

PLAYERS AT PLAY



COUNTRY PROFILE: BELGIUM



This project has received funding from the European Union's EASME-EMFF funding programme under grant agreement EASME/EMFF/2017/1.2.1.12/S2/04/S12.789391.



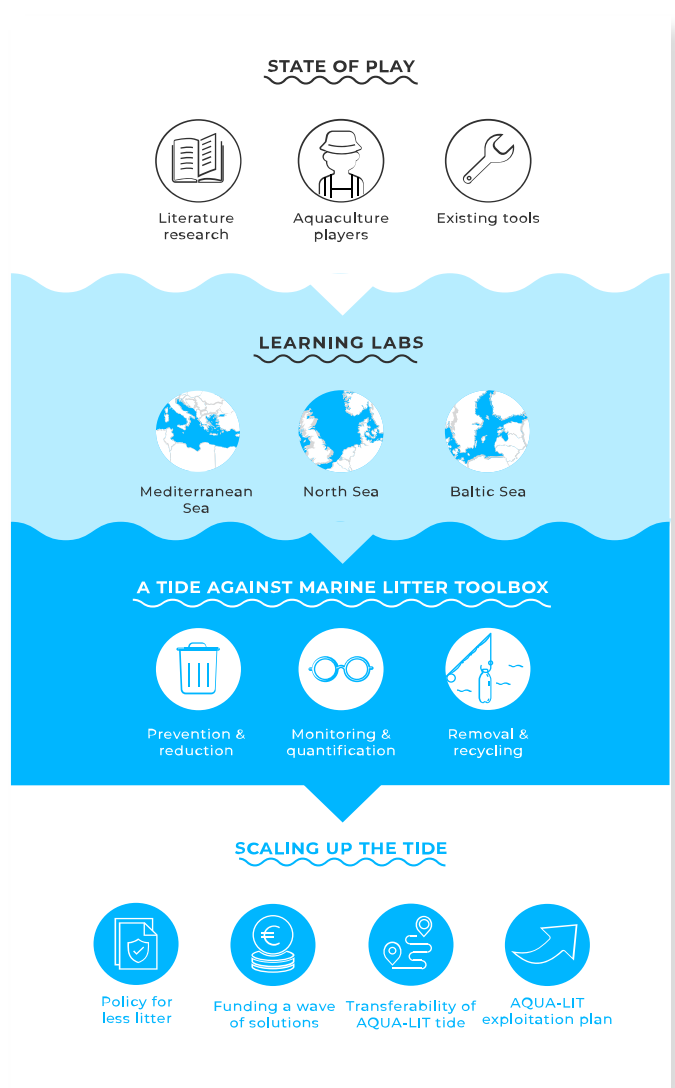
AQUA-LIT project

AQUA-LIT is an EASME-EMFF funded project that aims at providing the aquaculture sector with a sustainable **toolbox** of innovative ideas and methodologies to address the 3 main components of marine littering: **prevention & reduction, monitoring & quantification, and removal & recycling.**

To fulfill this mission, we will be working face-to-face with aquaculture farmers in three **regional Learning Labs**: at the **Mediterranean basin, the North Sea and the Baltic Sea regions.** In parallel, we will identify and cluster existing, upcoming and already implemented tools on marine littering, and we will further **develop a platform and an app** for providing the **'Tide against marine litter toolbox'**.

Lastly, we will **'scale up the tide'** by developing the **'policy for less litter'** set of recommendations, by showcasing the **'funding a wave of solutions'** available for the sector and by coming up with a **transferability plan for outermost regions.**

Through this, we expect to help all stakeholders from the aquaculture chain to increase the understanding, awareness and availability of solutions, so a potential **transformation of the aquaculture sector towards a less polluting sector** can become possible.



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Project Consortium



Geonardo Environmental Technologies
(GEO)



European Centre for Information on Marine
Science and Technology **(EurOcean)**



Vlaams Instituut voor de Zee -Flanders
Marine Institute- **(VLIZ)**



Sustainable Projects GmbH **(s.Pro)**



Instituto Español de Oceanografía -Spanish
Institute of Oceanography- **(IEO)**



Société d'Exploitation du Centre National
de la Mer - French National Sea Centre in
Boulogne-sur-Mer- **(Nausicaa)**



Fundo Regional para a Ciência e Tecnologia
-Regional Fund for Science and Technology-
(FRCT)



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AQUA-LIT country profiles

The AQUA-LIT country profiles present a description of the different aquaculture stakeholders, categorised by the four different stages in the life cycle of an aquaculture farm: 1) Initiation, 2) Development, 3) Operation and 4) End of life.

