network Impact Assessment, 8.9.2010, SEC (2010) 998.

¹⁵ OM(2010) 584 final.

- (4) The Marine Strategy Framework Directive¹⁶ which introduces an ecosystem-based approach, aiming to ensure that the collective pressure of human activities on the environment is kept within levels compatible with the achievement of good environmental status by 2020. The Rio+20 Summit commitments also address the sustainable use of a diverse marine ecosystem.
- (5) The European Maritime Transport Space without barriers, an initiative which aims at simplifying administrative procedures for maritime transport¹⁷ and which should be further developed into a 'Blue Belt' of free maritime movement in and around Europe.
- (6) An Action Plan to facilitate access to finance for Europe's 23 million SMEs, adopted by the Commission in December 2011¹⁸ and a proposal for a new EU framework creating a genuine single market for venture capital funds¹⁹.
- (7) Actions in education and training financed by the forthcoming 'Erasmus for All Programme', such as knowledge alliances and sector skills alliances. Instruments for facilitating the mutual recognition of skills and qualifications such as European Qualifications Frameworks and better anticipation of skills.

Global Level Analysis

The EU is the largest single fisheries market in the world and a net importer of fish and fish products.

EU's aquaculture sector output was the 8th largest worldwide.	1.2% share of global output.
Atlantic salmon (<i>Salmo salar</i>) was the 9th most produced finfish species.	EU generated 8.1% of global production.
The EU actively promotes better international governance across the world's seas and oceans to keep them clean, safe and secure.	It is a leading player in the bodies established under UNCLOS and UNFSA, notably the FAO Committee on Fisheries and RFMOs.
Sustainable Fisheries Partnership Agreements allow EU fleets to fish in third countries' Exclusive Economic Zones, with a regulated and guaranteed environment.	Tuna: Cape Verde, Comoros, Côte d'Ivoire, Gabon, Kiribati, Madagascar, Mauritius, Mozambique, São Tomé and Príncipe, Senegal, Seychelles.
EU has fishing agreements with northern countries, which are based on mutual exchange of fishing possibilities.	Mixed: Greenland, Guinea-Bissau, Mauritania, Morocco Northern: Faroe Islands, Iceland, Norway.
More than 20% of European Union vessels catches are actually taken outside Union waters.	9.3% of EU catches (2014-18) are made in the EEZ of third countries engaged with the EU in fishing agreements, 2.2% in other third countries, while another 10% are taken in the high seas, mainly tropical tunas in regions managed by tuna regional fisheries management organisations (RFMOs).

Source: The state of world fisheries and aquaculture, 2018 FAO²⁰

¹⁶ 2008/56/EC.

¹⁷ COM(2009) 10.

¹⁸ COM(2011) 870.

¹⁹ COM(2011) 860.

²⁰ <http://www.fao.org/state-of-fisheries-aquaculture/en/>

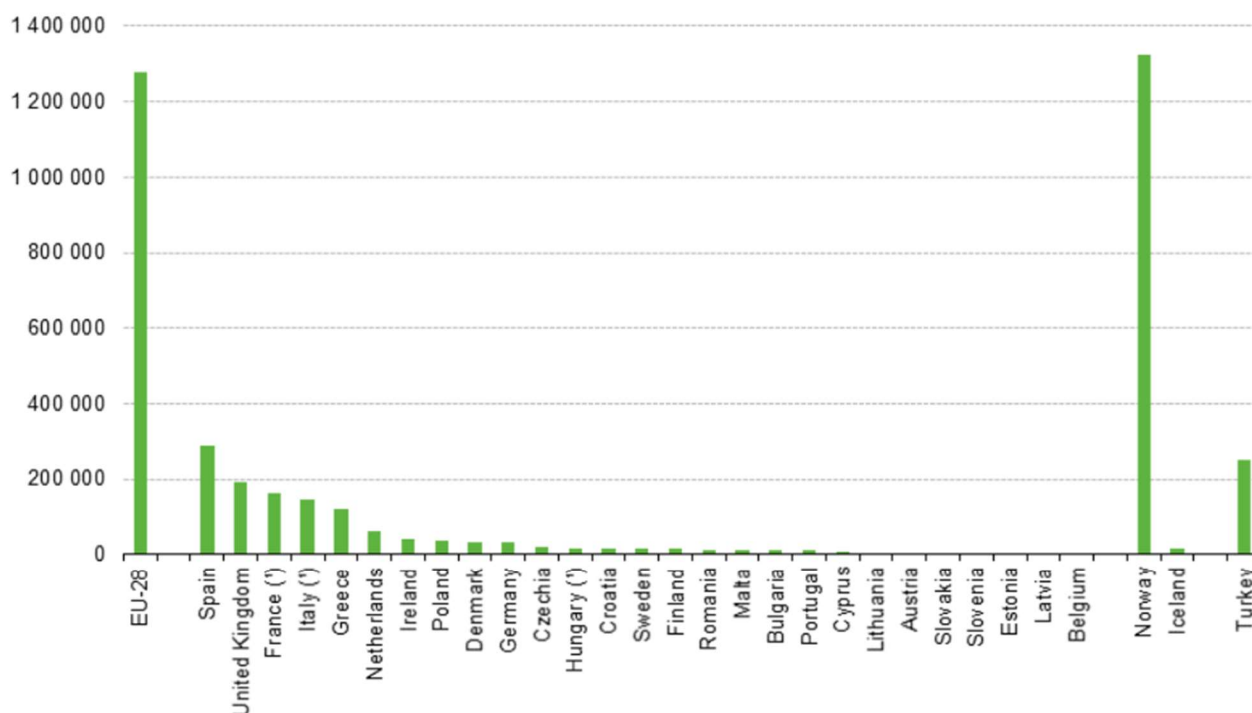
At European Union Level

The majority of aquaculture businesses in the EU are SMEs, providing around 85,000 jobs²¹. Fish accounts for about 15.7% of the animal protein consumed globally. The UN Food and Agriculture Organisation estimates that aquaculture provides half of this amount and that the figure will reach 65% by 2030. The corresponding figure is 25% in the EU context. Globally, aquaculture production has a growth rate of 6.6% per annum, making it the fastest-growing animal-food-producing sector. This rate of growth is significantly higher than the 1.8% annual global population increase. Growth in the sector's output is thus contributing to an overall improvement in human diet. Growth in the aquaculture sector in Asia, which accounts for more than 89% of global production stands at more than 5% a year, while EU growth in the sector is stagnant.

Lack of available maritime space for aquaculture activities, competition in the global market and administrative constraints in particular concerning licensing procedures are amongst the more significant challenges to sustainable growth. Sustainable aquaculture must also consider potential impacts on wild fish stocks and water quality. Moreover, since the start of the present economic crisis, investment has been limited by the lack of available venture capital²².

Aquaculture production, 2016

(tonnes of live weight)



Note: Luxembourg does not collect aquaculture statistics.

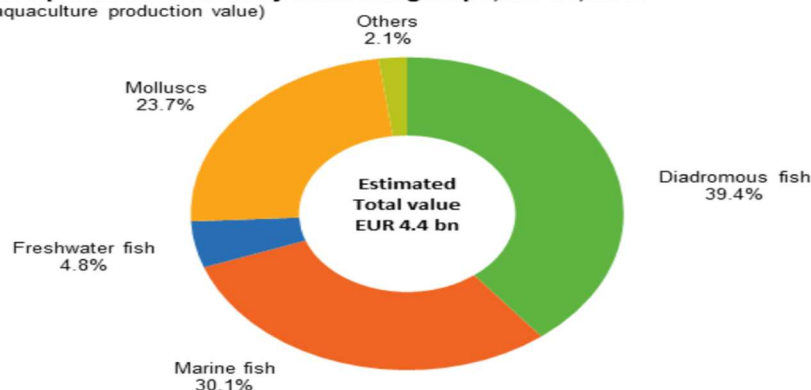
(*) 2015 data instead of 2016.

Source: Eurostat (online data code: fish_aq2a)

²¹Report: Towards a Sustainable and competitive European aquaculture sector: current status and future challenges, Committee on Fisheries, European Parliament 24.5.2018

²² <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52012DC0494>

Aquaculture production value by main subgroups, EU-28, 2016
(% of total aquaculture production value)



Source: Eurostat (online data code: fish_aq2a)

eurostat 

3.5 Summary of Key Supports for Aquaculture Sector

Horizon 2020 programme: This programme targets research and innovation measures in relation to food security, climate action, clean energy, green transport, climate action and resource efficiency, as well as cross-thematic marine and maritime research²³.

Blue Belt: Free Maritime Movement in and around Europe. Creating a "Single Transport Area for Shipping" sets out two key proposals to ease formalities for shipping by amending the existing Customs Code (CCIP, Customs Code Implementing Provisions)²⁴.

1. Easing customs formalities for intra-EU shipping

Shipping companies, using a regular route within the EU and transporting mainly EU goods, can already benefit from lighter customs procedures (under the Regular Shipping Services procedures). New proposals, submitted by the Commission in June 2013, will upgrade this Regular Shipping Services to make the procedures, shorter and more flexible. The consultation period for Member States will be shortened to 15 from 45 days.

2. Easing customs formalities for ships that call in third country ports

Almost 90% of ships carry both EU and non EU goods and stop frequently at EU and non-EU ports for example in Norway, Northern Africa and Russia. For these ships, the Commission is proposing to significantly improve customs procedures by putting in place a system, which can distinguish between the Union goods on board (which should be swiftly discharged) and the non-Union goods on board, which must go through the appropriate customs procedures. This new "eManifest" allows the shipping company to provide in all manifests (intra-EU and extra-EU) information on the status of goods to customs officials.

Harnessing Our Ocean Wealth: National Marine Planning Framework, Ireland. As an island nation, Ireland has sovereign rights over one of the largest Marine areas in Europe. In 2012, the Inter-Departmental Marine Coordination Group (MCG), on behalf of the Government, published Harnessing Our Ocean Wealth - An Integrated Marine Plan for Ireland (HOOW). HOOW sets out the Government's Vision, High-Level Goals, and Key 'Enabling' Actions to put in place the appropriate policy, governance and business climate to enable Ireland's marine potential to be realised. The Group is chaired by the Minister for Agriculture, Food and the Marine and its members are drawn from Departments with marine related responsibilities²⁵.

²³ <https://ec.europa.eu/programmes/horizon2020/en>

²⁴ https://ec.europa.eu/transport/modes/maritime/news/bluebelt_en

²⁵ <https://www.imdo.ie/Home/site-area/maritime-policy/harnessing-our-ocean-wealth/harnessing-our-ocean-wealth>

EU Common Fisheries Policy (CFP): The main objective of the CFP is to allow for rebuilding of fish stocks in European waters over time, which will support the viability of the fishing industry through long-term management of stocks, reducing and eliminating discards and rebuilding stocks to Maximum Sustainable Yield²⁶.

Common Market Organisation (CMO): Work to prepare for the withdrawal of the UK has been ongoing. The EU remains focused on protecting the aquaculture interests of EU citizens. A set of rules that regulates agricultural markets in the EU have been developed. The CMO encompasses legal tools in the event of market disturbances acting as safety nets, such as public intervention, private storage, crisis prevention and risk management, as well as adopting exceptional market measures²⁷.

3.6 Conclusions

Key Challenges and Constraints for Aquaculture Sector

Our analysis of the data collected from the participating regions supports a number of conclusions concerning both the challenges and opportunities for development within the Aquaculture Sector.

Despite the significant variations between the participating regions in terms of public governance and development infrastructure, and the institutional business, technical and scientific development supports which have been identified, our analysis identifies a number of common and recurrent themes. These have been prioritised in terms of the structural challenges and impediments to sustainable growth and also in terms of these developmental measures, which need to be mobilised to assist public agencies and private investors to more fully realise the market-value potential of the aquaculture resource in the Atlantic Area.

Notwithstanding the differentiated issues which have been identified at a region-specific level, our interpretation of the data supports the following conclusions specifically:

Public Governance and Planning Framework

Facilitating and resourcing access to the aquaculture resource base is critically dependent on the proper functioning of a comprehensive licencing regime, which can at once control and manage the sustainable development of the resource base but can also act as a catalytic driver of development and investment. In developmental terms, the establishment of such a regime can play a key role in identifying the economic value of the latent aquaculture resource and provide a structured and coherent approach to securing the necessary licenses and development consents which are required of private and community-based investors in order to establish viable commercial enterprises.

Data collated from the project partners provide an account of the current institutional and planning frameworks which are currently in place. A summary overview of the country-specific data as set out below points to the significant variations in the deployment and functioning of different systems at region-specific level. These data also identify that the current planning and institutional framework can often act as a disincentive to investment in this sector because of the uncertainty and risk involved in the protracted and complicated application and assessment process which new and existing investors have to engage with.

²⁶ https://ec.europa.eu/fisheries/cfp_en

Review of Aquaculture Licences, Ireland:

Amongst the marine territories under consideration, Ireland experienced the longest waiting period at 8-33 months²⁸⁽¹⁾. The estimated time period in which appropriate assessment for Natura 2000 sites in bays was to be arrived at stood at 36 weeks. However, the appropriate assessment process had been rolled out over a period of years as the designation of sites was only completed in 2013. Until that process was completed and individual licences determined, it was anticipated that many aquaculture operations which applied to have their licences renewed would continue to operate under Section 19.4 (A) of the 1997 legislation and would have to wait a considerable time to have their renewal applications determined. The table below shows data taken from the European Commission's Strategic Guidelines for Sustainable development of EU Aquaculture (2013). Wales and Portugal were not included, indicating that waiting periods were not of considerable length. Norway, which is not in the EU, is included as their waiting period was halved from 12 to 6 months after the introduction of a single contact point.

Applications in Ireland between the years 2007 and 2014 totalled at 717, out of which only 244 were issued by the end of that period:

Licencing time range	Ireland	Wales	France	Spain	Portugal	Norway
5+ months	✓	N/A	✓	✓	N/A	✓
10+ months	✓		✓	✓		
15+ months	✓		✓	✓		
20+ months	✓					
25+ months	✓					
30+ months	✓					

Year:	7	8	9	10	11	12	13	14	Total
Applications received	57	24	106	105	123	62	99	140	717
Licences issued	11	2	4	3	6	16	108	92	244
Licences refused	1	1	0	0	0	0	0	2	4

There were therefore 469 applications for licences still to be determined by the end of 2014²⁸⁽²⁾. No data currently exists to inform us as to the present standing of the licencing backlog.

28(1) Review of the Aquaculture Licensing Process, Chapter 7: Comparative Consenting Systems, p. 28:

<http://www.fishingnet.ie/media/fishingnet/content/ReviewoftheAquacultureLicensingProcess310517.pdf>

28(2) National Strategic Plan for Sustainable Aquaculture Development, Chapter 8: Aquaculture Licensing, p. 95:

<https://www.agriculture.gov.ie/media/migration/seafood/marineagenciesandprogrammes/nspa/NationalStrategicPlanSusAquaDevel181215.pdf>

Review of Aquaculture Licences, Wales:

Marine licences are considered primarily on the proposed species to be cultivated and the location where it is to be cultivated.

With regards the shellfish aquaculture, the following applies:

- National Resources Wales (NRW) for deposition of equipment on the sea bed.
- Statutory Harbour Authority (SHA) for within its area.
- NRW in consultation with the Maritime and Coastguard Agency (MCA) outwith a SHA area.
- Several Order for on-bottom cultivation of shellfish out to 6 nautical miles (nm)²⁸⁽³⁾.
- Welsh Government for mussel seed licence.

For finfish aquaculture, these:

- Local Authority planning permission for finfish farms or any onshore facility.
- NRW consent for discharges from a fish farm, or a Marine Licence for discharge.

For all aquaculture, this:

- Fish Health Inspectorate (Cefas) authorisation for Aquatic Animal Health (England and Wales) Regulations 2009 (to prevent the introduction and spread of diseases).

The Marine Licensing (Exempted Activities) (Wales) Order 2011 also helped to liberalise activities pertaining to shellfish aquaculture in terms of licensing by providing certain exemptions to the holding a marine licence as per Article 13 (1), i.e.:

a) The deposit of any shellfish, trestle, raft, cage, pole, rope or line in the course of the propagation or cultivation of shellfish.

b) A removal activity or dredging activity carried on for the purpose of moving shellfish within the sea in the course of its propagation or cultivation²⁸⁽⁴⁾.

Restrictions related to licensing issues were considered to be the most significant issue facing both the continued viability of existing production businesses and the future development/expansion of the industry. Specific issues highlighted included the relatively short duration of leases, agreement of Several Order Fishery (SOF) terms and the time for SOF to be granted or renewed, which had already led to the suspension and closure of some production businesses. Several Fishery Orders granted under the Sea Fisheries (Shellfish) Act 1967, where rights of ownership or tenure accrue to the aquaculture producer, do not extend beyond 6nm, hence further offshore there is no legal protection to the right of shellfish cultivated on the seabed. Syvret *et al.* (2013) highlight that Welsh Ministers may have the power to issue Fishery Orders out to 12nm under seabed cultivation of shellfish beyond 6nm (although this may be grantable out to 12nm under Section 189 of the Marine and Coastal Access Act 2009 if the Act covers this type of Fishery Order), but that this needed to be confirmed and the extent or limitations of any such powers identified.

²⁸⁽³⁾ Granted under the Sea Fisheries (Shellfish) Act 1967 by Welsh Ministers

²⁸⁽⁴⁾ A Spatial Assessment of the Potential for Aquaculture in Welsh Waters, p. 51: <https://gov.wales/docs/drah/publications/150702-a-spatial-assessment-of-the-potential-for-aquaculture-in-welsh-waters-en.pdf>

Review of Aquaculture Licences, France.

Marine and inland aquacultures are clearly defined as separate in the French legislation. The 1983 Decree No. 83-228 lays down the licensing regime for marine farms in France²⁸⁽⁵⁾. Implementation comes under the 6 July, 2010 order related to the extent of the constituencies of the commissions of marine cultures, modes of designation of the professional delegations and conditions of operation of the commissions and to the modifications, suspensions and withdrawals of marine farming concessions made pursuant to Articles 29, 30 and 31 of Decree No. 83-228 of 22 March 1983 as amended. It also approves the standard specifications for authorizations for the exploitation of marine crops in the public maritime domain. A 21 July 2011 Order relates to the conditions of approval of the plans for the redevelopment of the marine farming areas and to the exceptional exploitation by a third party of marine crop concessions. This decree establishes the authorization regime, on the public maritime domain as well as in the part of the rivers, ponds, and canals where the waters are salted, the exploitations of marine cultures and the intakes intended to supply water of marine farms located on private property.

This text repeals the Decree of 21 December 1915, amended on the public administration regulations on the concession of fishing establishments; the decree of March 28, 1919 amended taken for the implementation of the decree of December 21, 1915 and the decree of May 12, 1941 relating to authorizations of fishing establishments to scientific institutions. This text was amended by Decree No. 87-756 of 14 September 1987.

