BLUE CONNECT

blueconnect-project.eu

DEMO SITES NEWSLETTER

NOVEMBER 2025 – 1# BELGIUM - VLAAMSE BANKEN

About the Blue Connect project in Vlaamse Banken Marine Protected Area

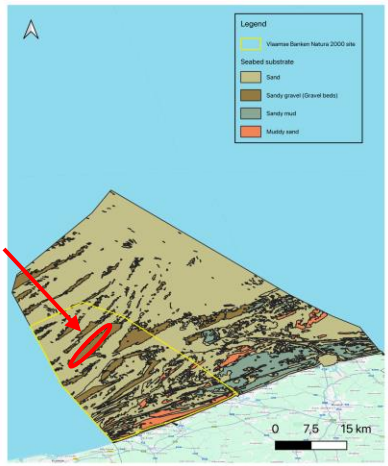
In the Vlaamse Banken MPA, the Blue Connect project aims to restore the European flat oyster (*Ostrea edulis*). Once thriving in the North Sea, oyster reefs have collapsed. Yet they play a vital role in biodiversity and climate resilience by purifying water, fixing nitrogen, protecting the seabed and providing a habitat for numerous other species.

Oyster reef restoration is teamwork. Partners involved in the Belgian demonstration site are Ghent University, the Institute of Natural Sciences, Jan De Nul, the Flanders Marine Institute, and the Federal Public Service Health (Marine Environment Department). The team meets on a regularly basis to coordinate and discuss key aspects of the oyster restoration efforts, **including the selection of suitable locations**, **choice of substrate**, **monitoring approach**, the origin and disease status of the oyster larvae, **administrative steps** such as permit application, legislation procedures and stakeholder engagement.

Finding a home for oysters

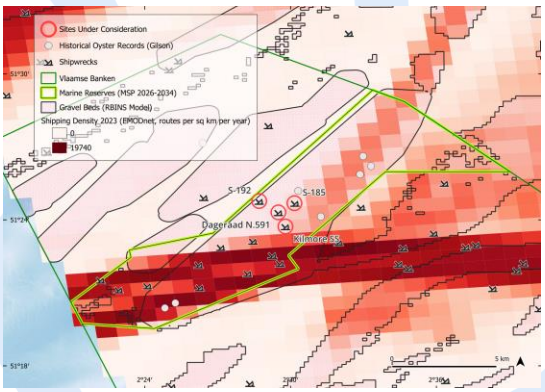
Proof from the past

Research by Houziaux et al., 2008 confirmed **the historical presence of extensive biogenic reefs** formed by the European flat oyster in the Belgian part of the North Sea, as well as the continued existence of gravel beds today. These once-thriving reefs were largely destroyed by targeted oyster fisheries as early as the 1860s. Since the 1920s, increasing trawling activity has further degraded these once richly colonized reefs, turning them into continuously disturbed sandy gravel grounds (Houziaux et al., 2007; 2011).



(Van Lancker et al., 2023). Seabed substrate map, surficial sediments Belgian part of the North Sea. Institute of Natural Sciences, Brussels

From data to decision



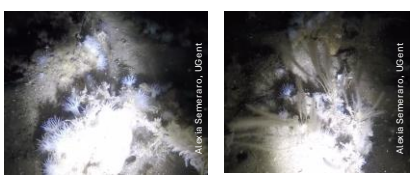
Map of potential restoration sites (Lawrence Whatley, VLIZ)

Selecting a suitable site for oyster restoration involved carefully weighing several criteria. These included the **presence of gravel beds** or natural hard substrate to support oyster settlement, **location within the marine reserve proposed in the new Marine Spatial Plan (2026–2034),** and **flat seabed conditions** to facilitate monitoring. **Proximity to a shipwreck** was also considered valuable, as it can offer protection from trawling. Other factors, such as **distance from shipping lanes**, **the intensity of fishing activity**, and the presence of historical oyster beds, were also taken into account.

Detailed **seabed mapping** and **site selection for oyster reef restoration** in the Belgian part of the North Sea were conducted under the **BELREEFS project**, an initiative of the Federal Public Service Health (Marine Environment Department) and coordinated by Jan De Nul. These tasks, led by the Institute of Natural Sciences together with Jan De Nul, resulted in **a shortlist of suitable locations**. The shortlisted sites from BELREEFS informed the work carried out in Blue Connect. Two sites were then retained: **the Dageraad and Kilmore wrecks**.

Closer look beneath the waves

On the 5th of September, Ghent University, conducted an **exploratory dive** to better understand the seabed at the Dageraad site and to **identify any trawling marks** that could compromise the monitoring or the restoration.



Anemone on the seafloor at the Dageraad site

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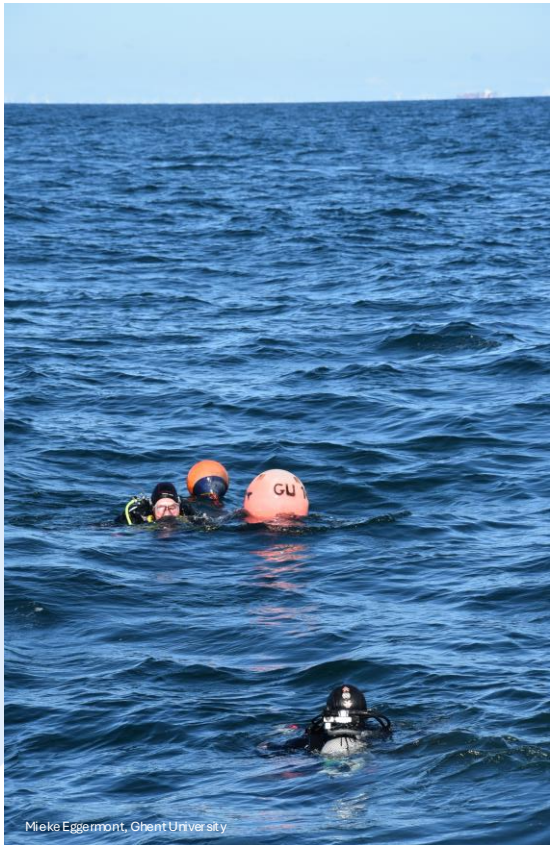

Health
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VLAAMSE BANKEN

What's next?

In November, **VLIZ will conduct a three-day sea campaign in the Belgian part of the North Sea**, using an **AUV (Autonomous Underwater Vehicle) equipped with side scan sonar and camera** to further assess the suitability of two wreck sites, **Kilmore** and **Dageraad,** for future oyster reef restoration.

During the campaign, researchers will collect **high-resolution seabed imagery data** to evaluate sedimentation rates, seabed dynamics, and substrate coverage. **The data gathered will help determine the most promising site for active restoration, with a final decision expected shortly after the campaign.**

Autonomous underwater vehicle

Oyster settlement trial

The Blue Connect project will apply the same methodology for oyster seeding, as demonstrated in a very successful experiment conducted at the ARC laboratory of Ghent University as part of the ongoing Reefcovery project (funded by VLAIO and coordinated by Jan De Nul), in which **3.5 million *Ostrea edulis* larvae** were settled on natural stone. In preparation for large-scale operations, this initial trial took place in a system of marine containers, designed, built, and operated on-site by Jan De Nul, that serve as a modular and mobile oyster remote-setting facility. Several cubic meters of spat-on-stone were deployed in a coastal area on October 10. **The growing oysters will be monitored periodically over the next two years.**

WATCH THE VIDEO TO KNOW MORE

Oyster-spat-on-stone produced by the Reefcovery partners.

THANK YOU FOR READING

NOVEMBER 2025 – 1 #

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