The country profiles were compiled for the two most extensively studied countries in each of the three sea basins of the AQUA-LIT project: Italy and Spain in the Mediterranean Sea, Belgium and France in the North Sea and Denmark and Germany in the Baltic Sea.

The country profiles resulted from various stakeholder engagement processes carried out during the project: the [interactive workshops](#) as well as individual stakeholder interviews. More information on the contributions from the aquaculture stakeholders can be found in the Learning Lab reports of the [Mediterranean Sea](#), the [North Sea](#) and the [Baltic Sea](#).

The country profiles can also be consulted in the annex of the [Knowledge Wave on Marine Litter from Aquaculture Sources](#).



Annex 6: Country profiles – North Sea

BELGIUM

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Initiation

Bodies approving the aquaculture technology (classification and certification bodies)

There are currently no commercial aquaculture activities in the Belgian part of the North Sea. An environmental permit is included in the application procedure for new aquaculture activities. For this environmental permit it is required to involve a certification company that will follow up the development and inspection of the installation. A contingency plan is also requested as a condition before the permit can be granted. A supervision committee will also help to monitor the commercial or project activities.

Aquaculture installations & system designing & engineering companies

[AtSeaNova](#) is a technology manufacturer supplying sustainable industrial turnkey seaweed farms across the world. AtSeaNova has all the knowledge in house to supply industrial turnkey seaweed farms and the corresponding consumables according to the latest technologies. Their products have been tested with a great success across the world (Ireland, North sea, Spain, Scotland, Norway, Indonesia, Morocco...) and will be used in the demonstration project Wier&Wind in the Belgian part of the North Sea.

Within the framework of aquaculture research, Flemish companies such as [DEME group](#), [Jan de Nul Group](#) and [Brevisco](#), in collaboration with research groups, help with the design of sustainable near-shore and offshore installations for aquaculture applications.

Authorities approving the aquaculture farm (i.e. public authorities)

The permits for aquaculture in the coastal zone (incl. the Sluice Dock of Ostend (Spuikom)) are granted by the [Coastal Division](#) of the Agency for Maritime Services and Coast (MD&K). Oysters need to be certified and Bonamia free. Food safety is dealt with by the [Federal Agency for the Safety of the Food Chain \(FASFC\)](#).

Mariculture in the Belgian part of the North Sea (BDNZ) is under supervision of the federal Government (secretary of state for the North Sea /[FPS Health, Food Chain Safety and Environment](#)). The [Federal Agency for the Safety of the Food Chain \(FASFC\)](#) is the competent authority dealing with requests for registration and granting permits to operators of aquaculture animals and authorisation of facilities where aquaculture animals are farmed.

The Fisheries Service of the [Department Agriculture and Fisheries](#) is the management authority of the [Operational Programme \(EMFF\) 2014-2020](#), which also includes measures to support aquaculture. In this regard, financing for mariculture projects in the BDNZ is managed by the Fisheries Service. Criteria for successful projects are in line with the Belgian National Strategic

Plan for Aquaculture (last revision in 2017). In order to better coordinate actions to promote aquaculture, EU Member States are obliged to draw up such a multiannual strategic plan on the basis of the EU guidelines presented in the Communication COM (2013) 229. In 2017, during the mid-term review of the Belgian plan, a greater emphasis was placed on mariculture.

There are several regulations and competent authorities involved to approve mariculture activities in the Belgian part of the North Sea:

- The conditions and the zones under which mariculture activities are permitted are defined by the current [marine spatial plan](#) (2020), which runs for a period of 6 years ([FPS Health, Food Chain Safety and Environment](#)). In the Belgian part of the North Sea four zones have been set aside – under the Marine Spatial Plan – at which sustainable aquaculture is permitted, i.e. the wind turbine concession zones: Eastern zone, Noordhinder North, Noordhinder South and Fairy Bank. Permission is granted on condition that the aquaculture activity reduces seawater eutrophication in these zones, and the concession holder for the construction and exploitation of the wind farm is agreed. In the last two zones, an additional Natura 2000 autorisation is needed.
- An environmental impact assessment (EIA) should be prepared by the aquaculture operator and approved by the [Management Unit of the North Sea Mathematical Models and the Scheldt estuary \(MUMM\)](#) of the Operational Directorate Natural Environment (OD Nature) of RBINS. MUMM advises the federal minister for the Marine Environment who then decides whether or not to issue an environmental permit. MUMM is also responsible for the follow up: construction, exploitation and monitoring programs.
- Apart from the environmental licence, there is an obligation of '[appropriate assessment](#)' to determine what the significant effects from the activities are on the species and habitats for which [Natura 2000 sites](#) are established.
- Aquaculture at sea involving the introduction of non-indigenous species is subject to the additional procedure laid down in the Royal Decree of 21 December 2001 on the protection of species in marine areas under the jurisdiction of Belgium. The competent administration is DG Environment - RD Species Protection (21.12.2001 (B.S. 14.02.2002)).
- Impact on shipping safety is to be dealt with by the [Shipping Assistance Division: Maritime Rescue and Coordination Centre \(MRCC\)](#).
- Food safety is dealt with by the [Federal Agency for the Safety of the Food Chain \(FASFC\)](#). FASFC is responsible for the assessment and management of risks that may be harmful to the health of consumers as well as the health of animals and plants. The Agency carries out food safety inspections throughout the food chain.