Marine aquaculture is regulated by Law No. 97-1051 on Marine Fisheries and Marine Crops (*Law No.97-1051 on Maritime Fisheries and Mariculture*), the Decree of 9 June 1852 on Maritime Fisheries (*Decree January 9th , 1852 on Maritime Fisheries*) and Decree No. 83-228 establishing the licensing regime for marine farming (*Decree No.83-228 establishing the authorization system for marine aquaculture*). The main type of mariculture in France is crustacean and molluscan farming, which accounts for 80 percent of the total production of aquaculture. The 1997 Fisheries Act clarifies the ambivalence of mariculture, defining it on the one hand as an agricultural activity and on the other hand by including fishing vessels in a new category of navigation. These provisions amend respectively the *Law No.42-427 on the maritime navigation titles* (1942, as amended).

The amendment to the latter states that a fourth category of navigation, specifically relating to marine aquaculture, must be created in addition to those of trade, sea fishing and recreation. This includes creating a corresponding *crew role*. If all boats allocated to the operation of parcels granted in the public domain are three miles or more, the boat must be crewed. Beyond this distance, boats need only a navigation license but can also be crewed. In addition, the operation of a saltwater aquaculture farm requires the obtaining of a special authorisation in accordance with the Decree of January 9, 1852 on the Exercise of Marine Fishing *Decree January 9th, 1852 on Maritime Fisheries*. The procedures are defined by Decree No. 83-228 Decree No. 83-228 establishing the licensing system for marine aquaculture. Two different types of concessions exist for the establishment of aquaculture installations on the public maritime domain (DPM), and for the use of seawater for the operation of an aquaculture farm in a private domain. Marine aquaculture concession: The decree stipulates the nationality requirements and professional qualifications required of applicants, also detailing: whether they are natural persons, legal persons or public bodies. Applications for authorization must be addressed to the *Departmental or Interdepartmental Director of Maritime Affairs*, which is a local authority attached to the Ministry of Infrastructure. Depending on the cost, scope or location of the project, the procedure may include a public inquiry, as stipulated in the appendix to Decree No. 85-453 implementing Law No. 83-630 on the democratization of public inquiries. and the protection of the environment. The opinion of the following authorities is required: the taxing authority, the local health service, the *French Research Institute for the Exploitation of the Sea* (IFREMER), the municipal authorities concerned and the competent professional organizations. The final decision belongs to the local committee of marine cultures which has administrative and regulatory powers. The concession is then granted by the prefect, the commissioner of the republic of the competent department, and notified to the applicant. The duration of a concession cannot exceed 35 years, a concession can be renewed, modified, transferred, suspended or revoked. Seawater use concession: Applications for authorization to use marine waters to install an aquaculture farm on private property must be addressed to the prefect by the owner or the tenant. The applicant must meet the same nationality and professional qualifications as those indicated above and the procedure to be followed is generally the same. As explained in the paragraph below, there are no EIA

²⁸⁽⁵⁾Official Journal of the French Republic, 25 March 1983, pp. 918-23.

procedures for the installation of shellfish farms. Only marine aquaculture farms exceeding a certain size are subject to an EIA procedure as defined in the Environment Code - Book I.

At an EU level, the main EIA (Environmental Impact Assessment) guidelines are the Council Directive (EEC) on the assessment of the effects of certain public and private projects on the environment (*Council Directive (EEC) No.337 / 1985 the European Parliament and Council Directive*) *Council Directive (EC) No. 42/2001 on the assessment of the effects of certain plans and programs on the environment (Council Directive (EC) No.42 / 2001 on the Assessment of the Effects of Certain Plans and Programs on the Environment)*. At the national level, the EIA system is regulated in Book I of the Environment Code and in Decree No.77-1141 adopted for the application of Article 2 of the Environmental Code. No.76-629 law of 10 July 1976 on the protection of nature (*Decree No.77-1141 Implementing Article 2 of law No. 76-629 on the protection of nature*) (1977 as amended). The Environment Code (Book II of the Code Regulations) establishes a specific procedure for the assessment of the environmental impact of inland aquaculture farms, which is not applicable to shellfish farming or marine aquaculture in general, as mentioned above in the paragraph describing the authorisation system. After receiving an application for an authorization or concession to install an aquaculture farm inland, the prefect must require an *environmental impact study* or an *impact notice*, to be carried out a maximum period of two years at the expense of the applicant. The submission of such a study is mandatory for the following aquaculture projects:

- Aquaculture farms with salmon.
- Aquaculture farms for scientific or experimental purposes.
- Aquaculture farms with an annual production exceeding 2 tonnes or occupying an area of more than 3 ha.
- Aquaculture farms planning to increase their production or increase their area of exploitation until they reach or exceed the thresholds mentioned above.

An environmental impact notice is required for any other type of aquaculture facility.

The public inquiry preceding the preparation of the environmental impact study is conducted by a commission which must be designated by the president of the administrative court. The survey can take from 2 weeks to 1 month. The study must include:

- An analysis of the initial state of the site and its surrounding environment
- An analysis of the direct and indirect, temporary and permanent effects of the project on the environment.
- The reasons for the installation of the project.
- The mitigation, elimination or compensation measures proposed by the applicant.
- An analysis of the methods used to evaluate the impact of the project.
- A non-technical summary of the information presented in the study for public use.

The report of the public inquiry must present all the counter-proposals put forward by the interested parties and the applicant's answers to them, if any. The environmental impact notice must identify the possible impacts on the environment and determine the conditions under which the project can avoid them. A public inquiry is not required.

With regard to marine aquaculture, Decree No. 77-1141 implementing Article 2 of Law No. 76-269 on the protection of nature stipulates that an EIA is required only for aquaculture farms considered as classified installations. The Decree No. 53-578 of 20 May 1953 modified on the nomenclature of facilities classified for environmental protection) (1953 as amended) (*Decree No.53-578 Establishing the categories of classified*) specifies that shellfish farms are totally exempted from the procedure, while marine aquaculture facilities with a production capacity of more than 5 tonnes of aquatic organisms per year are subject to the regulations of classified installations. Therefore, the described EIA procedure is applicable only to these.

The classified facilities system is another established procedure for solving environmental problems. The construction of facilities that may cause nuisances in the vicinity or affect health, safety, cultural and archaeological heritage, agriculture or the environment, is subject to the granting of an authorization or a declaration of the importance of such impacts. This procedure, implemented by the prefect, applies to both marine and inland aquaculture and is regulated in Book V of the Environment Code (L511 and L512) and Decree No.77-1133 of 21 September 1977 as amended for the application of Law No. 76-663 of 19 July 1976 on Classified Installations for the Protection of the Environment (1977, as amended) (*Decree No. 77-1133 Implementing Law No.76-663 concerning classified facilities for the protection of the environment*). Decree No.53-578 establishing categories of classified installations makes the following activities subject to authorization:

- Freshwater salmon farms with a production capacity exceeding 10 tonnes / year.
- Aquaculture farms in fresh water (except salmon farms and intensive pond aquaculture, with little or no feeding), with a production capacity of over 20 tonnes / year.
- Marine aquaculture farms with a production capacity of over 20 tonnes / year.

A simple declaration is required for:

- Freshwater salmon farms with a production capacity greater than 500 kg / year but less than 10 tonnes / year.
- Aquaculture farms in fresh water (except salmon farming and intensive pond aquaculture, with little or no feeding), with a production capacity of more than 5 tonnes / year but less than or equal to 20 tonnes / year.
- Marine aquaculture farms with a production capacity of more than 5 tonnes / year but less than or equal to 20 tonnes / year.

Review of Aquaculture Licences, Spain:

Summary

In this review the main aspects concerning Spanish marine aquaculture production, and its control, are summarized. Aquaculture in Spain has been dominated by extensive shellfish farming, mainly mussels (3242 rafts; 260 000 t year⁻¹ in 1998), since the beginning of the 1950s. This type of farming was the most lucrative marine aquaculture activity in the Galician Rías (NW of the Iberian Peninsula) in terms of production. In recent years, finfish farming has developed in a number of Mediterranean locations, with turbot, sea bream and sea bass as the most important species produced (18 300 t year⁻¹ in 1998). Environmental, food-quality and medicine standards are also reviewed in this paper including the regulations, rules, farm licensing, permits and monitoring programmes involved²⁹.

Review of Aquaculture Licences, Portugal:

Summary

Aquaculture in Portugal is a relatively old activity, dating back to ancient times. Production consists of mollusc bottom culture (clams: *Ruditapes decussatus*, oysters: *Crassostrea gigas*, and cockles: *Cerastoderma edule*) as well as finfish culture of sea bass (*Dicentrarchus labrax*), sea bream (*Sparus aurata*), eels (*Anguilla anguilla*), mullet (*Mugil spp.*), sole (*Solea vulgaris*), and cuttle fish (*Sepia officinalis*). It was not until the mid-1980s, when the Community Structural Policy was applied, that the aquaculture industry began to develop. During the period between 1990 and 1997, an overall growth of 27% was observed. The latest figures indicate a total net production value of 5.5 billion Escudos (27.4 million Euros). As it is relatively new as a large-scale industry, aquaculture still suffers from a few problems namely, incomplete legislative coverage and the inability to attain recognition as an important sector of the economy³⁰.

²⁹ <https://onlinelibrary.wiley.com/doi/abs/10.1046/j.1439-0426.2000.00261.x>

³⁰ <https://onlinelibrary.wiley.com/doi/abs/10.1046/j.1439-0426.2000.00262.x>

Enterprise and Technical Development Supports

The data point to a range of development supports which are already in place and which manage different interventions at different functional and spatial scales in support of enterprise development in this sector. Existing development interventions include:

- Business development supports and training for established and emerging enterprises.
- Public funding measures through grant-aid and equity investment through the relevant operational programmes, which are structured in alignment with the strategic and operational priorities of the EMF.
- Knowledge and technical support transfer initiatives, which are structured so as to facilitate the development of HEI research-led investigations in support of commercial enterprises operating as stand-alone operations or of sectoral clusters.

Our analysis of the data points to a comprehensive range of existing interventions, which are instrumental in driving investment, research and development measures within the sector.

However, there is considerable support and a common consensus amongst the partners in calling for a more streamlined, integrated and target approach to enterprise development in this sector. Such development strategies should recognise the particular and highly differentiated development challenges, which need to be managed to support increased and sustainable investment measures in the sector. Significant among these challenges are:

- The highly-capital intensive nature of such commercial operations.
- The significant risk profile of such investments, relative to other sectors, given the inherent nature of the sector based on it is on the husbandry and farming of living species and their vulnerability to degradation and disease and higher morbidity rates.
- The relative lack of early-stage development and investment supports for emerging start-ups given this higher risk profile and the challenges and often protracted delays in securing the necessary development consents and licences to begin commercial operations.
- In the context of the challenges cited above, the difficulties of establishing scaling measures which are necessary to grow capacity and production, ensure quality control and technical standards and identify routes to regional, national and export markets in a highly competitive market-place.

Toolbox to train the next generation of aquaculture producers and business owners

Access2Sea capitalisation report will support the business model developed in work package 6, in order to support existing SME's to improve their current business and attract aquaculture SME's to the Atlantic area.

The toolbox will create an accessible model for industry, regulators and other stakeholders to further improve the image of the Atlantic area, as a place to do business. Identifying training and mentoring programmes, opportunities and threats that should be taken into account when organising events and workshops and developing knowledge transfer within the industry in each region.

Legal/Regulatory

A comprehensive training programme offering a wide range of modules to act as a guideline to provide the industry with technical solutions to give aquaculture access to sea and support SME's in exploiting the natural assets in a sustainable way.

The core focus of the training programme is to upskill employees and attract graduates to the industry.

An example of modules to offer³¹:

- Shellfish Farming
- Finfish production
- Hatchery operations
- Workboat handling
- Seafood quality
- Harvesting macro and micro algae
- Drying and Processing algae
- Aqua business economics
- Law and regulation
- Strategic and financial management
- Brexit ready
- Climate change and some possible impacts
- Focus on practical work experiences on farms
- Liaising with partner countries to spend two weeks training on a farm in a particular country.
- Mentoring Programme-Developing new products, scaling your business, accessing new markets.

Algae

For SME's looking to develop a business in the Algae industry, the work carried out by the Netalgae partners is vital to understanding the key raw materials used by the industry. Along with recommendations on the regulatory and management systems to ensure successful and sustainable commercial use of marine macroalgal resources.

The Netalgae project was established to support the European seaweed industry through the creation of an industry network to encourage co-operation amongst the seaweed industries and stakeholders. A compilation of information from Norway, The United Kingdom, Ireland, France, Spain and Portugal lead to a wide ranging policy study of the existing practises within the macroalgae industry.

It is important for SME's and stakeholders interested in developing their algae business, to read the overview of the Norwegian seaweed industry³⁴, its history, evolution and current status, the document outlines the scale, scope, value and the key raw materials used by the industry. The document also describes the regulatory and management systems in Norway.

³¹ <http://www.bim.ie/training/aquaculture/>

Technological and existence of suitable areas in coastal zones

Enable SME's to assess spatial opportunities to settle in the Atlantic shore with new business opportunities through the support of the Interreg Atlantic Area Programme, MOSES EAPA_224/2016.

MOSES: Maritime, ocean sector and ecosystem sustainability. Project website: www.mosesproject.eu.

MOSES worked on fostering blue growth in Atlantic industries. Using case studies, MOSES developed sustainable transition plans for blue growth for a number of key marine sectors and designed test policies for how well they manage activities to meet Marine Spatial Planning and Maritime Strategy Framework Directive goals. It is important to outline the process for applying for EU funding in the business model developed in work package six. An example is how to apply for the European Maritime and Fisheries fund (EMFF)³² to provide financial support to develop and train SME's to assess marine spatial planning to develop a business in the aquaculture industry.

Spain has developed a horizontal governance model through the "Blue Integrated Territorial Investment", ITI Azul, which aggregates the support of European Structural Investment Funds to the Atlantic Strategy in Spain.

Now is the time to lean into resources that are available to the industry that are driving the blue economy forward.

Climate change

Rising sea temperatures and changes in ocean current have an impact on all sea creatures and net loss of biodiversity in marine habitats³⁵.

It is essential to understand the impacts that climate change is causing to the aquaculture industry in order to adjust your business strategy accordingly. Examples are as follows:

Atlantic Salmon in Ireland – an increase in sea temperature could mean that the distribution map for salmon and other cold water fish such as cod and lemon sole could move further north and possibly away from Ireland all together and replace them with warm water species such as sea bass and boarfish³⁶.

It is well documented the shift associated with mackerel stocks³⁷.

Warmer waters could also lead to the possibility of algae related bio-toxin problems³⁸.

Sandeel play an important role in Marine ecosystems are particularly vulnerable to increased sea temperatures. Sandeel rely on specific habitat type, sandeel species have little room for manoeuvre from an adaptive point of view³⁹.

Opportunities may arise where abundance may be encountered due to warmer seas, as it will favour some species that we are not as popular at this time.

The EU Life fund will help local councils facilitating innovation and knowledge transfer in the aquaculture sector to conduct further studies in their regions⁴⁰.

³² https://ec.europa.eu/fisheries/cfp/emff_en

³³ http://www.netalgae.eu/uploadedfiles/Guide_8p_UK.pdf

³⁴ The Norwegian Seaweed Industry (Meland, M. & Rebours, C.) (EN)

³⁵ <https://nca2014.globalchange.gov/report/regions/oceans>

³⁶ <https://www.sciencedaily.com/releases/2008/10/081023222558.htm>

³⁷ <https://www.sciencedirect.com/science/article/abs/pii/S0165783600002496>

³⁸ https://www.researchgate.net/publication/12616399_Marine_Algal_Toxins_Origins_Health_Effects_and_Their_Increased_Occurrence/citation/download

³⁹ https://link.springer.com/chapter/10.1007/978-3-319-39745-0_8

⁴⁰ <https://ec.europa.eu/easme/en/life>

Social acceptance

For businesses to succeed in the aquaculture industry we must have the tools to ensure we continuously work on building relationship and improving the co-operation between all the relevant parties in the aquaculture industry.

The capitalisation report looks at lessons learnt from past experiences. Using this knowledge, it will allow us to have the confidence to step forward and have open dialogue with various stakeholders. Business support organisations, research institutes, national and regional administrators and councils will be key players that SME's will need to work very closely with in order to set up a business or expand an existing business in the aquaculture industry.

Conclusion

Drawing on the basis of the Access2Sea guiding principles, five EU countries across 36 regions in France, Spain, Portugal, UK and Ireland, are collaborating to help increase the aquacultures sector's production, its innovation and competitiveness.

The partners are working together and exchanging knowledge to set up multiannual plans to promote aquaculture. The Capitalisation report has identified bottlenecks and structural barriers to increased investment in the sector. It also highlights the opportunities to facilitate cooperation, coordination and exchange of best practices between EU countries.

Collaboration amongst partner organisations drawing on the experience of the different regions, will build a consensus approach to identifying similar opportunities and how to manage common issues and find ways to overcome them.

Such a collaborative approach empowers us in agreeing a common approach to answer regional challenges in the fields of innovation, resource efficiency, environmental and cultural assets, while supporting regional and sustainable growth in the Blue Economy.

Appendix 1: Questionnaire - Diagnostic and Mapping Tool: Baseline Assessment of the Aquaculture

Task 3.1 Capitalisation on available knowledge

1.0 Strategic, Policy and Institutional Framework

1a) Provide an overview or inventory or schematic of the relevant economic, territorial or sectoral development strategies which set out the framework within which public and private investment is undertaken within the aquaculture sector.

