BLUE CONNECT

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DEMO SITES NEWSLETTER

OCTOBER - #3

BELGIUM - VLAAMSE BANKEN

Oyster Spat on the Move



After several weeks of growth in the **the "Oyster Reef Restoration Unit", a mobile and modular state-of-the-art RAS system of Jan De Nul designed for large-scale nature restoration applications,** the settled Bonamia-free native oyster (*Ostrea edulis*) larvae became clearly visible on the stones. After days and days of counting larvae, it was time to calculate the results: an estimated **1.238 million oyster larvae** had settled on the stones, corresponding to a **settlement rate of 25.35%.**

Finally, on **24 May 2026**, it was time to bring these young oysters on stone to the Belgian part of the North Sea, within the Vlaamse Banken MPA. This newsletter takes you along on their journey of the reef deployment.

About the BLUE CONNECT project in Vlaamse Banken MPA

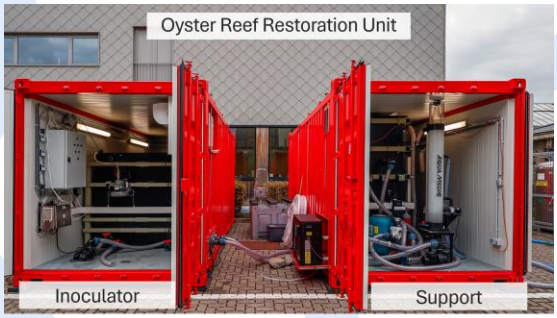
In the Vlaamse Banken MPA, the BLUE CONNECT project focuses on restoring flat oyster reefs (*Ostrea edulis*) by reintroducing *Bonamia*-free native populations and testing sustainable and efficient methods. Historically abundant in the North Sea, today oyster reefs have largely collapsed. Yet they play a vital role in biodiversity and climate resilience by water filtration, nutrient cycling, and habitat creation for many species.

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OFFSHORE INSTALLATION

Transport of the oyster

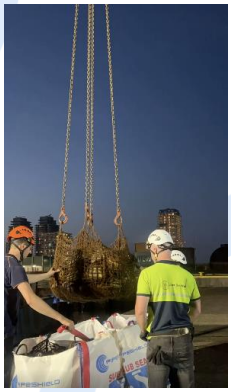
First, the roof of the Oyster Reef Restoration Unit was removed, and a crane lifted the boxes filled with stones onto a truck. Throughout the process, **the oysters were kept wet to ensure their survival.**

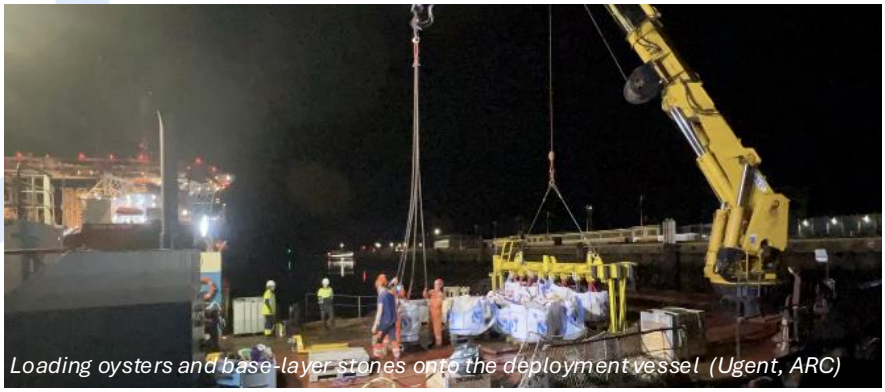



Oyster Reef Restoration Unit (JDN)