Development

Those constructing, bringing, assembling the farm

The partners in the demonstration projects described in section 4.1.3. place the necessary signals and bouys themselves. Offshore systems work with taggers/GPS. Nearshore they work with cardinal buoys (marking system at sea).

[Jan De Nul Group \(JDN\)](#) offers specialized services for the installation of structures: submarine cables, umbilicals, foundations, platforms or even entire offshore wind farms. Because of an integrated approach from design to execution, JDN always offers a creative comprehensive

solution. A fleet with a number of very specialised multifunctional ships combined with international teams of highly educated experts delivers innovative solutions. JDN is a project partner in the aquaculture demonstration projects Coastbusters and UNITED (see also section *Operation*). Within the framework of UNITED, JDN helps with the logistic support at sea, but also with the design of restoration tables for oysters in near-shore conditions. JDN is involved in the development of the design of flexible systems for aquaculture applications. For Coastbusters 2.0, JDN is responsible for the blueprint for bio-facilitating anchoring.

[Dredging International \(DEME\)](#) is a world leader in the highly specialised fields of dredging, marine engineering and environmental remediation. DEME has several programmes designed to seek out and support innovative initiatives. DEME is a partner in the Edulis and Coastbusters projects (see also section *Operation*). In Coastbusters 2.0, DEME helps with the configuration of the longlines for aquaculture, and also with the search for better materials, techniques for anchoring and the deployment of bio-facilitating anchors.

[De Colruyt Group](#) is responsible for the Life Cycle Analysis in the UNITED project focused on the cultivation of oysters. Colruyt also looks at the business case and the economic feasibility of farming oysters in the North Sea.

[Sioen Industries](#) is responsible for the design and deployment of tuneable biodegradable dropper lines and connectors in Coastbusters 2.0.

Brevisco bvba Brevisco's focus is on research in the context of fishing activities, but this has been extended to aquaculture applications with a view to commercial activities. In UNITED, Brevisco is developing the framework for catching and developing oyster spat.

Operation

Aquaculture producers and operators

In the Belgian coastal zone, aquaculture can be found in the Sluice Dock of Ostend (Spuiikom) where the European flat oyster (*Ostrea edulis*) and the Pacific oyster (*Magallana gigas*) are farmed by the company [Aquacultuur Oostende](#).

Pilot projects

No commercial offshore mariculture activities take place on the Belgian territory, with the exception of a few demonstration projects:

- [Value@Sea](#) aims to test the Integrated Multitrophic Aquaculture (IMTA) cultivation of flat oyster and sugar kelp.
- [Edulis](#) is a project aiming to investigate the possibility of cultivating mussels on longlines in offshore wind farms (Parkwind and C-Power).
- [Symapa](#) investigates possible synergies between mariculture of mussels, oysters and seaweeds and passive fishing.
- [Wier&Wind](#) aims to design, build and mechanically operate a robust 2 ha offshore seaweed farm in the Belgian part of the North Sea.
- The [Coastbusters](#) project investigates certain key bio builder species (seaweeds, bivalves and tube building worms) to enhance coastal stabilisation. As such this project

uses mariculture techniques in the construction of marine mussel reefs as part of coastal protection.

- The [Coastbusters 2.0](#) project will aim at researching best designs for optimal reef growth and create tailor made sustainable concepts, best-practice standards and sustainable products for nature-inspired coastal protective systems. As such, the current Coastbusters 2.0 proposal envisages intensive research, starting from the mussel reef concept towards innovation in biodegradable textiles for reef development, site configuration, eco-friendly anchoring & installation, operational safety, process standardisation, adapted valorisation by ecosystem services and advanced environmental monitoring techniques.
- The [UNITED](#) project involves a pilot demonstrator in the Belgian wind farms, combining the generation of wind energy with the restoration and farming of flat oysters and the grow-out of macroalgae.
- [Zeeboerderij Westdiep](#). Codevco V BV, as part of Colruyt Group, wants a nearshore aquaculture project (mussels, oysters and seaweed) to be installed and operated in Zone C – Westdiepzone. An authorisation and permit was applied for from the Federal Minister competent for the marine environment (environmental permit) for respectively the construction and operation of a sea farm.