Wales 1(a)

LEVEL	STRATEGY	ADMINISTRATIVE BODY	DESCRIPTION	LINK
European	Action Plan for a Maritime Strategy in the Atlantic Area	EU Commission	This Action Plan therefore sets out priorities for research and investment to drive the 'blue economy' forwards in the Atlantic area.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0279&from=EN
European	Strategic Guidelines for the sustainable development of EU aquaculture	EU Commission - Maritime Affairs	These Strategic Guidelines aim to assist the Member States in defining their own national targets taking account of their relative starting positions, national circumstances and institutional arrangements. Issues covered by EU legislation are not addressed under the open method of coordination, but they provide the framework for its activities.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0229&from=EN
European	Regulation (EU) No 304/2011 of the European Parliament and of the Council of 9 March 2011 amending Council Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture	THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,	Document amending the Council Regulation (EC) No 708 /2007 (Next line)	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R0304&from=EN
European	Council Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture	THE COUNCIL OF THE EUROPEAN UNION,	This Regulation establishes a framework governing aquaculture practices in relation to alien and locally absent species to assess and minimise the possible impact of these and any associated non-target species on aquatic habitats and in this manner contribute to the sustainable development of the sector.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0708&from=EN
European	Commission Regulation (EC) No 710/2009 of 5 August 2009 amending Regulation (EC)	THE COMMISSION OF THE EUROPEAN COMMUNITIES,	Document amending the Council Regulation (EC) No 889/2008 (Next line)	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0710&from=EN

	No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007, as regards laying down detailed rules on organic aquaculture animal and seaweed production			
European	Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control	EU Commission	This Communication is based on the outcome of consultations with stakeholders, and takes into account the analysis performed by the Joint Research Centre. Four priority areas will be addressed in order to unlock the potential of EU aquaculture: administrative procedures, coordinated spatial planning, competitiveness and a level playing field.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0889&from=EN
European	Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91	THE COUNCIL OF THE EUROPEAN UNION,	This Regulation provides the basis for the sustainable development of organic production while ensuring the effective functioning of the internal market, guaranteeing fair competition, ensuring consumer confidence and protecting consumer interests.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0834&from=EN
European	Building a sustainable future for aquaculture A new impetus for the Strategy for the Sustainable Development of European Aquaculture	EU Commission	This Communication aims to identify and address the causes of this stagnation, with a view to ensuring that the EU remains a key player in this strategic sector. It will build on the achievements of the 2002 aquaculture strategy and on the new impetus for marine activities provided by the EU Integrated Maritime Policy.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009DC0162&from=EN
European	Blue Growth opportunities for marine and maritime sustainable growth	Eu Commission	This Communication drives forward the Commission's Integrated Maritime Policy and launches a process which will place the blue economy firmly on the agenda of Member States, regions, enterprise and civil society. It describes how Member States and EU policies are already supporting the blue economy. It then identifies specific areas where targeted action could provide an additional stimulus. A set of initiatives will subsequently be launched to explore and	https://ec.europa.eu/maritime-affairs/publications/blue-growth-opportunities-marine-and-maritime-sustainable-growth_en

			develop the growth potential in these areas.	
European	Report on the Blue Growth Strategy Towards more sustainable growth and jobs in the blue economy	EU Commission - Staff working document	This report examines what has been learnt and what has been achieved since 2012, what is ongoing and what is still missing.	https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/swd-2017-128_en.pdf
National	The Marine and Coastal Access Act 2009	Uk Government	The Marine and Coastal Access Act 2009 is an Act of the Parliament of the United Kingdom. It creates "a new system of marine management"	https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKewjFjsr16eHjAhVQa8AKHdD-BvoQFjAAegQIAhAC&url=http%3A%2F%2Fwww.legislation.gov.uk%2Fukpga%2F2009%2F23%2Fpdfs%2Fukpga_20090023_en.pdf&usg=AOvVaw372rJGMhoAxDt5aCMYoD77
National	Planning Act 2008	Uk Government	An Act to establish the Infrastructure Planning Commission and make provision about its functions; to make provision about, and about matters ancillary to, the authorisation of projects for the development of nationally significant infrastructure; to make provision about town and country planning; to make provision about the imposition of a Community Infrastructure Levy; and for connected purposes.	www.legislation.gov.uk/ukpga/2008/29/pdfs/ukpga_20080029_en.pdf
National	Habitats regulations	UK Government	The Habitats Regulations 2010, which are made under section 2(2) of the European Communities Act 1972, are the principal means by which the Habitats Directive is transposed for England and Wales and territorial seas.	www.legislation.gov.uk/ukdsi/2019/.../pdfs/ukdsiem_9780111176573_en.pdf
National	Water Framework Directive	Uk government (Welsh Government)	The purpose of the Water Framework Directive is to establish a framework for the protection of inland surface waters, estuaries, coastal waters and groundwater. The framework for delivering the Directive is through River Basin Management Planning. The UK has been split into several River Basin Districts (RBDs).	https://assets.publishing.service.gov.uk/.../system/.../river-basin-planning-standards.pdf

Regional	The Environment (Wales) Act 2016	Welsh Government	puts in place a legislative framework to promote the Sustainable Management of Natural Resources (SMNR).	https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&ved=2ahUKewid6pKh6OHjAhXwyYUKHaKjC48Q5TV6BAgBEAs&url=https%3A%2F%2Fgov.wales%2Fsites%2Fdefault%2Ffiles%2Fconsultations%2F2018-02%2Fdraft-plan-en.pdf&psig=AOvVaw2AtE1Dg1M2uitdvkmEqDqj&ust=1564753787001451
Regional	Welsh National Marine Plan (Draft)	Welsh Government	This Welsh National Marine Plan is the first marine plan for Wales and represents the start of a planning process of shaping our seas to support economic, social and environmental objectives. Its purpose is to guide the sustainable development of our marine area by setting out how proposals for use will be considered by decision makers including, in particular, consenting authorities.	https://gov.wales/draft-welsh-national-marine-plan
Regional	Well-being of Future Generations (Wales) Act 2015	Welsh Government	The Future Generations Commissioner for Wales' role is to act as a guardian for the interests of future generations in Wales, and to support the public bodies listed in the Act to work towards achieving the well-being goals.	https://futuregenerations.wales/wp-content/.../02/150623-guide-to-the-fg-act-en.pdf
Regional	Habitats regulations Assessment	Welsh Government	This report enables the Welsh Government to meet its obligations under the Habitats Regulations. It documents the assessment of the WNMP against the requirements of the Habitats Regulations, summarising the HRA process and its application to the WNMP, and detailing the results of the assessment.	https://gov.wales/draft-welsh-national-marine-plan
Regional	Habitats regulations Assessment	Welsh Government	This supporting document describes the process and conclusions of reviewing Welsh Government's interim Marine Aggregate Dredging policy (iMADP) (2004) which applied to the Bristol Channel leading to the proposal to withdraw this policy and replace it with Wales-wide policy contained within the draft Welsh National Marine Plan (WNMP).	https://gov.wales/draft-welsh-national-marine-plan

1(a) Wales end.

France 1(a)

	ORGANIZATION			Law/Régulation		Strategies	
EUROPE	The Common Fisheries Policy	European Framework for Fisheries and Aquaculture Interventions		The Common Fisheries Policy	https://ec.europa.eu/fisheries/cfp_en	ICZM INTEGRATED COSTAL ZONE MANAGEMENT (2002)	https://ec.europa.eu/environment/iczm/pdf/vol1.pdf
	Aquaculture Advisory Council - AAC and the Market Advisory Council - MAC (consultation structures between DG MARE/DG TRADE and European Professional Organization Federation of European Aquaculture Producers (FEAP), European Mollusc Producers Association (EMPA/AEPM))	recommendations / opinions / suggestions		Directive 2000/60/EC – framework for Community action in the field of water policy	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:l28002b	Blue Book	-
	Aquaculture is also concerned by cross-cutting European policies on animal health, human nutrition, information and consumer safety, market management, research and the environment. These policies are carried out DG MARE, DG SANTE, DG TRADE, DG RESEARCH and DG ENVIRONMENT of the European Commission			Integrated Maritime Policy	https://ec.europa.eu/maritimeaffairs/policy_fr	Atlantic Strategy (2011)	https://atlanticstrategy.eu/index.php http://www.europarl.europa.eu/RegistreWeb/search/simple.htm?reference=COM_COM(2011)0782&lg=EN&currentPage=1
				whose Strategy for the marine environment Marine Spatial Planning	Directive 2008/56/EC – EU action in the field of marine environmental policy (Marine Strategy Framework Directive) Directive 2008/56/EC – EU action in the field of marine environmental policy (Marine Strategy Framework Directive)	Déclaration de limassol pour la Croissance Bleue (2012)	https://ec.europa.eu/maritimeaffairs/files/documents/body/limassol_en.pdf
				other environmental directives (wild bird, natura 2000...)		Atlantic Action Plan (2013)	https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=CELEX:52013DC0279

NATIONAL	Marine aquaculture is administratively dependent on both the Ministry of Agriculture, the Ministry of Ecology and the Ministry of Economy and Finance.				https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000317531	Blue Book (2009) (translation of European Blue Growth Policy)	https://www.ladocumentationfrancaise.fr/rapports-publics/104000028/index.shtml
	the Ministry of Agriculture and Food	Direction des Pêches Maritimes et de l'Aquaculture (DPMA)	application of European regulations + drafting of national texts; develops policies for investment and financing support, manages funds; in charge of the regulation of marine crops She has a cotutelle on FranceAgriMer (see below)	Loi sur la pêche maritime et les cultures marines	https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000751904	"Grenelle de la mer" (2009) that created the Sea and Coastal National Council	https://www.ecologie-solidaire.gouv.fr/conseil-national-mer-et-des-littoraux-cnml
		Direction générale de l'alimentation (DGAL)	regulation on the safety of products	Loi Economie Bleue	https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000032728685&categorieLien=id	New chapter in the Environment code : Policy for marine environments to whose	http://www.codes-et-lois.fr/code-de-l-environnement/toc-milieux-physiques-eau-milieux-aquatiques-marins-politiques-5aea999-texte-integral
		Direction générale de l'enseignement et de la recherche (DGER)	education and training	Loi Biodiversité	https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000033016237&categorieLien=id	Marine and coastal National Strategy	https://www.ecologie-solidaire.gouv.fr/strategie-nationale-mer-et-littoral
	the Ministry of Ecology	Direction des Affaires Maritimes (DAM)	maritime safety and security, maritime training and education, the animation of maritime affairs services and the monitoring of seafarers.	Loi sur l'Eau	https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000649171&categorieLien=id	National Strategic Plan "Sustainable Aquaculture Development 2020"	http://www.nc-france.com/is_o_album/psn_pda_redaction_11_juillet_2014.pdf
		Direction de l'Eau et de la Biodiversité (DEB)	design, evaluation and implementation of policies for water, natural areas, terrestrial and marine biodiversity and mineral resources	Loi sur les ICPE	https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000684771&categorieLien=cid	Action plan for the marine fisheries products, fish farming and shellfish farming	http://www.comite-peches.fr/wp-content/uploads/Plan-de-fili%C3%A8re-p%C3%A4che-et-aquaculture-Final.pdf

		Direction Générale de la Prévention des Risques (DGPR)	identify and quantify all risks / it deals with classified installations for the protection of the environment	The rules regarding law are described in the "Code"	-	THE COMMITMENT CHARTER FOR THE SUSTAINABLE DEVELOPMENT OF FRENCH AQUACULTURE and its Progress plan for French fish farming	http://www.pêche-ir.fr/fichiers/documents/textes_juridiques_2011/Circulaire%20du%2012%2007%202011%20-%20Diffusion%20de%20la%20charte%20d'engagement%20pour%20le%20developpement%20durable%20de%20l'aquaculture%20francaise.pdf
	the Ministry of Economy and Finance.	Direction Générale de la Concurrence, de la Consommation et la Répression des Fraudes (DGCCRF)	competitive market regulation, the economic protection of consumers and their safety	Code Rural et de la pêche maritime	https://www.legifrance.gouv.fr/affichCode.do?cidTexte=LEGITEXT000006071367		
	CNC -Comité national de la conchyliculture		National Shellfish Committee/professional organization	Code de l'environnement	https://www.legifrance.gouv.fr/affichCode.do?cidTexte=LEGITEXT000006074220		
	CNPMEM/comité national des pêche et des élevages marins	http://www.comite-peches.fr/qui-sommes-nous/le-comite-national-des-peches-maritimes-et-des-elevages-marins/	National Committee for the Fishing of Marine Farms/professional organization	CG3P, Code général de la propriété des personnes publiques	https://www.legifrance.gouv.fr/affichCodeArticle.do?idArticle=LEGIARTI000006361188&cidTexte=LEGITEXT000006070299&dateTexte=20060701		
	CIPA Comité Interprofessionnel Produits Aquaculture (ATT/SPPA/FFA)	https://www.poisson-aquaculture.fr/	Interprofessional Committee Products Aquaculture which groups 3 sub-federations	all other regulations concerning planification, safety, regulation...			
INTER-REGIONAL	Maritime Prefect	The Maritime Prefect reports directly to the Prime Minister via the General Secretariat for the Sea (SGMER). Coordination with the Ministries is ensured by an Interministerial Committee of the SEA.	organizes and supervises the action of the State at sea.	Document Strategique de Façade	http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/document-strategique-de-facade-dsf-r188.html	Shéma régional de Développement de l'aquaculture marine	not published yet

	Directions Interrégionales de la Mer (DIRM ou DM en outre-mer)	Under the supervision of the Ministry in charge of Ecology	Seafarers and maritime education, fisheries and aquaculture, control of maritime activities, coordination of sea and coastal policies, the seafarers' health service, infrastructure and maritime safety, ship safety and operational regional surveillance and rescue centers.				
REGIONAL	Directions Régionales de l'Alimentation, de l'Agriculture et de la Forêt (DRAAF ou DAAF en outre-mer)	Under the supervision of the Ministry in charge of Agriculture and Food	food safety and hygiene and aquaculture education.	see Below Law and Regulations (National)		the sea = transversal axis in all regional public politics - Regional Strategy economic development, innovation and internationalization - Coastal Spaces Charter /CZIG (2006) - Maritime and Coastal Regional Conference (2009), Maritime and Coastal Régional Strategy - Contrat Plan State - Région - regional EMFF - Strategy by fields : Breiz' Alg, Idealg, Biomasse Algues de Rive	http://www.prefectures-regions.gouv.fr/bretagne/Glands-dossiers/CONTRAT-DE-PLAN-ETAT-REGION-Bretagne-2015-2020/Contrat-de-Plan-Etat-Region-Bretagne-2015-2020
	Directions Régionales des Entreprises, de la Concurrence, de la Consommation, du Travail et de l'Emploi (DIRECCTE ou DIECCTE en outre-mer)	Under the supervision of the Ministry in charge of Economy and Finances	manage all the aspects related to the prevention of the occupational risks, to the respect of the labor law, to the training of the employees, to the protection of the economic interests and to the safety of the consumers, to the improvement of the competitiveness of the companies (innovation, international, intelligence and economic security), etc.				https://www.bretagne.bzh/upload/docs/application/pdf/2013-12/srdeii_finale.pdf
	Directions Régionales de l'Environnement, de l'Aménagement et du Logement et de la Nature (DREAL ou DEAL en outre-mer)	Under the supervision of the Ministry in charge of Ecology	and use planning, travel, housing and housing, control of natural and technological risks, energy, and preservation of natural resources and environments.				https://www.bretagne.bzh/jcms/preprod_244034/fr/feamp-peche-et-aquaculture

	Directions Départementales (de la cohésion sociale et de) la Protection des Populations (DD(CS)PP)	Under the supervision of various Ministries	he safety and the control of the hygiene of the foodstuffs, the respect of the rules of use and prescription of the veterinary drugs, the protection of the animals, inspect the classified facilities relating to the breeding and the agro-alimentary, warn the health accidents, ensure the transparency of commercial relations between operators, verify the conditions of information of the consumer, etc.				https://www.bretagne.bzh/icms/prod_379179/fr/presentation-strategie-regionale-mer-littoral?details=true
	Brittany Region		manage public funds and the regional strategies				-
	CRC - Regional shellfish committee	2 in Brittany (North/south)	professional organizations				-
	CRPMEM		Regional Committee for the Fishing and Marine Farms/professional organization				-
	Syndicat Professionnel des Récoltants des algues de Rive de Bretagne (attached to CRPMEM)		Regional Union of Harvesters of Shore Algae				-
Finistere	Directions Départementales des Territoires et de la Mer (DDTM)	Under supervision of various Ministries	spatial planning and sustainable development policies, including maritime	Schéma des structures des exploitations de cultures marines / Schema of the structures of the farms of marine cultures = local planification document	http://www.finistere.gouv.fr/Politiques-publiques/Mer-littoral-et-securite-maritime/Cultures-marines/Schema-des-structures-des-exploitations-de-cultures-marines-du-departement-du-Finistere/Arrete-prefectoral-n-2015334-0002-du-30-novembre-2015	DDTM is publishing "Cadastre Conchylicole"	https://www.data.gouv.fr/fr/datasets/cadastre-conchylicole-du-finistere/
	Department of Finistere		Manage some ports			Department Of Finistere	https://www.finistere.fr/A-votre-service/Economie-International/Ports-peche-nautisme
	Departmental Committee for the Fishing and Marine Farms		Local committee for the Fishing and marine farms /professional organizations				-

	CSAVM - Chambre syndicale des algues et des végétaux marins		Chambers of Algae and Marine plants/professional organization				
Local	Syndicat mixte des ports de Cornouaille		https://www.peche-plaisance-cornouaille.fr/	Reglementation of the Authority that has in charge the management of the port or public domain (different authorities : chamber of commerce and industry, SEM, department, region...)		Maritime strategies elaborated locally for the EMFF	
	Other port managers or managers of public maritime domain					for our approach Acces Mer = more than 80 studies identified at local and regional area (strategies, report..) concerning aquaculture	
	Communauté de Communes (Municipalities and Group of municipalities)			Local Urban plan (SCOT, PLU, PLUI, POS)			
	Parc Marin Naturel d'Iroise		http://www.parc-marin-iroise.fr/				
	Cluster Algues (only for Brest area)		-				
	Local committee for CRC					0	

1(a) France end

Spain 1(a)

LEVEL	STRATEGY	ADMINISTRATIVE BODY	DESCRIPTION	LINK
European	Action Plan for a Maritime Strategy in the Atlantic Area	EU Commission	This Action Plan therefore sets out priorities for research and investment to drive the 'blue economy' forwards in the Atlantic area.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0279&from=EN
European	Strategic Guidelines for the sustainable development of EU aquaculture	EU Commission - Maritime Affairs	These Strategic Guidelines aim to assist the Member States in defining their own national targets taking account of their relative starting positions, national circumstances and institutional arrangements. Issues covered by EU legislation are not addressed under the open method of coordination, but they provide the framework for its activities.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0229&from=EN
European	Regulation (EU) No 304/2011 of the European Parliament and of the Council of 9 March 2011 amending Council Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture	THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,	Document amending the Council Regulation (EC) No 708 /2007 (Next line)	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R0304&from=EN
European	Council Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture	THE COUNCIL OF THE EUROPEAN UNION,	This Regulation establishes a framework governing aquaculture practices in relation to alien and locally absent species to assess and minimise the possible impact of these and any associated non-target species on aquatic habitats and in this manner contribute to the sustainable development of the sector.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0708&from=EN
European	Commission Regulation (EC) No 710/2009 of 5 August 2009 amending Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007, as regards laying down detailed rules on organic aquaculture animal and seaweed production	THE COMMISSION OF THE EUROPEAN COMMUNITIES,	Document amending the Council Regulation (EC) No 889/2008 (Next line)	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0710&from=EN

<https://ec.europa.eu/fisheries/cfp/aquaculture/>

European	Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control	EU Commission	This Communication is based on the outcome of consultations with stakeholders, and takes into account the analysis performed by the Joint Research Centre. Four priority areas will be addressed in order to unlock the potential of EU aquaculture: administrative procedures, coordinated spatial planning, competitiveness and a level playing field.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0889&from=EN
E+A14urope an	Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91	THE COUNCIL OF THE EUROPEAN UNION,	This Regulation provides the basis for the sustainable development of organic production while ensuring the effective functioning of the internal market, guaranteeing fair competition, ensuring consumer confidence and protecting consumer interests.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0834&from=EN
European	Building a sustainable future for aquaculture A new impetus for the Strategy for the Sustainable Development of European Aquaculture	EU Commission	This Communication aims to identify and address the causes of this stagnation, with a view to ensuring that the EU remains a key player in this strategic sector. It will build on the achievements of the 2002 aquaculture strategy and on the new impetus for marine activities provided by the EU Integrated Maritime Policy.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009DC0162&from=EN
European	Blue Growth opportunities for marine and maritime sustainable growth	Eu Commission	This Communication drives forward the Commission's Integrated Maritime Policy and launches a process which will place the blue economy firmly on the agenda of Member States, regions, enterprise and civil society. It describes how Member States and EU policies are already supporting the blue economy. It then identifies specific areas where targeted action could provide an additional stimulus. A set of initiatives will subsequently be launched to explore and develop the growth potential in these areas.	https://ec.europa.eu/maritimeaffairs/publications/blue-growth-opportunities-marine-and-maritime-sustainable-growth_en
European	Report on the Blue Growth Strategy Towards more sustainable growth and jobs in the blue economy	EU Commission - Staff working document	This report examines what has been learnt and what has been achieved since 2012, what is ongoing and what is still missing.	https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/swd-2017-128_en.pdf