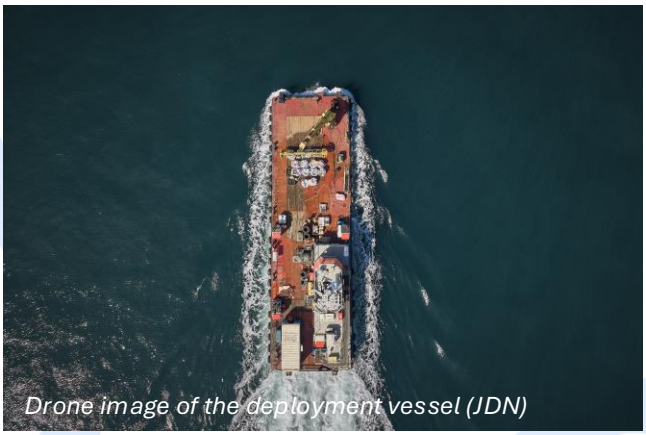
Once the truck arrived at the port, **the coir bags** containing the oysters attached to stones were carefully removed from the boxes and **placed into prefilled big bags containing the base-layer stones**. The bags were then **lifted aboard the deployment vessel**, with one important rule throughout the journey: keep those oysters wet.


Loading oysters and base-layer stones onto the truck (Ugent, ARC)




Loading oysters and base-layer stones onto the deployment vessel (Ugent, ARC)

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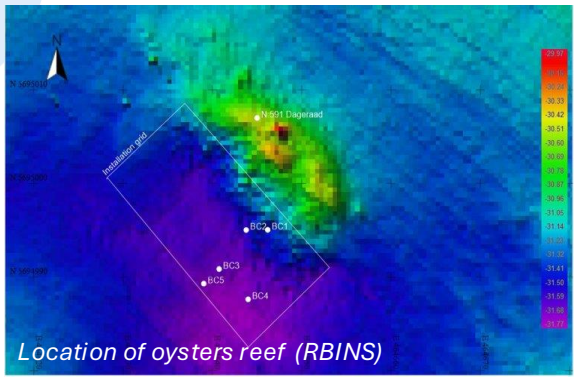

Drone image of the deployment vessel (JDN)


Deployment of 2 bags and 1 monitoring set (JDN)

Deployment of the oysters

Early next morning, the deployment vessel, loaded with **oyster spat** on stone, set course for the **Vlaamse Banken marine protected area**, 32 km offshore from Ostend. Once on site, the large bags were suspended in groups of four from **the beam developed by Jan De Nul specifically for reef substrate deployment** and carefully lowered to the seabed.

The release system worked as planned: the **oyster spat on stone** was deposited at its final destination on the seabed, while the empty bags returned to the surface. By the end of the day, all bags and **three monitoring sets** had been successfully deployed. **After months of preparation, the pilot oyster reef was finally in place!**



Location of oysters reef (RBINS)


Leaving the port of Ostend (JDN)


Team work on deployment vessel (JDN)

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VLAAMSE BANKEN

Innovative monitoring


Monitoring campaign team (VLIZ)

On the 8th of June, World Ocean Day gave us calm seas and the perfect window for a new monitoring campaign on board **RV Simon Stevin**. Building on May's deployment of gravel stones seeded with European flat oysters, VLIZ experts set out to map, monitor and assess the reef structures now developing around the shipwreck. A high-resolution multibeam survey delivered a detailed picture of the site, recording the shipwreck, the 12 oyster-seeded gravel zones and the three sets of gabions.

Two seabed landers were installed to monitor the reef over time: one carries **acoustic sensors** recording underwater soundscapes, porpoise echolocation clicks and passing tagged fish, while the other holds our VLIZ-developed **Sonarlogger**, which builds a long-term time-lapse of the reef. Finally, **two autonomous underwater vehicles** demonstrated side-scan and 3D side-scan sonar, adding further detail on seabed conditions and habitat development


Sonarlogger (VLIZ)

Next monitoring campaign

One month after deployment, **divers returned to the reef to capture video footage of its early development**. The images showed encouraging oyster growth, but also revealed sea stars, predators of the young oysters.

In October, RBINS and UGent ARC scientists will return to the Dageraad shipwreck for a first close-up look at the restoration site, following the installation of the seeded stones in May. The RBINS **scientific diving team** will film the site, recover the first set of monitoring gabions. With these samples, the team will assess the **survival and growth** of the oysters, as well as the **associated benthic community** developing on the deployed stones. Together with a **multibeam survey**, these observations will provide the first insights into the early development of the restoration reef and form the basis for long-term monitoring.

THANK YOU FOR READING

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2021 2030 United Nations Decade of Ocean Science for Sustainable Development

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