Demonstration projects cannot commercially sell their marine products and do not need certification from FASFC.

Associations representing aquaculture producers and operators

The [Flemish Aquaculture Platform](#) aims to stimulate and facilitate the development of the Flemish aquaculture sector, to map the aquaculture landscape (trends, developments, projects) in Flanders and to present itself as the main information channel on aquaculture for entrepreneurs and researchers.

The [Blue Cluster](#) (Blauwe Cluster), is a group of innovative private companies active in a wide range of sectors, dedicated to developing and promoting economic activities that are linked to the sea. Their aim is to enhance cross-sector partnerships and better cooperation with knowledge centres and government institutions. This should lead to new and innovative investments and projects in the Belgian Part of the North Sea and beyond, which are the anticipated solutions for a number of global challenges. Apart from the infrastructural benefits, these solutions will create economic return for Flanders by creating new industries, opening up new markets for export and improving the competitiveness of the companies involved. The aquaculture producers and engineering companies mentioned above are all member of the Blue Cluster.

Aquaculture maintenance and monitoring

At the moment, there are no commercial activities taking place at sea. For the environmental permit, it is required to involve a certification company that will follow up the development and inspection of the installation, and report annually about the incidents and the measures and actions taken. A monitoring programme is also included in the environmental permit. This monitoring can be carried out by RBINS or can be imposed on those involved. The necessary attention will be paid to the loss of material and litter.

The [Management Unit of the North Sea Mathematical Models and the Scheldt estuary \(MUMM, OD Nature, RBINS\)](#) is responsible for the follow up of human activities at sea: construction, exploitation and monitoring programs. OD Nature is also responsible for the Belgian North Sea Aerial Survey program tracing marine pollution.

[GEOxyz](#) performs pre-, intermediate and post surveys to support all kind of marine construction activities at sea, in ports, access channels or at rivers. GEOxyz performs site investigations and is experienced in performing all types of ROV inspections (e.g. of underwater constructions).

End of life

Those dismantling the farm installation

For demonstration projects, institutions or companies responsible for installing aquaculture systems are obliged to decommission them and bring them on land after the project duration. Project budget should be allocated for these activities.

As for succesful restoration projects, biological structures (e.g. oyster reefs) can be left in place if a permit was approved.

Standardized decommissioning plans, like they exist for ships/vessels decommissioning do not exist in Belgium.

Those managing/governing the waste management

For demonstration projects, offshore workers are expected to bring the materials and equipment used back on land, including other waste items that they come across at sea.

The [FPS Marine Environment](#) is responsible for waste management at the federal (national) level. The authority is responsible for the federal action plan, which formulates 55 actions, of which seven priority actions. One priority action includes the aquaculture sector:

- **Blue deals will be signed with different sectors.** Through these 'blue deals', companies will be specifically encouraged per sector to make voluntary efforts to combat marine litter. Eligible sectors are wind farms, dredging, sand extraction, fishing, aquaculture, etc. The blue deals will encourage companies to make a specific effort per sector to combat marine litter.

The [Public Waste Agency of Flanders \(OVAM\)](#) is responsible for waste management at the Flemish level. The authority is responsible for the The Flemish Integral Action Plan on Marine Litter, which includes 36 measures and 21 targets. Specific in the context of aquaculture activities, the Flemish action plan includes two relevant actions:

- **Measure number 13:** Mapping the impact of aquaculture marine litter in Flanders and developing remedial measures (before 2022);
- **Goal number 5:** Sustainable waste management will reduce the impact of aquaculture on marine litter to an absolute minimum by 2022, and the practices applied in Flanders are among the best in Europe.

Every port has a waste management plan. See also the directive on port reception facilities for the delivery of waste from ships, amending Directive 2010/65/EU and repealing Directive 2000/59/EC. Offshore installations are one of the sea-based sources of marine litter. For that reason, member states should adopt measures as appropriate on waste delivery from offshore installations flying their flag or operating in their waters, or both, and ensure compliance with the stringent discharge norms applicable to offshore installations laid down in the MARPOL Convention.

Those processing the waste/ collection/ clean-up

In Flanders, there is a waste collection and management sector. Information on the different companies can be consulted through OVAM.

[Renasci](#) is a pioneering Belgian company active in circular economy. Several specialists in biomass and biochemistry, universities and different laboratories have joined forces at Renasci to find a solution that changes the future of waste. Renasci is facing the European union Waste Directive, to re-use at least 50% of our waste by 2020, head on by converting waste into more than 70% of reusable products.

Producers may also set up voluntary agreements with farmers to take back materials. e.g. [VVC Equipment](#)