National	ITI Azul (Blue ITI - Integrated Territorial Investment)		The objective of this document is to define the Integrated Territorial Investment called ITI Azul, with which it is intended to contribute to the achievement of the objectives of the so-called Atlantic Strategy and its Action Plan, as it appears in the Association Agreement of Spain 2014- 2020	http://www.dgfc.sepg.hacienda.gob.es/sitios/dgfc/es-ES/ipr/fcp1420/p/ITIAzul/Documents/20160209_Estrategia_ITI_Azul.pdf
National	Pluriannual National Strategic Plan for Spanish Aquaculture 14-20	Ministry of Agriculture, Fishing and Food (Ministerio de Agricultura, Pesca y Alimentación)	The Spanish Aquaculture Strategic Plan is part of the new Common Fisheries Policy (CFP) and the European Maritime and Fisheries Fund (EMFF) and seeks to respond in strategic guidelines for the sustainable development of aquaculture proposed by the European Commission (Com (2013) 229 final) concerning common priorities and needs for the development of the sector.	https://www.mapa.gob.es/ca/pesca/temas/acuicultura/plan-estrategico/default.aspx
Regional	RIS3 - Smart Specialization Strategy for Andalucía	Junta de Andalucía	The RIS3 Strategy is a challenge that the European Commission has launched to all regions with the final objective of promoting a new economic model, focused on companies, and based on a firm and determined commitment to innovation, science, technology, internationalization and the training.	http://ris3andalucia.es/wp-content/uploads/2015/02/Documento-Ris3-version-final-8-27-02-15.pdf
Regional	ITI Cadiz: Inversión Territorial Integrada para la Provincia de Cádiz 2014-20. (Integrated Territorial Investment for the province of Cadiz 2014-20)	Ministerio de Hacienda y Administraciones Públicas	The Integrated Territorial Investment (ITI) is an instrument designed to support a set of integrated actions in specific geographical areas and based on a series of socioeconomic indicators that measure their level of development.	https://www.informacioniti.es/wp-content/uploads/2017/01/01-iti-cadiz-2016.pdf
Regional	PAIDI 2020: Plan Andaluz de Investigación, Desarrollo e Innovación de Andalucía 2020. (Andalusian Plan for Research, Development and Innovation in Andalusia 2020)	Junta de Andalucía - Consejería de Economía y Conocimiento	The PAIDI is a document with which Andalusia assumes the effort with the impulse of its regional policies of R&D+i, from its identity and regional specificities, with the ultimate purpose of becoming an instrument for its social, cultural and economic development, responding especially to the objectives of economic recovery and generation of quality employment.	https://www.paidi2020.es/wp-content/uploads/PAIDI2020.pdf

Regional	Estrategia Andaluza para el Desarrollo de la Acuicultura Marina 2014-20 (Andalusian Strategy for the Development of Marine Aquaculture 2014-20)	Junta de Andalucía - Consejería de Agricultura, Pesca y Desarrollo Rural	Andalusian Strategy for the Development of Marine Aquaculture 2014-20	https://www.juntadeandalucia.es/export/drupaljda/ESTRATEGIA_ANDALUZA_PARA_EL_DESARROLLO_DE_LA_ACUICULTURA_MARINA_2014-2020.pdf
Regional	Ley 1/2002, de 4 de abril, de ordenación, fomento y control de la Pesca Marítima, el Marisqueo y la Acuicultura Marina. (Law 1/2002, of 4th of April, for the management, promotion and control of Marine Fisheries, Shellfish and Marine Aquaculture)	Junta de Andalucía - Consejería de la Presidencia	The regulation and promotion of marine aquaculture, as an activity integrated in the fishing sector, will have the aim of maximising the use of natural resources and the rational and sustainable development of the activity respecting the environment and increasing its competitiveness.	https://www.juntadeandalucia.es/boja/2002/4/5/1

1(a) Spain end

Ireland 1(a)

LEVEL	STRATEGY	ADMINISTRATIVE BODY	DESCRIPTION	LINK
European	Action Plan for a Maritime Strategy in the Atlantic Area	EU Commission	This Action Plan therefore sets out priorities for research and investment to drive the 'blue economy' forwards in the Atlantic area.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0279&from=EN
European	Strategic Guidelines for the sustainable development of EU aquaculture	EU Commission - Maritime Affairs	These Strategic Guidelines aim to assist the Member States in defining their own national targets taking account of their relative starting positions, national circumstances and institutional arrangements. Issues covered by EU legislation are not addressed under the open method of coordination, but they provide the framework for its activities.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0229&from=EN
European	Regulation (EU) No 304/2011 of the European Parliament and of the Council of 9 March 2011 amending Council Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture	THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,	Document amending the Council Regulation (EC) No 708 /2007 (Next line)	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R0304&from=EN
European	Council Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture	THE COUNCIL OF THE EUROPEAN UNION,	This Regulation establishes a framework governing aquaculture practices in relation to alien and locally absent species to assess and minimise the possible impact of these and any associated non-target species on aquatic habitats and in this manner contribute to the sustainable development of the sector.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0708&from=EN

European	Commission Regulation (EC) No 710/2009 of 5 August 2009 amending Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007, as regards laying down detailed rules on organic aquaculture animal and seaweed production	THE COMMISSION OF THE EUROPEAN COMMUNITIES,	Document amending the Council Regulation (EC) No 889/2008 (Next line)	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0710&from=EN
European	Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control	EU Commission	This Communication is based on the outcome of consultations with stakeholders, and takes into account the analysis performed by the Joint Research Centre. Four priority areas will be addressed in order to unlock the potential of EU aquaculture: administrative procedures, coordinated spatial planning, competitiveness and a level playing field.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0889&from=EN
European	Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91	THE COUNCIL OF THE EUROPEAN UNION,	This Regulation provides the basis for the sustainable development of organic production while ensuring the effective functioning of the internal market, guaranteeing fair competition, ensuring consumer confidence and protecting consumer interests.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0834&from=EN
European	Building a sustainable future for aquaculture A new impetus for the Strategy for the Sustainable Development of European Aquaculture	EU Commission	This Communication aims to identify and address the causes of this stagnation, with a view to ensuring that the EU remains a key player in this strategic sector. It will build on the achievements of the 2002 aquaculture strategy and on the new impetus for marine activities provided by the EU Integrated Maritime Policy.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009DC0162&from=EN
European	Blue Growth opportunities for marine and maritime sustainable growth	Eu Commission	This Communication drives forward the Commission's Integrated Maritime Policy and launches a process which will place the blue economy firmly on the agenda of Member States, regions, enterprise and civil society. It describes how Member States and EU policies are already supporting the blue economy. It then identifies specific areas where targeted action could provide an additional stimulus. A set of initiatives will subsequently be launched to explore and develop the growth potential in these areas.	https://ec.europa.eu/maritimeaffairs/publications/blue-growth-opportunities-marine-and-maritime-sustainable-growth_en
European	Report on the Blue Growth Strategy Towards more sustainable growth and	EU Commission - Staff working document	This report examines what has been learnt and what has been achieved since 2012, what is ongoing and what is still missing.	https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/

	jobs in the blue economy			files/swd-2017-128_en.pdf
European	European Maritime and Fisheries Fund Operational Plan	EU	The EMFF is the fund for the EU's maritime and fisheries policies for 2014-2020.	https://www.agriculture.gov.ie/media/migration/seafood/marineagenciesandprogrammes/emff/EMFFOPSummary251116.pdf
European	Inter-regional network to promote sustainable development in the marine algae industry	EU	Contents of project and the same projects achievements are outlines pertaining to the macroalgae in aquaculture.	https://www.keep.eu/project/410/inter-regional-network-to-promote-sustainable-development-in-the-marine-algal-industry
European	European Regional Development Fund (ERDF)	EU		-
European	Action Plan for a Maritime Strategy in the Atlantic Area	EU Commission	This Action Plan therefore sets out priorities for research and investment to drive the 'blue economy' forwards in the Atlantic area.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0279&from=EN
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European	Regulation (EU) No 304/2011 of the European Parliament and of the Council of 9 March 2011 amending Council Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture	THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,	Document amending the Council Regulation (EC) No 708 /2007 (Next line)	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R0304&from=EN
European	Council Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture	THE COUNCIL OF THE EUROPEAN UNION,	This Regulation establishes a framework governing aquaculture practices in relation to alien and locally absent species to assess and minimise the possible impact of these and any associated non-target species on aquatic habitats and in this manner contribute to the sustainable development of the sector.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0708&from=EN
European	Commission Regulation (EC) No 710/2009 of 5 August 2009 amending Regulation (EC) No 889/2008 laying down detailed	THE COMMISSION OF THE EUROPEAN COMMUNITIES,	Document amending the Council Regulation (EC) No 889/2008 (Next line)	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0710&from=EN

	rules for the implementation of Council Regulation (EC) No 834/2007, as regards laying down detailed rules on organic aquaculture animal and seaweed production			
European	Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control	EU Commission	This Communication is based on the outcome of consultations with stakeholders, and takes into account the analysis performed by the Joint Research Centre. Four priority areas will be addressed in order to unlock the potential of EU aquaculture: administrative procedures, coordinated spatial planning, competitiveness and a level playing field.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0889&from=EN
European	Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91	THE COUNCIL OF THE EUROPEAN UNION,	This Regulation provides the basis for the sustainable development of organic production while ensuring the effective functioning of the internal market, guaranteeing fair competition, ensuring consumer confidence and protecting consumer interests.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0834&from=EN
European	Building a sustainable future for aquaculture A new impetus for the Strategy for the Sustainable Development of European Aquaculture	EU Commission	This Communication aims to identify and address the causes of this stagnation, with a view to ensuring that the EU remains a key player in this strategic sector. It will build on the achievements of the 2002 aquaculture strategy and on the new impetus for marine activities provided by the EU Integrated Maritime Policy.	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009DC0162&from=EN
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European	Report on the Blue Growth Strategy Towards more sustainable growth and jobs in the blue economy	EU Commission - Staff working document	This report examines what has been learnt and what has been achieved since 2012, what is ongoing and what is still missing.	https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/swd-2017-128_en.pdf
European	EU 2020	EU	10-year strategy launched to create the conditions for smart, sustainable and inclusive growth.	https://www.agriculture.gov.ie/media/migration/customer-service/publicconsu

European	EU Interated Maritime Policy	EU	To provide a more coherent approach to maritime issues, with increased coordination between different policy areas.	ltation/sustainableaquaculturedevelopment/NatStratPlanSustAquaculDevelopdraftconsult100615.pdf
	Blue Growth	EU	Long term strategy to support sustainable growth in the marine and maritime sectors as a whole.	https://www.agriculture.gov.ie/media/migration/customer-service/publicconsultation/sustainableaquaculturedevelopment/NatStratPlanSustAquaculDevelopdraftconsult100615.pdf
	Common Fisheries Policy	EU	Covers the conservation of marine biological resources and the management of fisheries and fleets exploiting such resources, together with fresh water biological resources, aquaculture, and the processing and marketing of fisheries and aquaculture products	https://www.agriculture.gov.ie/media/migration/customer-service/publicconsultation/sustainableaquaculturedevelopment/NatStratPlanSustAquaculDevelopdraftconsult100615.pdf
	Strategy for Sustainable Development for European Agriculture	EU	Sets out the European policy for the development and growth of aquaculture	https://www.agriculture.gov.ie/media/migration/customer-service/publicconsultation/sustainableaquaculturedevelopment/NatStratPlanSustAquaculDevelopdraftconsult100615.pdf
National	Irish National Strategic Plan for Aquaculture	Department of Agriculture, Food and the Marine	This plan intends to inform investment priorities for Irish aquaculture through the European Maritime and Fisheries Fund (EMFF) Operational Plan	https://www.agriculture.gov.ie/seafood/marineagenciesprogrammesdivision/aquaculturepolicy/nationalstrategicplanforsustainableaquaculturedevelopment/
National	Harnessing Our Ocean Wealth	Government of Ireland	HOOW sets out the Government's Vision, High-Level Goals, and Key 'Enabling' Actions to put in place the appropriate policy, governance and business climate to enable Ireland's marine potential to be realised	https://www.ouroceanealth.ie/sites/default/files/Publications/harnessing_our_ocean_wealth_-_review_of_progress_2018-web.pdf

National	BIM Annual Aquaculture Survey (2018)	Bord Iascaigh Mhara (BIM)	The survey indicates that Irish aquaculture output increased in 2017 from 2016.	http://www.bim.ie/media/bim/content/publications/aquaculture/BIM-Annual-Aquaculture-Survey-2018.pdf
National	BIM Annual Aquaculture Survey (2017)	Bord Iascaigh Mhara (BIM)	The survey indicates that Irish aquaculture increased by 9% in 2016.	http://www.bim.ie/media/bim/content/publications/aquaculture/BIM-Annual-Aquaculture-Survey-2017.pdf
National	Annual Report (2017)	Foras na Mara (Marine Institute)	Gives us a good insight into facts and figures regarding regional aquaculture services across the country	file:///C:/Users/D%200%20Seachnasai gh/Downloads/Marine%20Institute%20Annual%20Report%202017%20BILINGUAL%20[ONLINE].pdf
Regional	BMW Regional Operational Programme 2014 - 2020	Northern and Western Regional Assembly	The ERDF aims to strengthen economic and social cohesion in the European Union by correcting imbalances between its regions.	https://www.nwra.ie/competitiveness/bmw-regional-operational-programme-2014-2020/
Regional	Southern and Eastern Regional Operational Programme 2014-20	Southern Regional Assembly	Investment on research, innovation, ICT infrastructure, entrepreneurship in SMEs, promoting low carbon economy and sustainable urban development.	https://www.southernassembly.ie/eu-programmes/southern-and-eastern-regional-operational-programme-2014-2020
Regional	Ireland Wales Programme 14-20	Southern Regional Assembly, Welsh Government & Dept. for Public Expenditure and Reform	A maritime programme connecting orgs, businesses & communities on the west coast of Wales with the Irish south & east coasts seeking solutions to shared challenges on both sides of the Irish Sea.	https://www.southernassembly.ie/eu-territorial-coop-programmes/ireland-wales-programme-2014-20
Regional	Celtic Seas Partnership	Eastern and Midland Regional Assembly	To bring people and orgs to stimulate discussion and find innovative solutions	https://emra.ie/projects/celtic-seas-partnership-2/

1(a) Ireland end

Portugal 1(a)

Central

Ensuring the protection and conservation of biodiversity;

- Promoting the planning of inland aquaculture, in conjunction with management planning;
- Promoting and encouraging participation in the planning and management of aquatic resources, fishermen's organisations, environmental protection and forest producers, local authorities and other entities interested in the conservation, protection and use of aquatic resources;
- Regulating fishing and aquaculture, and
- Promoting scientific research for better knowledge and conservation of aquatic ecosystems.
- Management of the European Maritime and Fisheries Fund (EMFF) (2014-2020).

Promotion of Environmentally sustainable, resource-efficient and innovative and competitive fisheries.

Regional

The Azores:

- The conditions of access to inland waters and sea land belonging to the territory;
- Fishery resources and other aquatic resources, including their conservation, management and operation;
- Fishing activities in inland waters and sea land belonging to the territory of the region or vessels registered in the region;
- Aquaculture and processing of fishing products in the region;
- Fishing vessels that pursue their activities in internal waters and territorial sea belonging to the territory of the region or which are registered in the region, and
- Recreational fishing.

Madeira:

- Fisheries, aquiculture, water resources.

Local

Local governments (parishes or municipalities) can support individual farms or fisheries to apply for EMFF funding.

Additionally, local governments can devise and implement projects in response to calls for proposals released by the central managing authority for the EMFF.

Responsible ministries/bodies

Central

- *Ministry of the Sea*

Regional

- Regional Authorities of Azores and Madeira

Local

- Municipalities

Sources:

EMFF Portugal, [Factsheet](#)

[Lei n.º 7/2008 de 15 de Fevereiro Lei da pesca nas águas interiores](#) [Law of the Inland Fishing]

[Estatuto Político-Administrativo da Região Autónoma da Madeira](#) (Law 130/99 of 29 August).

[Estatuto Político-Administrativo da Região Autónoma dos Açores](#) (Law 2/2009 of 12 January).

Portugal 1(a) end

1b) Provide a summary account of the Policy and Planning hierarchy which governs the spatial location and distribution of aquaculture enterprises including the particular obligations attaching to environmental factors and controls with respect to EU (Natura, for example), Member State, Regional and Local Level including legislative and authorisation processes

1.B Wales

<p>Ref: 1(b)</p> <p>Wales</p>	<p>The link below provides an aquaculture regulatory toolbox for Businesses wishing to develop an Aquaculture in the country. Included in the link is an overview of Welsh Aquaculture, New technology driving growth and a summary of the regulatory requirements and guidance for new aquaculture businesses in Wales. Initial documents include Authority consultation guidance for developers.</p> <p>https://businesswales.gov.wales/marineandfisheries/funding-and-business-development/aquaculture-regulatory-toolbox-wales</p>
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1.B Wales end

1.B France

1b) Provide a summary account of the Policy and Planning hierarchy which governs the spatial location and distribution of aquaculture enterprises including the particular obligations attaching to environmental factors and controls with respect to EU (Natura, for example), Member State, Regional and Local Level including legislative and authorisation processes

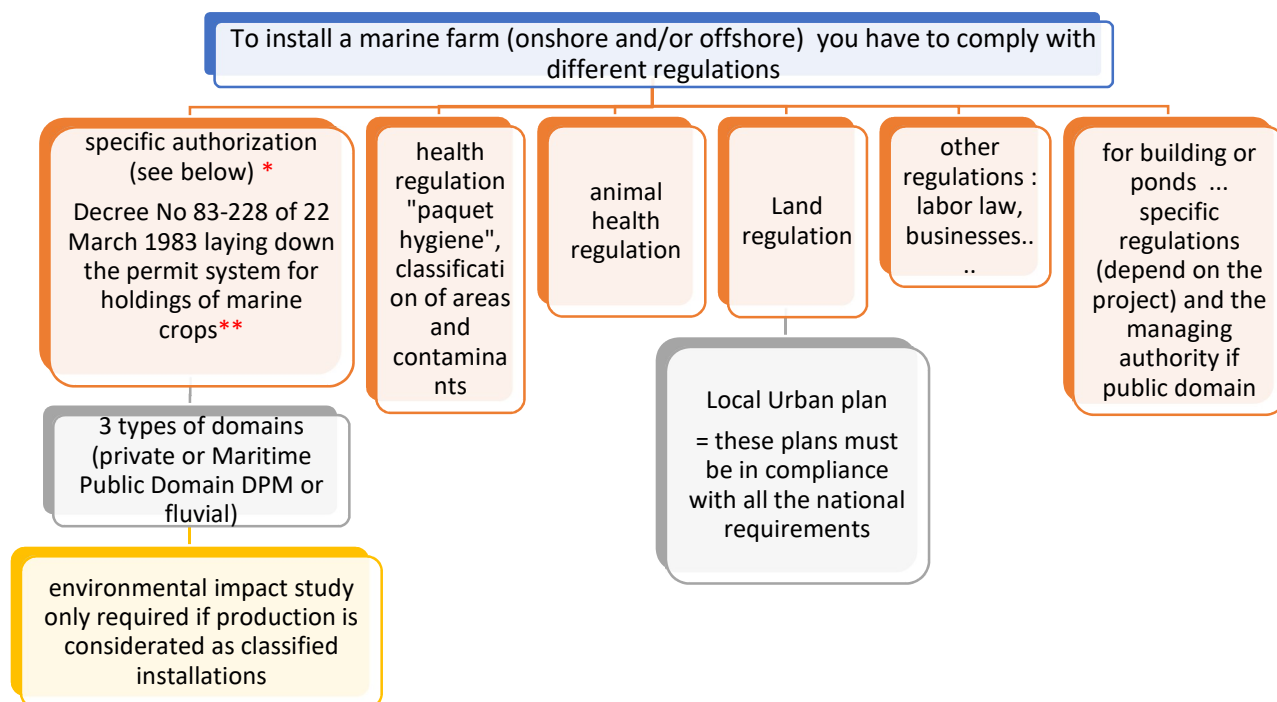
Cf Excel sheet

To sum up :

- Le « Schéma des Structures des Exploitations de Cultures Marines » (SSECM) is the local global document for the planification of marine cultures (Area : Finistère) = this document must respect all the legal and regulation frameworks. This document is subject to an environmental evaluation that includes the evaluation for Natura 2000. SSECM not covered for example new species or technicals and construction. But, diversifications and experimentations are possible with conditions.
- The project :
 - o is covered by the the SSECM : has « only » to prove that its project is in compliance with SSECM
 - o Is not covered by SSECM and is located in a Natura2000 zone, the project must do a full incidence evaluation (+ environmental assesment impact according if concerned)

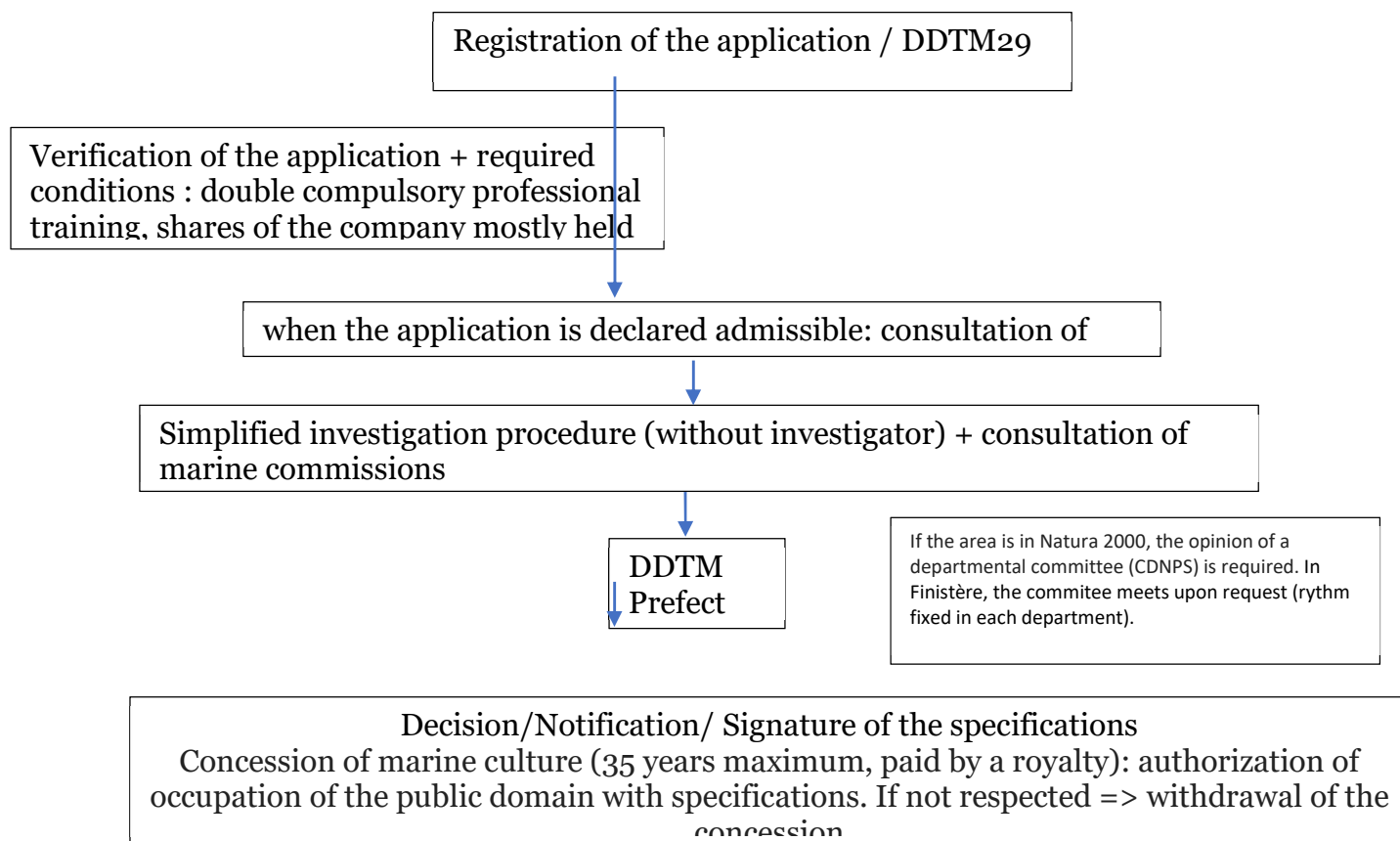
In all cases, the authorization must be asked at DDTM (Territory and Maritime Department Direction) and then follows the process.

- For the onshore installations : various documents must be also respected : urban local plan (each local municipality has one with its specifications) and then depending on the project, other regulations must be respected and specific authorization can be required such as ICPE (facilities requiring environmental impact assesment).
- The regulations applied to aquaculture (public survey, protected areas, Natura2000, study of impact, classified instllations...) are scattered in several books II, IV and V of the code of the environment and in the General Code of ownership of public persons (CG3P, regarding the occupation of the public domain).



Procedure for authorization for exploitation of marine culture AECM

For marine concessions public seawtares and water intake authorisations to supply parcels situated on public or private property



**<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000502343&categorieLien=cid>

This AECM includes the temporary occupation permit if the public domain is managed by the State. If not, the temporary occupation permit must be obtained with the managing authority (various one).

Beaconing : included in the process of authorization (AECM)

Waste : general framework in the SSECM, any specific authorization required

For the harvester of seaweed, they must obtain an authorization of DDTM

1.B France end

1.B Spain

Ref: 1(b) Spain	AUTHORIZATION / CONCESSION	COMPETENT BODY	LEVEL	LINK
	MARINE AQUACULTURE ACTIVITIES AUTHORIZATION	Directorate General for Fishery and Aquaculture - ANDALUSIAN DEPARTMENT OF AGRICULTURE, LIVESTOCK, FISHERY AND SUSTAINABLE DEVELOPMENT	Regional	https://www.juntadeandalucia.es/organismos/agriculturaganaderiapescaydesarrollosostenible/ar-eas/pesca-acuicultura/acuicultura.html
	ENVIRONMENTAL AUTHORIZATION	Directorate General for Prevention and Environmental Quality - ANDALUSIAN DEPARTMENT OF AGRICULTURE, LIVESTOCK, FISHERY AND SUSTAINABLE DEVELOPMENT	Regional	http://www.juntadeandalucia.es/medioambiente/site/porta/web/menuitem.220de8226575045b25f09a105510e1ca/?vgnextoid=0cc2709069ab6310VgnVCM1000001325e50aRCRD&vgnextchannel=e86ff6e4db1bf410VgnVCM2000000624e50aRCRD
	WASTE DISCHARGE PERMIT	Directorate General for Prevention and Environmental Quality - ANDALUSIAN DEPARTMENT OF AGRICULTURE, LIVESTOCK, FISHERY AND SUSTAINABLE DEVELOPMENT	Regional	http://www.juntadeandalucia.es/medioambiente/site/porta/web/menuitem.220de8226575045b25f09a105510e1ca/?vgnextoid=0cc2709069ab6310VgnVCM1000001325e50aRCRD&vgnextchannel=e86ff6e4db1bf410VgnVCM2000000624e50aRCRD
	CONCESSION FOR THE USE OF SPACE OF MARITIME-TERRESTRIAL PUBLIC DOMAIN	Directorate General for Coastal and Maritime Sustainability – SPANISH MINISTRY FOR THE ECOLOGICAL TRANSITION.	National	https://www.miteco.gob.es/es/costas/temas/listado-tlfno-sede-electr.aspx
		Directorate General for Fishery and Aquaculture - ANDALUSIAN DEPARTMENT OF AGRICULTURE, LIVESTOCK, FISHERY AND SUSTAINABLE DEVELOPMENT.	Regional	https://www.juntadeandalucia.es/organismos/agriculturaganaderiapescaydesarrollosostenible/ar-eas/pesca-acuicultura/acuicultura.html
	CONCESSION FOR THE USE OF SPACE OF PUBLIC PORT DOMAIN	Public Ports Agency of Andalusia - ANDALUSIAN DEPARTMENT OF DEVELOPMENT, INFRASTRUCTURES AND SPATIAL PLANNING.	Regional	https://www.puertosdeandalucia.es/es/
	BEACONING	State Ports – SPANISH MINISTRY OF DEVELOPMENT	National	http://www.puertos.es/es-es
		Public Ports Agency of Andalusia - ANDALUSIAN DEPARTMENT OF DEVELOPMENT, INFRASTRUCTURES AND SPATIAL PLANNING.	Regional	https://www.puertosdeandalucia.es/es/
	REGISTER OF LIVESTOCK HOLDINGS (REGA)	Directorate General for Agriculture and Livestock Production – ANDALUSIAN DEPARTMENT OF AGRICULTURE, LIVESTOCK, FISHERY AND SUSTAINABLE DEVELOPMENT	Regional	https://www.juntadeandalucia.es/organismos/agriculturaganaderiapescaydesarrollosostenible/ar-eas/ganaderia/sigganet.html

	DATA BASE FOR IDENTIFICATION AND REGISTRATION	Directorate General for Fishery and Aquaculture – ANDALUSIAN DEPARTMENT OF AGRICULTURE, LIVESTOCK, FISHERY AND SUSTAINABLE DEVELOPMENT	Regional	https://www.juntadeandalucia.es/organismos/agriculturaganaderiapescaydesarrollosostenible/areas/pesca-acuicultura/acuicultura.html	
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- 1) Aqua & Ambi Project (Interreg Crossborder Spain-Portugal Programme) <https://www.aquaambi-poctep.eu/> . On this project, CTAQUA has developed a detailed study of the Bay of Cadiz, with spaces available and type of species. This could be capitalized on WP4, to build from it.

1.B France end

1.B Ireland

Ref: 1(b) Ireland	<p>The link below provides an overview of the current legal framework for licensing of aquaculture in Ireland. This includes a 13 step description of the application process.</p> <p>https://www.agriculture.gov.ie/media/migration/seafood/marineagenciesandprogrammes/nspa/NationalStrategicPlanSusAquaDevel181215.pdf see Chapter 8: Aquaculture Licensing</p>
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1.B Ireland enf

1.B Portugal

Ref: 1B Portugal	<p>Provide a summary account of the Policy and Planning hierarchy which governs the spatial location and distribution of aquaculture enterprises including the particular obligations attaching to environmental factors and controls with respect to EU (Natura, for example), Member State, Regional and Local Level including legislative and authorisation processes</p> <p>The establishment of an aquaculture farm implies obtaining two licenses, one for the use of water resources (bank, bed and water) and another for the exercise of the activity.</p> <p>The entities responsible for licensing the use of water resources are the Portuguese Environment Agency I.P. (APA), the Port Administrations and Docapesca, S.A., in the areas under their jurisdiction.</p> <p>The licensing of the activity is the responsibility of the Directorate-General for Natural Resources, Safety and Maritime Services (DGRM) for marine and brackish waters and the Institute for Nature Conservation and Forests (ICNF) for inland waters, without prejudice to any necessary previous studies or opinions.</p> <p>In the Autonomous Regions (Madeira and Azores), licensing entities are services of the Regional Environment and Fisheries Administration under the respective Regional Government.</p> <p>The planning of water resources is subject to a multiplicity of management and planning plans and legal provisions, national and community, that regulate its use, namely:</p> <ul style="list-style-type: none"> River Basin Management Plans; Reservoirs Planning Plans; Estuary Planning Plans; Coastal Planning Plans; Natura 2000 Network; Protected Area Planning Plans; Public easements and restrictions. <p><u>Legislation:</u></p> <p>Ordinance No. 280/2017, of 19 September, establishes the form of calculation, the amount, the exemptions, the form of division and delivery of the Aquatic Fee (TAQ) collection product.</p>
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	<p>Ordinance No. 279/2017, of 19 September, sets out the instructional elements that must be presented by the interested party in the procedures provided for in Article 8 (2), Article 9 (2), Article 12 (1) and Article 13 (2) of Decree-Law 40/2017 of 4 April, which defines the legal framework for the establishment and operation of crop establishments in marine waters, including transitional waters, and in inland waters.</p> <p>Ordinance No. 276/2017, of 18 September, establishes the regime and the amount of the guarantee to ensure, at the time of termination of the Aquaculture Activity Title (TAA), the good environmental status of the marine environment and water bodies. and removal of works and movable structures within the area or volume</p> <p>Decree-Law No. 40/2017, of 4 April, approves the legal regime for the establishment and operation of marine culture establishments, including transitional waters, and inland waters, under the use of the legislative authorization granted by Law No. 37/2016 of December 15. This Decree-Law applies to marine and inland waters cultivation establishments and related establishments located on private property, State private domain, State public domain and local authorities, including the public domain. water. The provisions of this Decree-Law shall not apply to State aquaculture posts, aquaculture units or holding captive aquaculture species for self-consumption, ornamental, didactic, technical or scientific purposes only.</p> <p>Decree-Law No. 152/2009 of 2 June - Transposes Council Directive 2006/88 / EC of 24 October on zoosanitary requirements for aquaculture animals and derived products.</p> <p>Regulatory Decree No. 9/2008 of 18 March - Defines the fundamental rules for the establishment of offshore aquaculture production areas (APA).</p>
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1.B Portugal end

1c) Describe the Institutional and Governance framework which governs the investment of public funds in aquaculture research, planning and development

1.C Wales

Ref:	LEVEL	FUND	ADMINISTRATIVE BODY	DESCRIPTION	LINK
	EUROPE	EU Horizon 2020	European Commission	Horizon 2020 is the biggest EU Research and Innovation programme. It consists in three pillars: Excellent science; Social challenges; and Industrial leadership. The three pillars contain Aquaculture related calls and topics targeted to public and private entities, research centres, universities, etc.	https://ec.europa.eu/programmes/horizon2020/en
		EULife	European Commission	The LIFE Program is the only financial instrument of the European Union focused exclusively on the environment and climate. Its main objective for the period 2004-2020 is to contribute to sustainable development and to the achievement of the objectives and goals of the Europe 2020 Strategy. Then, the sustainable development of Aquaculture activities is	https://ec.europa.eu/easme/en/life

				also included within its challenges.	
		European Regional Development Fund (ERDF)	European Commission	Interreg is one of the key instruments of the European Union supporting cooperation across borders through project funding. It aims to jointly tackle common challenges and find shared solutions in fields such as health, environment, research, education, transport, sustainable energy and more. It is divided in 4 different programs: Cross border; Transnational; Interregional; and IPA.	https://interreg.eu/
		European Maritime and Fisheries Fund (EMFF)	European Commission	The EMFF is a European funding scheme which will support fisheries, inland waters, aquaculture and maritime sectors. The fund provides support for sustainable development within the fishing and aquaculture sectors and conservation of the marine environment, alongside growth and jobs in coastal communities. The purpose of the scheme is to provide European Member States with a financial support mechanism to the fisheries, inland waters, aquaculture and maritime sectors.	https://ec.europa.eu/fisheries/cfp/emff_en
	NATIONAL	European Maritime and Fisheries Fund (EMFF)	UK Government	The UK has €243 million (around £190 million) of the programme which is split between England (€92.1 million), Scotland (€107.7 million) Northern Ireland (€23.5 million) and Wales (€19.7 million).	https://www.gov.uk/guidance/european-maritime-and-fisheries-fund-emff-before-you-apply#about-the-emff
	REGIONAL	European Maritime and Fisheries Fund (EMFF)	Welsh Government	The focus for Wales is to exploit the potential of marine and inland aquaculture to provide increased production and added value from our natural resources. Wales (€19.7 million)	https://gov.wales/european-maritime-fisheries-fund

	REGIONAL	European Maritime and Fisheries Fund (EMFF)	South East Wales Regional Engagement Team	<p>There are 4 Regional Engagement Teams (RET) in Wales that ensure each region gains maximum benefit from EU funding.</p> <p>Provide guidance on how your project can support regional priorities, to make links to other projects and benefit from case studies and examples of best practice.</p>	http://www.sewales-ret.co.uk/the-regional-engagement-teams/
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1.C Wales end

1.C France

Funds for companies		
DLAL FEAMP Local development by local actors 3 maritime territories in Finistère	Local EMFF	https://www.pays-de-brest.fr/contrat-de-partenariat/feamp/259-strategie-du-pays-de-brest
		http://www.quimper-cornouaille-developpement.fr/Projets-de-territoire/Contrat-de-partenariat/DLAL-FEAMP
		http://www.paysdemorlaix.com/sujet/subventions/
Brittany Region	Regional EMFF	https://www.bretagne.bzh/jcms/preprod_244034/fr/feamp-peche-et-aquaculture
	funds for businesses	https://www.bretagne.bzh/jcms/l_22493/fr/les-aides-aux-entreprises
Other local or regional funds	BPI France with local departments	https://www.bpifrance.fr/
	Pole de compétitivité Mer Bretagne	https://www.pole-mer-bretagne-atlantique.com/fr/
	Parc Marin Naturel d'Iroise	http://www.parc-marin-iroise.fr/
	SEM BREIZH (specific funds for real estate/ subject to conditions)	https://breizhimmo.sembreizh.fr/
National EMFF	Ministere de l'agriculture et de l'alimentation/ Direction des pêches maritimes et de l'aquaculture	https://www.europe-en-france.gouv.fr/fr/fonds-europeens/fonds-europeen-pour-les-affaires-maritimes-et-la-peche-FEAMP
	2 national instructors:	
	France Agrimer (innovation measures)	https://www.franceagrimer.fr/filiere-peche-et-aquaculture/Accompagner/Dispositifs-par-filiere/Organisation-commune-de-marche-et-aides-communautaires/FEAMP

	DIRM (for Finistere DIRM NAMO)	http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/aides-publiques-r85.html
European Funds	H2020	
	ERDF via regional governance	

1.C France end

1.C Spain

LEVEL	FUND	ADMINISTRATIVE BODY	DESCRIPTION	LINK
REGIONAL	European Maritime and Fisheries Fund (EMFF)	Andalusian Department of Agriculture, Livestock, Fishery and Sustainable Development	The EMFF is the fund of the EU Maritime and Fisheries Policy for 2014-2020. The Andalusian Department of Agriculture, Livestock, Fishery and Sustainable Development administers the aids to investment projects for the improvement of both production processes and commercialization for companies within the Aquaculture sector.	https://www.juntadeandalucia.es/organismos/agriculturaganaeriapescaydesarrollosostenible/areas/pescaacuicultura/ayudas-pesqueras/paginas/ayudas-fondo-europeo-maritimo-pesquero.html
NATIONAL	European Maritime and Fisheries Fund (EMFF)	Centre for Industrial Technical Development (CDTI)	CDTI is a Public Business Entity, answering to the Ministry of Economy, Industry and Competitiveness which, among other functions, administers the aids to infrastructural investment and R&D&i projects for companies within the Aquaculture sector.	https://www.cdti.es/index.asp?MP=15&MS=61&MN=2
	European Maritime and Fisheries Fund (EMFF)	Biodiversity Foundation	Biodiversity Foundation answers to the Ministry for the Ecological Transition and, among other functions, it is focused on the development of projects of collective interest for the Aquaculture sustainable development.	https://fundacion-biodiversidad.es/en
	European Maritime and Fisheries Fund (EMFF)	Ministry of Agriculture, Fisheries and Food	The Spanish Ministry of Agriculture, Fisheries and Food administers the aids to foster the technological development of the Aquaculture sector.	https://www.mapa.gob.es/es/pesca/temas/fondos-europeos/femp/default.aspx
EUROPE	EU Horizon 2020	European Commission	Horizon 2020 is the biggest EU Research and Innovation programme. It consists in three pillars: Excellent science; Social challenges; and Industrial leadership. The three pillars contain Aquaculture related calls and topics targeted to public and private entities, research centres, universities, etc.	https://ec.europa.eu/programmes/horizon2020/en
	EULife	European Commission	The LIFE Program is the only financial instrument of the European Union focused exclusively on the environment and climate. Its main objective for the period 2004-2020 is to contribute to sustainable development and to the achievement of the objectives and goals of the Europe 2020 Strategy. Then, the sustainable development of Aquaculture activities is also included within its challenges.	https://ec.europa.eu/easme/en/life

	European Regional Development Fund (ERDF)	European Commission	Interreg is one of the key instruments of the European Union supporting cooperation across borders through project funding. It aims to jointly tackle common challenges and find shared solutions in fields such as health, environment, research, education, transport, sustainable energy and more. It is divided in 4 different programs: Cross border; Transnational; Interregional; and IPA.	https://interreg.eu/
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1.C Spain end

1.C Ireland

LEVEL	FUND	ADMINISTRATIVE BODY	DESCRIPTION	LINK
European	EU Horizon 2020	European Commission	Horizon 2020 is the biggest EU Research and Innovation programme. It consists in three pillars: Excellent science; Social challenges; and Industrial leadership. The three pillars contain Aquaculture related calls and topics targeted to public and private entities, research centres, universities, etc.	https://ec.europa.eu/programmes/horizon2020/en
	EULife	European Commission	The LIFE Program is the only financial instrument of the European Union focused exclusively on the environment and climate. Its main objective for the period 2004-2020 is to contribute to sustainable development and to the achievement of the objectives and goals of the Europe 2020 Strategy. Then, the sustainable development of Aquaculture activities is also included within its challenges.	https://ec.europa.eu/easme/en/life
	European Regional Development Fund (ERDF)	European Commission	Interreg is one of the key instruments of the European Union supporting cooperation across borders through project funding. It aims to jointly tackle common challenges and find shared solutions in fields such as health, environment, research, education, transport, sustainable energy and more. It is divided in 4 different programs: Cross border; Transnational; Interregional; and IPA.	https://interreg.eu/
	European Maritime and Fisheries Fund (EMFF)	European Commission	The EMFF is a European funding scheme which will support fisheries, inland waters, aquaculture and maritime sectors. The fund provides support for sustainable development within the fishing and aquaculture sectors and conservation of the marine environment, alongside growth and jobs in coastal communities. The purpose of the scheme is to provide European Member States with a financial support mechanism to the fisheries, inland waters, aquaculture and maritime sectors.	https://ec.europa.eu/fisheries/cfp/emff_en
National	Marine Biodiversity Scheme	EMFF	Supports compliance of fisheries and aquaculture with Habitats, Birds and Marine Strategy Framework Directives through acquisition and analysis of data on fisheries and aquaculture and conduct of Habitats Directive assessments.	https://emff.marine.ie/sites/default/files/sites/default/files/biodiversity/docs/marine_biodiversity_scheme.pdf
National	Operational Plan - Union Priority 2	EMFF	Put towards boosting the competitiveness of the aquaculture sector	https://www.agriculture.gov.ie/emff/
National	Sustainable Aquaculture Scheme	EMFF	Supports the sustainable growth of output, value and employment in the aquaculture sector through capital investment in licensed aquaculture sites, promotion of organic aquaculture and aid for bio-toxin closures	http://www.bim.ie/media/bim/content/funding-forms/BIM,Sustainable,Aquaculture,Scheme,Application,Form,INT,13.12.2016.pdf

National	Good Governance & Reducing Administrative Burden	EMFF	Development of an IT system to support sustainable management of aquaculture, in particular spatial mapping of licensed sites and of protected habitats.	http://www.bim.ie/media/bim/content/publications/corporate-other-publications/BIM-statement-of-strategy-2018-2020-enabling-sustainable-growth.pdf
National	Knowledge Gateway Scheme	EMFF	Aims to find, develop and scale up talented and disruptive aquaculture start-ups, provide participants with investment, mentoring, office space for a year and a chance of a follow-up fund investing €100,000 - €1m into high-potential companies	http://www.bim.ie/schemes/knowledge_gateway_scheme/
Regional	The Fisheries Local Area Development Scheme	BIM	Ireland's seven Fisheries Local Action Groups (FLAGs), invite applications for grant aid under the European Maritime and Fisheries Fund Operational Programme 2014 -2020, co-funded by the European Union and Irish Government.	http://www.bim.ie/schemes/fisheries_local_area_group_development_flag_2016,-,2023/
Regional	Aquaculture Support	Údarás na Gaeltachta	Funding is available from an Údarás for projects in aquaculture to aid feasibility studies, R&D and R.T.I. grants; capital grants are available through Financial Instrument for Fisheries Guidance Operational Programme.	http://www.udaras.ie/en/forbairt-fiontraiochta/earnalacha/

1.C Ireland end

1.C Portugal

Ref:	<p>1c) Describe the Institutional and Governance framework which governs the investment of public funds in aquaculture research, planning and development</p> <p>The European Commission formally approved the MAR 2020 Operational Program by Implementing Decision of 30.11.2015 approving the Operational Program "European Maritime and Fisheries Fund - Operational Program of Portugal" to support the European Maritime and Fisheries Fund in Portugal.</p> <p>MAR 2020 aims to implement in Portugal the support measures under the European Maritime and Fisheries Fund (EMFF) and its Strategic Priorities:</p> <p>Promote competitiveness based on innovation and knowledge. Ensure the social and environmental economic sustainability of the fisheries and aquaculture sector, contribute to the good environmental status of the marine environment and promote the Integrated Maritime Policy. Contribute to the development of coastal zones, increase employment and territorial cohesion as well as increase the capacity and skills of professionals in the sector. The new Operational Program includes new priority areas of intervention, which were previously managed directly by the European Commission, such as the Data Collection Program, Fisheries Control and Surveillance, the Common Organization of Fishery Markets and Aquaculture, the Compensation Plan for the Outermost Regions and, under shared management, the Integrated Maritime Policy.</p> <p>The mission structure for MAR 2020, in addition to its capabilities under the European Maritime and Fisheries Fund, will ensure proper monitoring of the Program, ensuring control and monitoring of operations, preventing and detecting irregularities, promoting reduction intervention deadlines, response and giving greater reliability to the results obtained.</p> <p>MAR 2020 PRIORITY 2 - PROMOTING ENVIRONMENTALLY SUSTAINABLE, RESOURCE-EFFICIENT, INNOVATIVE, COMPETITIVE AND KNOWLEDGE-BASED AQUACULTURE</p> <p>Measure 1 - Sustainable development of aquaculture Measure 2 - Development of aquaculture sites Measure 3 - Organic aquaculture and environmental services Measure 4 - Public Health Measures Measure 5 - Promotion of animal health and welfare Measure 6 - Insurance for aquaculture stocks Measure 7 - Promotion of human capital and networking</p>
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1.C Portugal end

2.0 Summary Analysis of Aquaculture Sector

2a) Provide a high-level, summary analysis of the Aquaculture sector disaggregated in terms of algae, finfish and shellfish sub-sectors for your territory. This should include a measure of output, the value of output, profile of key markets, contribution to national/regional GDP and employment.

2.0 Wales

Production, Value and employment in UK aquaculture

Ref:	Notes
	<u>1. EWNl = England, Wales and Northern Ireland</u> <u>2. All figures from CEFAS except for Scotland</u> <u>3. The CEFAS figures from 2013 are originally in Euro and converted at 0.85 Euro/GBP</u> <u>4. Northern Ireland values are based on consultant estimate from the report</u> <u>www.seafish.org/.../FINALISED_Aquaculture_in_EWNl_FINALISED_-_Sept_2016</u> <u>5. 2017 Wales values taken from the SEAFISH Wales Dashboard</u>

	Finfish				Shellfish				Total			
Production (T)	2012	2013	2014	2017	2012	2013	2014	2017	2012	2013	2014	2017
England	8709	6632	6456		6915	7577	2456		15624	14209	8912	
Wales	453	484	497	224	8999	8344	7945	7400	9452	8828	8442	7624
Northern Ireland	600	605	750		4920	3463	3238		5520	4068	3988	
Scotland	168006	168945	185023		6525	6935	7980		174531	175880	193003	
EWNl	9762	7721	7703		20834	19384	13639		30596	27105	21342	
UK	177768	176666	192726		27359	26319	21619		205127	202985	214345	

	Finfish				Shellfish				Total			
Imputed value (£m)	2012	2013	2014	2017	2012	2013	2014	2017	2012	2013	2014	2017
England	21.53	16.66	23.73		10.06	17.19	5.17		31.59	33.85	28.9	
Wales	1.44	1.63	2.13	1.1	9.09	15.86	15.1	11.8	10.53	17.49	17.23	12.9
Northern Ireland	1.35	2.66	2.74		5.35	6.1	4.75		6.7	8.76	7.49	
Scotland	532.95	690.83	733.64		8.77	8.95	10.55		541.72	699.78	744.19	
EWNl	24.32	20.95	28.6		24.5	39.15	25.02		48.82	60.1	53.62	
UK	557.27	711.78	762.24		33.27	48.1	35.57		590.54	759.88	797.81	

	Finfish				Shellfish				Total			
Total Employees	2012	2013	2014	2017	2012	2013	2014	2017	2012	2013	2014	2017
England	665	655	na		258	265	na		932	920	na	
Wales	96	89	na	96	34	33	na	25	130	122	na	121
Northern Ireland	63	69	na		55	46	na		118	115	na	
Scotland	1540	1608	1747		358	333	345		1898	1941	2092	
EWNl	824	813	na		347	344	na		1171	1157	na	
UK	2364	2421	na		705	677	na		3078	3098	na	

	Finfish				Shellfish				Total			
FTE Employees	2012	2013	2014	2017	2012	2013	2014	2017	2012	2013	2014	2017
England	530	531	na		240	211	na		838	742	na	
Wales	68	61	na	na		32	na	na		93	na	na
Northern Ireland	43	57	na		30	36	na		73	93	na	
Scotland	1399	1521	na		255	238	na		1654	1759	na	
EWNl	641	649	na		270	279	na		911	928	na	
UK	2040	2170	0		525	517	0		2565	2687	na	

		Production			Production value (£)			Contribution to Wales GDP (approx) *	Employment (jobs)
		Hatchery (larva)	Nursery (juvenil)	Growout (tonne)	Hatchery	Nursery	Growout	0.016	106
Finfish		2,713.8 T	570 T	511T	11.8M				
Shellfish	Molluscs	?	?	7,870.5T					
	Crustaceans								
Macroalgae		? Kg			?				
Microalgae		? Kg			?				

1.C Wales end

1.C France

France (excluding overseas territories)		National Sales volume			National Sales value (Euro)			Employment (France and oversea territories)
		Hatchery (larva)	Nursery (juvenil salmonids only; millions of individuals)	Growout (tonne)	Hatchery	Nursery	Growout	17 497 (2014)
marine and fresh water		123,3 T (2015)	273 M (2015)	38 699,86 T (2015)	15,25 M (2015)	32,02 M (2015)		
Shellfish	Molluscs	1573,20 M (2015)		80605 T (2015)	10 929 730 (2015)		215 M (2015)	
	Crustaceans							
Macroalgae (production)		350T (2015)						
Microalgae (Spiruline)		60 T						
Brittany		Regional sales volume			Regional sales value (Euro)			Regional Employment (jobs)
		Hatcheries and nurseries		Growout (tonne)	Hatcheries and nurseries		Growout	3 942 (2013)
Oysters		121,6 T (2013)		27 024 T (2013)	1,523 M		121,3 M	
Mussels				32 224 T (2013)			62,7 M	
Other shellfishes				3350 T (2013)			9,1M	
All shellfishes				62598 T (2013)			193,1 M	
Macroalgae (production)		350 T (2015)						
France (including oversea territories)		French National Production			National Production value (Euro)			National Employment (jobs)
		Hatchery (larva)	Nursery (juvenil)	Growout (tonne)	Hatchery	Nursery	Growout	17 497 (2014, Franceagrimer)
marine and fresh water Finfish		38 209M (eurostat, 2017)	365 371M (eurostat, 2017)	48 126 (eurostat, 2017)		764 M (eurostat, 2017)		
Shellfish	Molluscs	13 077 M (eurostat, 2011)	15 361 M (eurostat, 2017)	140 495 (eurostat 2017)				
	Crustaceans							
Macroalgae								
Microalgae		60 Tonnes						

Summary Analysis of Aquaculture Sector

2a) Provide a high-level, summary analysis of the Aquaculture sector disaggregated in terms of algae, finfish and shellfish sub-sectors for your territory. This should include a measure of output, the value of output, profile of key markets, contribution to national/regional GDP and employment.

Finistère : 1st maritime French County with a coastal area of 1391 km

Two main aquaculture activities :

- Shellfish
- Seaweed sector

We have also 2 other strong maritime activities :

- Fish and fish trade
- beach fisheries

1/ SHELLFISH

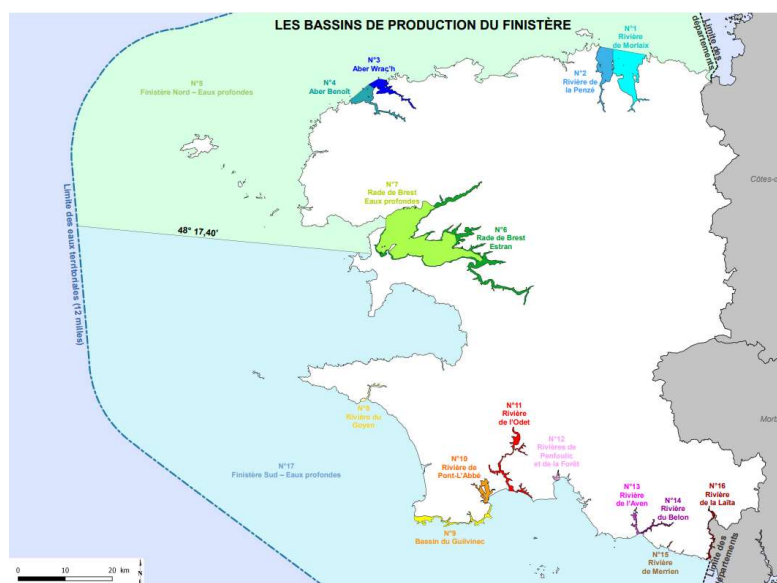
The most important activities are :

- Oyster farming (pockets/tables)
- Mussel farming (baskets traps at sea, flat, deep water)

Other species are cultivated but in small proportion : scallop (in French you have Coquilles St Jacques and Petoncle), clam, cockles or abalone.

These cultivation can be done on public area (with authorization) or private domain.

For the marine cultivation, the document of reference is « Le schéma des structures des exploitations des cultures marines ». In Finistère, there are 17 production areas



Key figures for Finistère :

294 286 concessionnaires (licensing persons/company)

1747 1831 concessions (licensing areas)

1868,9 ha 1870,66 ha concédées sur le DPM (surface of licensing areas)

13 000 t for shellfish and marine farming (2015)

82 companies with head office in Finistère//130 companies/480,5 persons (FULL TIME EQUIVALENT)

7140 tonnes for oysters(t) (huitres creuses)

120 t for oysters (huitres plates)

1925 t mussels

180 t other shells

2/ Seaweed

Offshore Harvest

- 35 specific ships "navires goémoniers"
- 64 680 t of laminars (41080 digitata et 23600 hyperboréa)
- estimated value : 2.5millions €
- 2 main companies in Finistere buy the laminars (Algaia/ Danisco) to extract alginate, other SME
- Port of Lanildut = 1st European port for goemon (laminars) (40 000 t per year)

Shore alga

- beach harvest on the shore
- around 3000t

Cultivation

- 4 companies : mainly area in Cornouaille with 150ha licensed
- 2 companies at Brest and one at Morlaix

More than 40 companies work for the transformation of algae, mainly for cosmetics, food industry and health



1.C France end

2.0. Summary Analysis of Aquaculture Sector (2018)

2.0 Spain

		Production			Production value (Euro)			Contribution to regional GDP (approx) *	Employment (jobs)
		Hatchery (larva)	Nursery (juvenil)	Growout (tonne)	Hatchery	Nursery	Growout	0,06-0,08 %	793
Finfish		5,36 M	7,04 M	3,743.17	0	1,08 M	43,3 M		
Shellfish	Molluscs	0,8 M	6,54 M	621.77					
	Crustaceans								
Macroalgae		1.593 Kg			5,736.73				
Microalgae		7.006 Kg			1,93 M				

		Hatchery		Nursery			
				Destination of production			
		Marketed	Market	Marketed	Andalusia	Spain	Europe
Finfish		0.00%	N / A	70.40%	15.00%	84.00%	1%
Shellfish	Molluscs	0.00%	N / A	45.80%	100%	0.00%	0.00%
	Crustaceans						
Macroalgae		N / A					
Microalgae		N / A					

	Grow out					Grow out					
	Product preservation					Product processing					
	Refrigerated	Frozen	Fresh	Live	Cooked, Frozen & packaged	Pre-cooked	Lyophilized	Salted	Dehydrated	Others	Whole
Finfish	81.06%	18.20%	0.64%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	81.80%
Shellfish	Molluscs	0.00%	0.00%	81.81%	18.19%	0.00%	0.00%	0.00%	0.00%	0.00%	81.81%
	Crustaceans	0.57%	9.82%	34.45%	1.13%	37.82%	14.73%	1.47%	0.00%	0.00%	100%
Macroalgae	0.00%	15.73%	0.00%	0.00%	0.00%	0.00%	0.00%	51.43%	32.78%	0.06%	
Microalgae	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	28.63%	0.00%	71.37%	0.00%	100%

		Grow out					Grow out			
		Destination of production					Markets			
		Marketed	Andalusia	Spain	Europe	Third countries	Wholesalers	Retailers	Directly to consumers	Not marketed
Finfish		99.99%	18.79%	41.00%	19.91%	20.30%	49.96%	49.95%	0.07%	0.01%
Shellfish	Molluscs	98.03%	16.46%	41.26%	26.04%	16.24%	80.48%	18.38%	0.07%	1.07%
	Crustaceans	99.86%	84.41%	15.59%	0.00%	0.00%	1.62%	98.23%	0.00%	0.14%
Macroalgae		28.34%	35.00%	40.00%	25.00%	0.00%	0.00%	26.09%	2.24%	71.66%
Microalgae		28.63%	64.54%	6.83%	5.53%	23.10%	4.30%	0.00%	24.34%	71.37%

2.0 Spain end

2.0 Ireland

Ireland		Production (2018)		Production value (Euro)			Contribution to regional GDP (approx) *	Employment (jobs)	
		Hatchery (larva)	Nursery (juvenil)	Growout (tonne)	Hatchery	Nursery	Growout	1.16%	1,913
Finfish		5.9 M	120 M	12,800	6.5	176 M	176 M		
Shellfish	Molluscs	5.75 M	56 M	24,200					
	Crustaceans								
Macroalgae		63,000MT		27M					
Microalgae		13,800 Kg		10 M					

Reference:

<http://www.bim.ie/media/bim/content/publications/corporate-other-publications/BIM-Business-of-Seafood-2018-1.pdf>

<http://www.bim.ie/media/bim/content/publications/aquaculture/BIM-Annual-Aquaculture-Survey-2018.pdf>

2.0 Ireland end

Portugal

2.0. Summary Analysis of Aquaculture Sector (2017)

		Production			Production value (Euro)			Contribution to regional GDP (approx.) *	Employment (jobs)
		Hatchery (larva)	Nursery (juvenil)	Growout (tonne)	Hatchery	Nursery	Growout	%	2316 (data from 2011)
Finfish		M	M	5,374.00	M	M	82,3 M		
Shellfish	Molluscs	M	M	7113.00					
	Crustaceans								
Macroalgae		Kg							
Microalgae		Kg			M				

2.0 Portugal end

3.0 Summary of key supports for Aquaculture Development

3a) Map the Business Development, Financial Instruments and R/D and Innovation supports, including HEI linkages and partnerships which support the sector in your territory.

3.0A Portugal

3a) Map the Business Development, Financial Instruments and R/D and Innovation supports, including HEI linkages and partnerships which support the sector in your territory.

Over the period 2014-2020, financial support to the aquaculture sector will be provided by the European Maritime and Fisheries Fund, which aims to promote environmentally sustainable, resource efficient, innovative, competitive and knowledge-based aquaculture. following specific objectives: Providing support for enhancing technological development, innovation and knowledge transfer; Increasing the competitiveness and viability of aquaculture enterprises, including improving safety and working conditions, in particular for SMEs; aquatic biodiversity and improving aquaculture-related ecosystems, and promoting resource efficient aquaculture; promoting aquaculture with a high level of protection of the environment, animal health and welfare and public health and safety The development of vocational training, new professional skills and lifelong learning.

The European Maritime and Fisheries Fund (EMFF) was approved by Regulation (EU) 508/2014 of the European Parliament and of the Council of 15 May 2014, which provides in Chapter II a priority axis with a set of measures to support the sustainable development of aquaculture. Support from this European fund is provided through a National Operational Program, called MAR 2020, under which the financial support regulations for the aquaculture sector are established, implementing the national strategy for aquaculture development, defined in the Strategic Plan, for the Portuguese Aquaculture 2014-2020.

MAR 2020 Programme (<http://www.mar2020.pt/>)

The European Commission formally approved the MAR 2020 Operational Program by Implementing Decision of 30.11.2015 approving the Operational Program "European Maritime and Fisheries Fund - Operational Program of Portugal" to support the European Maritime and Fisheries Fund in Portugal. MAR 2020 aims to implement in Portugal the support measures under the European Maritime and Fisheries Fund (EMFF) and its Strategic Priorities:

Promote competitiveness based on innovation and knowledge.

Ensure the social and environmental economic sustainability of the fisheries and aquaculture sector, contribute to the good environmental status of the marine environment and promote the Integrated Maritime Policy.

Contribute to the development of coastal zones, increase employment and territorial cohesion as well as increase the capacity and skills of professionals in the sector.

The new Operational Program includes new priority areas of intervention, which were previously managed directly by the European Commission, such as the Data Collection Program, Fisheries Control and Surveillance, the Common Organization of Fishery Markets and Aquaculture, the Compensation Plan for the Outermost Regions and, under shared management, the Integrated Maritime Policy.

The mission structure for MAR 2020, in addition to its capabilities under the European Maritime and Fisheries Fund, will ensure proper monitoring of the Program, ensuring control and monitoring of operations, preventing and detecting irregularities, promoting reduction intervention deadlines, response and giving greater reliability to the results obtained.

Over the period 2014-2020, financial support to the aquaculture sector will be provided by the European Maritime and Fisheries Fund, which aims to promote environmentally sustainable, resource efficient, innovative, competitive and knowledge-based aquaculture. following specific objectives:

Providing support for enhancing technological development, innovation and knowledge transfer; Increasing the competitiveness and viability of aquaculture enterprises, including improving safety and working conditions, in particular for SMEs; aquatic biodiversity and improving aquaculture-related ecosystems, and promoting resource efficient aquaculture; promoting aquaculture with a high level of protection of the environment, animal health and welfare and public health and safety The development of vocational training, new professional skills and lifelong learning. The European Maritime and Fisheries Fund (EMFF) was approved by Regulation (EU) 508/2014 of the European Parliament and of the Council of 15 May 2014, which provides in Chapter II a priority axis with a set of measures to support the sustainable development of aquaculture. Support from this European fund is provided through a National Operational Program, called MAR 2020, under which the financial support regulations for the aquaculture sector are established, implementing the national strategy for aquaculture development, defined in the Strategic Plan. For the Portuguese Aquaculture 2014-2020.

3.0 A Portugal end

3.0 France

Public Funds		
DLAL FEAM Local development by local actors 3 maritime territories in Finistère	Local EMFF	https://www.pays-de-brest.fr/contrat-de-partenariat/feamp/259-strategie-du-pays-de-brest
		http://www.quimper-cornouaille-developpement.fr/Projets-de-
		http://www.paysdemorlaix.com/sujet/subventions/
	SEM BREIZH (specific funds for real estate/ subject to conditions	https://breizhimmo.sembreizh.fr/
Brittany Region	Regional EMFF	https://www.bretagne.bzh/jcms/preprod_244034/fr/feamp-peche-
	funds for businesses	https://www.bretagne.bzh/jcms/l_22493/fr/les-aides-aux-
National EMFF	Ministere de l'agriculture et de l'alimentation/ Direction des pêc	https://www.europe-en-france.gouv.fr/fr/fonds-europeens/fonds-
	2 national instructors:	
	France Agrimer (innovation meausures)	https://www.franceagrimer.fr/filiere-peche-et-aquaculture/Accompagner/Dispositifs-par-filiere/Organisation-
	DIRM (for Finistere DIRM NAMO)	http://www.dirm.nord-atlantique-manche-ouest.developpement-
Other local or national funds	Brittany : funds for businesses	https://www.bretagne.bzh/jcms/l_22493/fr/les-aides-aux-
	BPI France with local departments	https://www.bpifrance.fr/
	Pole de compétitivité Mer Bretagne Pôle Mer Bretagne Atlantique	https://www.pole-mer-bretagne-atlantique.com/fr/
	SEM BREIZH (specific funds for real estate/ subject to conditions	https://breizhimmo.sembreizh.fr/
HEI		
Station Biologique de Rosco	http://www.sb-roscoff.fr/	
Ifremer	https://www.ifremer.fr/	
UBO/IUEM	https://www.iuem.univ-brest.fr/	
Anses Plouzane	https://www.anses.fr/fr/content/laboratoire-de-ploufragan-plouzan%C3%A9-niort	
Laboceia	https://www.labocea.fr/	
Agrocampus Beg Meil	https://www.agrocampus-ouest.fr/ecole/implantations/site-de-beg-meil	
Station Biologique de Conca	http://www.stationmarinedeconcarneau.fr/	
support businesses		
Technopole de Brest Iroise	https://www.tech-brest-iroise.fr/	
Technopole de Quimper Cor	https://www.tech-quimper.bzh/	
Pole innovation du pays de B	https://www.paysdemorlaix.com/sujet/le-pays-en-action/pole-innovation/	
Pole de compétitivité Mer B	https://www.pole-mer-bretagne-atlantique.com/fr/	
CBB Capbiotek	http://www.cbb-developpement.com/index.php?option=com_content&task=view&id=582&Itemid=198	
Parc Marin Naturel d'Iroise	http://www.parc-marin-iroise.fr/	
Professional Federations		
CRC Bretagne Nord	http://www.coquillages-de-bretagne.com/catalog/index.php	
CRC Bretagne Sud	http://www.huitres-de-bretagne.com/	
STEB/FFA	http://www.bretagne-truite.fr/	
CDPEM	http://www.comitedespeches-finistere.fr/	
SPRARB	https://www.srparb.fr/page/350648-qui-sommes-nous	
CSAVM	http://www.chambre-syndicale-algues.org/	

3.0A France end

3.0 Ireland

3.0. Summary of key supports for Aquaculture Development	
Business Development	
Ireland	
Údarás na Gaeltachta (Gaeltacht Regional Development agency)	www.udaras.ie
Bord Iascaigh Mhara (National Seafood Development Agency)	www.bim.ie
Enterprise Ireland (National Enterprise Development Agency)	www.enterprise-ireland.ie
Industrial Development Authority (Foreign Direct Investment Agency)	www.idaireland.ie
Local Enterprise Boards (Municipal Enterprise Agencies)	https://www.localenterprise.ie/
Bord Bia (National Food including Seafood Marketing Agency)	https://www.bordbia.ie/
West BIC (Regional Business and Innovation Centre)	https://www.westbic.ie/
Skillnet Ireland (Sectoral and general Training Network)	https://www.skillnetireland.ie/our-networks/
Intertrade Ireland (Cross border development agency)	https://intertradeireland.com/
Irish Salmon Growers Association and Irish Shellfish Association	https://www.ifa.ie/sectors/aquaculture/
EU	
European Commission Aquaculture	http://ec.europa.eu/fisheries/cfp/aquaculture/index_en.htm
Aquaculture Advisory Council (ACC)	http://ec.europa.eu/fisheries/cfp/aquaculture/aquaculture-advisory-council/index_en.htm
Federation of European Aquaculture Producers (FEAP)	http://www.feap.info/
Financial Instruments	
European Maritime and Fisheries Fund (EMFF)	http://gov.wales/topics/environmentcountryside/marineandfisheries/european-maritime-fisheries-fund/?lang=en
Biotechnology and Biological Sciences Research Council (BBSRC) - Natural Environment Research Council (NERC)	http://www.nerc.ac.uk/innovation/activities/sustainablefood/aquaculture/ukai/ http://www.bbsrc.ac.uk/innovation/collaboration/collaborative-programmes/uk-aquaculture-initiative/
Sustainable Aquaculture Scheme - EMFF	http://www.bim.ie/schemes/sustainable.aquaculture.scheme/
Knowledge Gateway Scheme - EMFF	http://www.bim.ie/schemes/knowledge.gateway.scheme/
EMFF (European Maritime and Fisheries Fund) - EU	https://ec.europa.eu/fisheries/cfp/emff_en
ERDF (European Regional Development Funds) - EU	https://ec.europa.eu/regional_policy/en/funding/erdf/
R&D and Innovation Supports	
Centre for Applied Marine Sciences (CAMS)	http://www.cams.bangor.ac.uk/
Centre for Sustainable Aquaculture Research (CSAR)	https://www.swansea.ac.uk/bioscience/csar/
Shannon Applied Biotechnology Centre	http://www.shannonabc.ie/
Innovation Vouchers	https://www.enterprise-ireland.com/en/research-innovation/companies/collaborate-with-companies-research-institutes/innovation-voucher.shortcut.html
Innovation Partnership Programme	https://www.enterprise-ireland.com/en/Funding-Supports/Researcher/Funding-to-Collaborate-with-Industry-in-Ireland/Innovation-Partnerships.shortcut.html
HATCH- Aquaculture accelerator	https://www.hatch.blue/
Knowledge Transfer Ireland	https://www.knowledgetransferireland.com/
Higher Education Institutions	
Ireland	
Ryan Institute, NUIG	http://www.nuigalway.ie/ryaninstitute/
Carna Research Station, NUIG	http://www.nuigalway.ie/ryaninstitute/corefacilities/carnaresearchstation/
Aquaculture and Fisheries Development Centre, UCC	www.ucc.ie/en/afdc/
Shannon Applied Biotechnology Centre	http://www.shannonabc.ie/

Marine and Freshwater Research Centre	https://www.gmit.ie/freshwater-and-marine-biology/marine-and-freshwater-research-centre-mfrc
Newport Catchment Facilities	https://www.marine.ie/Home/site-area/infrastructure-facilities/newport-catchment-facilities/newport-catchment-facilities?language=en
Waterford Institute of Technology	www.wit.ie
Cork Institute of Technology	www.cit.ie

3.0A Ireland end

3.0A Spain

3.0. Summary of key supports for Aquaculture Development

Business Development	
CEEI Bahía de Cádiz	www.ceeicadiz.com
Chamber of Commerce, Industry and Navigation of Cadiz	www.camaracadiz.com
Confederation of Employers of the Province of Cadiz	http://www.empresariosdecadiz.es/
Centro Andaluz de Desarrollo Empresarial (CADE)	www.andaluciaemprende.es
Cátedra de Emprendedores - University of Cadiz	https://catedraemprendedores.uca.es/
Cátedra Andalucía Emprende - University of Cadiz	https://catedraandaluciaae.uca.es/
ASEMA - Asociación de Empresas de Acuicultura Marina de Andalucía	http://www.asemaonline.com/pescado_estero/fotos.html
APROMAR - Apromar Asociación Empresarial de Acuicultura de España	http://www.apromar.es/
Promotion Areas of Municipalities (Coastal municipalities)	-
Financial Instruments	
Agencia IDEA (Regional Development Agency) - Regional	www.agenciaidea.es
CDTI (Centro de Desarrollo Tecnológico Industrial) - National	www.cdti.es
EMFF (European Maritime and Fisheries Fund) - EU	https://ec.europa.eu/fisheries/cfp/emff_en
ERDF (European Regional Development Funds) - EU	https://ec.europa.eu/regional_policy/en/funding/erdf/
Ministerio de Agricultura, Pesca y Alimentación	https://www.mapa.gob.es/es/pesca/ayudas-y-subvenciones/
Information Office ITI Cadiz (Oficina de Información ITI Cádiz)	https://www.informacioniti.es/
R&D and Innovation Supports	
CTAQUA (Centro Tecnológico de la Acuicultura de Andalucía)	www.ctaqua.es
ICMAN-CSIC	http://www.icman.csic.es/en/
IFAPA El Toruño	https://www.juntadeandalucia.es/agriculturaypesca/ifapa/web/personas-estructuras-y-servicios/centros-ifapa/centro-ifapa-el-toruno
Research Results Transfer Office (OTRI) University of Cadiz	https://vrteit.uca.es/transferencia-e-innovacion/
HEI linkages and partnerships	
University of Cadiz	www.uca.es
CEI-MAR (International Campus of Excellence of the Sea)	http://www.campusdelmar.com/en/
FUECA (Fundación Universidad -Empresa de la Provincia de Cádiz)	www.fueca.es

3.0A Wales

3.0. Summary of key supports for Aquaculture Development

Business Development	
Wales	
Welsh Assembly Government	http://gov.wales/topics/environmentcountryside/marineandfisheries/?lang=en
Food Standards Agency (FSA) Wales	http://www.food.gov.uk/wales
Natural Resources Wales (NRW)	http://naturalresources.wales/?lang=en
Welsh Aquaculture Advisory Group	http://gov.wales/topics/environmentcountryside/marineandfisheries/aquaculture/aquaculture-advisory-group/?lang=en
UK Wide	
Seafish	http://www.seafish.org
Animal and Plant Health Authority (APHA)	https://www.gov.uk/government/organisations/animal-and-plant-health-agency
Crown Estate (CE)	http://www.thecrownestate.co.uk/rural-and-coastal/coastal/aquaculture/
Fish Health Inspectorate (FHI)	https://www.gov.uk/government/groups/fish-health-inspectorate
Veterinary Medicines Directorate (VMD)	https://www.gov.uk/government/organisations/veterinary-medicines-directorate
Aquaponics Association (BAQUA)	http://www.baqua.org.uk/
British Trout Association (BTA)	http://britishtROUT.co.uk/
Ornamental Aquatic Trade Association (OATA)	http://www.ornamentalfish.org/
Shellfish Association of Great Britain (SAGB)	http://www.shellfish.org.uk/index.html
Seafish Aquaculture Common Issues Group (ACIG)	http://www.seafish.org/industry-support/aquaculture/aquaculturegroups/aquaculture-common-issues-group
Seafish Domestic Aquaculture Advisory Committee (SDAAC)	http://www.seafish.org/industry-support/aquaculture/aquaculturegroups/seafish-domestic-aquaculture-advisory-committee
UK Aquaculture Forum	http://www.gov.scot/Topics/marine/Fish-Shellfish/international/ukaf
EU	
European Commission Aquaculture	http://ec.europa.eu/fisheries/cfp/aquaculture/index_en.htm
Aquaculture Advisory Council (ACC)	http://ec.europa.eu/fisheries/cfp/aquaculture/aquaculture-advisory-council/index_en.htm
Federation of European Aquaculture Producers (FEAP)	http://www.feap.info/
Financial Instruments	
European Maritime and Fisheries Fund (EMFF)	http://gov.wales/topics/environmentcountryside/marineandfisheries/european-maritime-fisheries-fund/?lang=en
Biotechnology and Biological Sciences Research Council (BBSRC) - Natural Environment Research Council (NERC)	http://www.nerc.ac.uk/innovation/activities/sustainablefood/aquaculture/ukai/ http://www.bbsrc.ac.uk/innovation/collaboration/collaborative-programmes/uk-aquaculture-initiative/
R&D and Innovation Supports	
Centre for Applied Marine Sciences (CAMS)	http://www.cams.bangor.ac.uk/
Centre for Sustainable Aquaculture Research (CSAR)	https://www.swansea.ac.uk/bioscience/csar/
Aquaculture Insurance Providers	

UK Wide	
Alwen Hough Johnson Ltd, London	http://www.ahjltd.co.uk/our-expertise/marine-aquaculture/
Sunderland Marine, Newcastle upon Tyne	http://www.sunderlandmarine.com/contact-us/
Willis Towers Watson, London	http://www.willis.com/Client_Solutions/Industries/Bloodstock/Aquaculture/
XL Catlin, London	http://xlcatlin.com/insurance/insurance-coverage/specialty-insurance/aquaculture
HEI linkages and partnerships	
Wales	
· Bangor University, Gwynedd, North Wales	https://www.bangor.ac.uk/
· Swansea University, South Wales	http://www.swansea.ac.uk/
UK Wide	
· Aberdeen University, north east Scotland	http://www.abdn.ac.uk/
· Bridgewater College, Somerset, England	http://www.bridgewater.ac.uk/
· Glasgow University, Lanarkshire, Scotland	http://www.gla.ac.uk/
· Hadlow College, Kent, England	http://hadlow.ac.uk/
· Harper Adams University, Shropshire, England	http://www.harper-adams.ac.uk/
· Heriot-Watt University, Edinburgh, Scotland	https://www.hw.ac.uk/
· Hull University, East Yorkshire, England	http://www2.hull.ac.uk/
· Liverpool University, North west England	https://www.liverpool.ac.uk/
· Newcastle University, Tyne and Wear, England	http://www.ncl.ac.uk/
· Napier University, Edinburgh, Scotland	http://www.napier.ac.uk/
· Plymouth University, Devon, England	https://www.plymouth.ac.uk/
· Sparsholt College, Hampshire, England	https://www.sparsholt.ac.uk/
· Southampton University, Hampshire, England	http://www.southampton.ac.uk/
· SRUC, Barony Campus, Dumfries, Scotland	https://www.sruc.ac.uk/
· St Andrews University, Fife, Scotland	https://www.st-andrews.ac.uk/
· Stirling University, Stirlingshire, Scotland	http://www.stir.ac.uk/
· University of the Highlands and Islands, Inverness, Scotland	https://www.uhi.ac.uk/en
· York University, North Yorkshire, England	https://www.york.ac.uk/

3.0A Wales end

4.0 Key challenges and constraints for Aquaculture Development

Birds eye view of aquaculture constraints in Europe

Europe

Weaknesses

Threats

1	Unrealized potential	1	Much aquaculture is relatively high risk
2	Freshwater finfish aquaculture has less growth potential but its valuable contribution needs to be maintained	2	Shellfish aquaculture has strong growth potential but is heavily constrained
3	There is limited potential, in the short and medium term, for large scale RAS production of table fish and crustaceans due to high production costs (relative to simpler systems in other countries with comparative advantage)	3	Sub-optimal investments. Over the last decade, funding and support for the industry has been skewed in favour of major investments in high-risk, high-tech research driven projects, with inadequate attention to the basic needs and potential of the existing industry and well established technologies.
4	Inefficient collection and analysis of industry performance data	4	Inefficient planning and regulation
5	England, Wales and Northern Ireland can only succeed if they have, or can create, comparative advantage and/or scale efficiencies, and can ensure that they are competing on a level playing field.	5	Substantial international competition already in place, and the challenging context for future expansion in the UK, especially in England, Wales and Northern Ireland.

Wales

1	Unrealized potential	1	Much aquaculture is relatively high risk
2	Freshwater finfish aquaculture has less growth potential but its valuable contribution needs to be maintained	2	Shellfish aquaculture has strong growth potential but is heavily constrained
3	There is limited potential, in the short and medium term, for large scale RAS production of table fish and crustaceans due to high production costs (relative to simpler systems in other countries with comparative advantage)	3	Sub-optimal investments. Over the last decade, funding and support for the industry has been skewed in favour of major investments in high-risk, high-tech research driven projects, with inadequate attention to the basic needs and potential of the existing industry and well established technologies.
4	Inefficient collection and analysis of industry performance data	4	Inefficient planning and regulation
5	England, Wales and Northern Ireland can only succeed if they have, or can create, comparative advantage and/or scale efficiencies, and can ensure that they are competing on a level playing field.	5	Substantial international competition already in place, and the challenging context for future expansion in the UK, especially in England, Wales and Northern Ireland.

Ireland

1	Complex Environmental requirements leading to delays in licensing process	1	Fish diseases and parasites
2	Insufficient investment in R&D	2	Co-existence with other marine activities
3	Insufficient product availability to meet market demand	3	Public opposition to industry
4	Limited business planning from smaller operations	4	Natural occurring events such as algal blooms and diseases such as Amoebic Gill Disease
5	Fragmentation within certain sectors	5	Spatial restrictions on aquacultural activities
6	Lack of private investment	6	Increased competition from companies outside the EU

Ireland continued

7	Narrow focus of skills base and lack of entrepreneurship in the sector
8	Lack of scale in comparison to competitors and market size
9	Uncertainty in seed supplies for oysters
10	Uncertain seasonal availability of mussell seed
11	Lack of support services and ancillary industries

7	Competition in the organic salmon sector
8	Further revisions of regulatory limits for biotoxins
9	Lack of access to finance
10	Constrained national public co-funding
11	Impacts of climate change on aquaculture
12	Impact on biodiversity from alien species
13	Impact on aquaculture due to eutrophication of marine water

Spain

1	Limited capacity of the sector to plan the productive activity from a "market perspective".
2	Absence of access to funds for current assests in the period of the crop cycle (more at the beginning of the activity).
3	Weak financial structure of aquaculture SMEs.
4	Low or non-existent productivity of a large number of authorized establishments in the terrestrial - maritime area.
5	Vulnerability of aquaculture against losses caused by unforeseen natural conditions (climatology, pollution, toxins ...).
6	Specialized staff not incorporated to the company in fundamental areas for aquaculture development.
7	Lack of "artisan" aquaculture certifications in Andalusia.
8	Excessive dispersion and lack of interconnection and coordination among knowledge generating agents.
9	Difficulty in establishing mechanisms to control and incentive of research.
10	High aging of the research population and low level of relief.

1	Inability to export and receive financial compensation for the knowledge generated.
2	Absence of an appropriate regulatory framework.
3	Complexity, slowness and conflict of powers between different public administrations (European, national, regional, local), of administrative authorizations and permits to carry out the activity.
4	Generalized decline in the levels of income of the population (domestic demand) caused by the crisis economic that oriente consumption preferably towards lower priced products (low quality and freshness of imports) and lack of knowledge by the consumer.
5	Great negotiation power of modern distribution, which imposes prices, quality standards, margins, periodicity, supply guarantees ...
6	Credit restrictions for financing business activities based on negative expectations.
7	Lack of promotion of the activity and the product as part of regionally produced food.
8	Resistance to the incorporation of the aquaculture product as a healthy and quality Andalusian food.
9	Lack of alignment between coastal planning and management, environmental policy and aquaculture, deriving in a high concurrence for the use of the coastal space and conflict between activities.
10	Lack of reciprocity of indigenous aquaculture producers that must adapt to regulatory frameworks in constant evolution and increasingly demanding (feed composition, environmental impact, welfare of fish, food security, traceability, salary and social costs). These same conditions are not required to Aquaculture producers in third countries, however, they commercialize freely their products in the EU.

11	Reduced structuring of research groups.
12	Difficulty in getting the results of the R&+i to the consumer, as well as to disseminate the activity between the society.
13	Economic difficulty in maintaining R&D infrastructures, in some cases of large dimensions

France

A/ Spatial planning		C/ Needs of communication/sensibilisation	
1	A lack of suitable/available areas : aquaculture building transformed into housing, difficulties to adapt new ones (in some areas in Finistere, any no new possibilities once analysed all the criteria and Legal/regulatory frameworks)	9	Aquaculture is not always a well identified activity by public or political : professionals need to be more heard by public/political actors.
2	A lack of visibility of the offers available/ a complex process (who do I speak to ?)	10	Some sector of aquaculture have sometimes difficulties to federate themself or work together
3	Extra costs for some specific studies (pre-launch) or extra costs due to vandalism or requirements (eg beaconing). Aquaculture model are fragile. It is difficult to pay without any guarantee of revenue.		
4	Legal and regulatory complexity (for companies but also for municipalities)	11	D/ For new project, it is necessary to have all the levers at the same time : economic model, spatial area and local support (municipality)
5	Competing between activities/Conflicts of use (nimby, banana)		
6	Acceptability very variable, depending on territories, difficult to anticipate	12	E/ Other Specific challenges : for seaweed cultivation : economic models still under construction, problematic of certification

B/ Aquaculture have to face **environmental challenges**

7	aquaculture is very dependant of natural environment and dependant of factors that aquacultors can't control : quality of water, pollution due to others actors, predators. In case of problem, that can really fragilize the economic results
8	Shellfish farmers have to face with rising waters

Portugal

1	Existence of natural conditions favorable to the development of aquaculture
2	Knowledge of the species production well adapted to natural conditions
3	Potential of growing production of high quality and valorized species
4	Availability of qualified human resources
5	Products susceptible to differentiation through product certification processes or productive activities
6	Existence of scientific and technological knowledge to support the sectors of productive process and product innovation.

1	Weak special planning with consequent difficulty on the identification and definition of aquaculture areas
2	License deadlines too short
3	High bureaucracy and complexity of the licensing processes in aquaculture activities and access to public funding regimes
4	Activity regarded as of high level risk due to the insufficient covering from the insurance activity
5	Insufficient funding capacity to aquaculture businesses
6	Low levels of associative actions and partnerships with the transformation industries and with scientific and technical institutions
7	Insufficient information to the consumers about aquaculture products
8	Insufficient maternities to the reproduction of marine species.

Based on each territory, provide a brief outline of the key impediments and challenges to sustainable development in the sector and the structural constraints in your territory.

4.0 Wales

Ref:	SR694 Aquaculture in England, Wales and Northern Ireland: An Analysis of the Economic Contribution and Value of the Major Sub-Sectors and the Most Important Farmed Species https://www.seafish.org/media/publications/FINALISED_Aquaculture_in_EWNI_FINALISED_-_Sept_2016.pdf
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4.0 Wales end

4.0 France

Ref:	<p>4.0 Key challenges and constraints for Aquaculture Development</p> <p>Based on each territory, provide a brief outline of the key impediments and challenges to sustainable development in the sector and the structural constraints in your territory.</p> <p>Some constraints and impediments linked</p> <p>A/ to spatial planning:</p> <ul style="list-style-type: none"> - A lack of suitable/available areas : aquaculture building transformed into housing, difficulties to adapt new ones (in some areas in Finistere, any no new possibilities once analysed all the criteria and Legal/regulatory frameworks) - A lack of visibility of the offers available/ a complex process (who do I speak to ?) - Extra costs for some specific studies (pre-launch) or extra costs due to vandalism or requirements (eg beaconing). Aquaculture model are fragile. It is difficult to pay without any guarantee of revenue. - Legal and regulatory complexity (for companies but also for municipalities) - Competing between activities/Conflicts of use (nimby, banana) - Acceptability very variable, depending on territories, difficult to anticipate <p>B/ Aquaculture have to face environmental challenges :</p> <ul style="list-style-type: none"> - aquaculture is very dependant of natural environment and dependant of factors that aquacultors can't control : quality of water, pollution due to others actors, predators. In case of problem, that can really fragilize the economic
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	<p>results</p> <ul style="list-style-type: none"> - Shellfish farmers have to face with rising waters <p>C/ Needs of communication/sensibilisation :</p> <ul style="list-style-type: none"> - aquaculture is not always a well identified activity by public or political : professionals need to be more heard by public/political actors. - some sector of aquaculture have sometimes difficulties to federate themselves or work together <p>D/ For new project, it is necessary to have all the levers at the same time : economic model, spatial area and local support (municipality)</p> <p>E/ Other Specific challenges : for seaweed cultivation : economic models still under construction, problematic of certification</p>
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4.0 France end

4.0Spain

Ref:	<p>Andalusian Strategy for the Development of a Marine Aquaculture 2014-2020</p> <p>https://www.juntadeandalucia.es/export/drupaljda/ESTRATEGIA_ANDALUZA_PARA_EL_DESARROLLO_DE_LA_AQUICULTURA_MARINA_2014-2020.pdf</p>
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4.0Spain end

4.0 Ireland

Ref:	<p>See Chapter II: SWOT Analysis of Aquaculture Industry, pp. 23-4:</p> <p>https://www.agriculture.gov.ie/media/migration/customerservice/publicconsultation/sustainableaquaculturedevelopment/NatStratPlanSustAquaculDevelopdraftconsult100615.pdf</p>
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4.0 Ireland end

4.0 Portugal

Ref:	<p>4.0 Key challenges and constraints for Aquaculture Development</p> <p>Based on each territory, provide a brief outline of the key impediments and challenges to sustainable development in the sector and the structural constraints in your territory.</p> <p>Despite the relative abundance of water resources in Portugal, especially marine or brackish waters, the growth rates of the sector are limited by the technical and / or natural conditions of utilization of existing resources, available cultivation spaces and the availability of financing. This growth will be also affected by the estimated increase in costs, notably energy and feed. However, technological development may, in the coming years, make it possible, on the one hand, to use up to now unexplored or underused spaces and water resources and, on the other, to provide efficiency gains in the use of intermediate consumption.</p> <p>SWOT Analysis</p> <p>Strengths:</p> <p>Existence of natural conditions favorable to the development of aquaculture;</p> <p>Knowledge of the species production well adapted to natural conditions;</p> <p>Potential of growing production of high quality and valorized species;</p> <p>Availability of qualified human resources;</p> <p>Products susceptible to differentiation through product certification processes or productive activities;</p> <p>Existence of scientific and technological knowledge to support the sectors of productive process and product innovation.</p> <p>Weaknesses:</p> <p>Weak special planning with consequent difficulty on the identification and definition of aquaculture areas;</p> <p>License deadlines too short;</p> <p>High bureaucracy and complexity of the licensing processes in aquaculture activities and access to public funding regimes;</p> <p>Activity regarded as of high level risk due to the insufficient covering from the insurance activity;</p> <p>Insufficient funding capacity to aquaculture businesses;</p> <p>Low levels of associative actions and partnerships with the transformation industries and with scientific and technical institutions;</p> <p>Insufficient information to the consumers about aquaculture products;</p> <p>Insufficient maternities to the reproduction of marine species.</p> <p>Opportunities:</p> <p>Existence of a national and European market highly deficient in fisheries products and with a growing appetency for seafood consumption;</p> <p>Possibility of installation of new establishment in the open sea and also in association with other activities;</p> <p>Appetency for certified products, namely of biological or multitrophic production;</p> <p>Promotion of the European Commission on the European aquaculture sector;</p> <p>Insertion on a developed technological economic space, with a potential for innovation and valorization of human resources;</p>
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Promotion, together with the business sector, of the aquaculture seafood transformation

Threats:

Strong competition from other countries;

Conflicts of interest in the areas of high aquaculture potential;

High prices of some production factors, such as energy and feed;

Probability of pollution and water quality reduction surges from climate factors;

Difficulty of funding resulting from highly precautionary evaluations from the funding entities.

Difficulties and Constraints:

In addition to the limitations inherent in competition with other human activities in the use of water resources and space, particularly along the coastal zone, aquaculture activity faces a number of constraining obstacles to its development, the solution of which is a challenge for the aquaculture subsector in the next years.

Natural conditions and surrounding environment:

Despite the relative abundance of marine and freshwater resources, existing water bodies have some limitations, natural or due to human intervention, which may restrict the space available for use for aquaculture production. In the coastal zone it is worth mentioning:

Sea conditions, in particular of the western coast of the mainland and the north coast of the Atlantic islands, which are very exposed and have few natural spaces to protect open sea aquaculture structures; Lower temperatures in winter, especially in the central / northern part of the country, which lead to slower growth of some of the highly commercially important fish species and therefore a longer production cycle; Space limitations in the most sheltered waters: Arising from other activities, including ports, maritime transport and fisheries; Activities related to recreational boating and seaside recreation centers; As a result of the artificialization of natural areas along the coast due to urbanization, particularly near estuaries and streams; Framework inherent in the vulnerability to the negative impacts of other human activities on estuarine and river zones, namely water pollution caused by the urbanization of coastal areas (waste water), and by industrial and agricultural activities; Limitations in protected areas subject to the prohibition or restriction of human uses and activities.

In fresh waters, consisting of rivers, lakes and reservoirs, there is, in turn, a strong competition in the use of this resource with agriculture, energy production and the supply of populations, whose use is subject to strong legal constraints, being prohibited in public water reservoirs.

Entrepreneurial:

The entrepreneurial fabric is based on micro and small enterprises (1,438 companies with less than 5 employees), most of them family-based, which limits innovation and reduces the ability to react or adapt to administrative or regulatory difficulties. relating to production costs. On the other hand, the very dispersed production and in small quantities, strongly limits the bargaining capacity with the buyers, which would be diminished through greater associativism. In view of the small scale of business and the risk of business, in particular as a result of a very long production cycle (often exceeding 12 months) and the time required to obtain water and exploration titles / licenses, companies in the sector experience significant difficulties in accessing bank financing to finance their investments. This business risk creates a high level of uncertainty in the

companies themselves, which makes the industry unattractive to new investments. For marine or brackish species of their own, the existence of only one single-species breeding unit (sole) and two Japanese oyster nursery constitute an additional difficulty in the development of new species. projects and a dependence of the foreign market on the supply of juveniles and seeds.

Institutional:

The legislation governing aquaculture activity, particularly when it is developed in areas of the public domain (about 90% of the establishments) is too dispersed and complex, in particular by the large number of entities involved. This is accompanied by a lengthy and complex set of administrative procedures for obtaining water use and exploitation permits, allied, until a few years ago, to too short deadlines for water use licenses (10-15 years).

Currently, Article 25 of Decree-Law No. 226-A / 2007, of 31 May, already allows the term of concessions for private use of water resources in the maritime public domain can be up to 75 years, given the nature and size of the associated investments, as well as their economic and environmental relevance, with licenses for periods of up to 30 years already underway.

The complexity of allocating new areas for aquaculture production, coupled with the need to involve various areas of knowledge to which the economic agent has to resort, makes the licensing process too expensive and time consuming, which is a barrier to entry. new investors to promote the renewal of the sector. The burden of this difficulty may be reduced by allocating licenses for water resources for longer periods. Environmental regulation, too focused on a control and capping perspective and concerned with ensuring that certain levels of pollution are not exceeded, does not consider a holistic approach to some segments of aquaculture to provide an overall cost-benefit assessment not only for economic and social area, but particularly in the environmental area.

This approach must necessarily be considered in traditional areas with greater aptitude for aquaculture, such as estuaries and wetlands such as the Aveiro and Formosa rivers, and in areas of the Natura 2000 Network, where extensive traditional cultivation systems are applicable. or semi-intensive. Existing territorial management instruments on resource protection levels and land use have not consistently identified the areas where new aquaculture establishments can be set up, leaving the promoters this selection, which contributes to a longer process, especially when it comes to areas of the public domain.

However, some changes have been taking place since 2008, notably with the publication of Regulatory Decree No. 9/2008 of 18 March, which allowed the creation of open sea aquaculture production areas. More recently, as part of the preparatory work for the Maritime Spatial Planning Plan (POEM), other open sea areas have been identified which could be regulated for aquaculture purposes.

4.0 Portugal end