Interreg
France (Channel Manche) England

EUROPEAN UNION

Fonds Européen de Développement Régional

MARINEFF
infrastructures maritimes biomimétiques

Edition 7
February 2021

Saint Malo Bay, France

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MARINEFF
MARine INFrastructure EFFects

How to get involved

If you are interested in keeping up to date with all current project activities, you can subscribe to mailings, follow us on Facebook, Twitter, or LinkedIn or visit the news section of the website.

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Mailings sign-up

To sign-up to future Marineff mailings, including this quarterly newsletter, click *here*.

Please note, upon sending an email to this address, you will be automatically signed up to the Marineff mailing list and included in future newsletter communications. Information on how your data is handled can be found at:

www.ciria.org/marineff

To unsubscribe from mailings, please click *here* and enter your email. If you are subscribed, this will remove you from the database.

Further information

To find out more about the Marineff project, go to:

http://marineff-project.eu/

IN THIS ISSUE

Missed our webinar in December? Watch it here!

In a nutshell

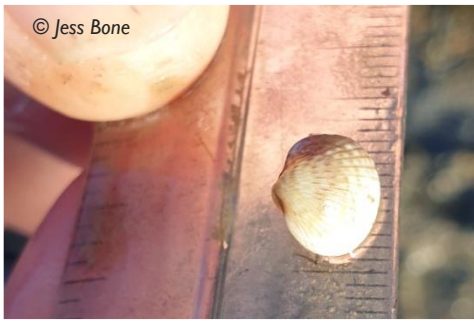
Welcome to the seventh edition of the Marineff project's dedicated newsletter. The team at the Marineff project hope you were able to enjoy the festive period in whatever manner you were able.

We are, in many ways, rather glad to see the back of 2020 but equally we are so pleased with all that we managed to achieve. The installation of all Marineff modules is now complete and we have already commenced our monitoring schedule. With almost a year of pandemic-related hurdles under our belt, we hope to ensure continuation of fieldwork for the months ahead. We are so lucky and grateful to be able to resume our work both outdoors and underwater and enjoy the fantastic marine life the Channel has to offer. Don't worry – we will share the best moments with you in our newsletters.

In our first newsletter of 2021, you can read more about the final Marineff module installations in France. You can also learn about one of our key industrial partners, TPC, in our partner profile. We are also thrilled to announce our three-day international Marineff conference scheduled for September 2021, which will bring together top eco-engineering science and research under one roof. Cheers to the new year, and all the opportunities it may bring!

Below: A prawn (Palaemon sp.) found in a Marineff artificial rockpool in Poole Harbour, UK, poses in the hand of Bournemouth University research assistant Jess Bone

The final twenty-four rockpools on the seawall at Ouistreham, France



Top, bottom left and bottom middle: The newly installed artificial rockpools on the granite masonry seawall at Ouistreham, France. Bottom right: A juvenile common cockle (Cerastoderma edule) from the Hamble Harbour rockpools.

In early December 2020 project partners Ports de Normandie, ESITC Caen and University of Caen Normandy successfully installed the remaining artificial rockpools on a seawall in Ouistreham harbour, France. The installation took a little longer than usual (four days to be precise!) as contractors were drilling into granite masonry instead of the concrete infrastructure at the other rockpool sites. The vertical spacing between the rockpools at Ouistreham is greater than its experimental counterpart in Hamble Harbour, UK, due to the much larger tidal range in France. Our first official biodiversity survey for the Hamble and Ouistreham rockpools will commence in April 2021, so we hope to share some photos of their progress in our May newsletter.

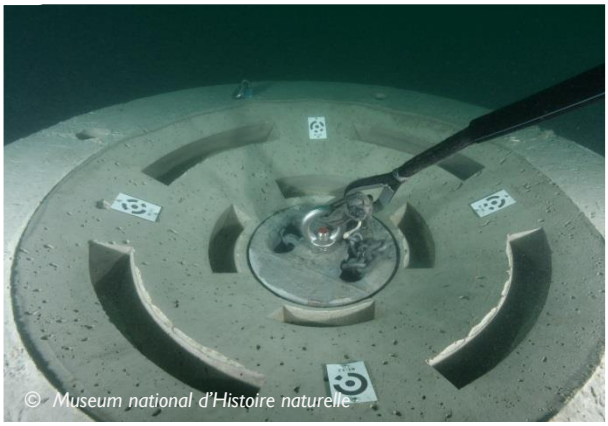
A bivalve surprise

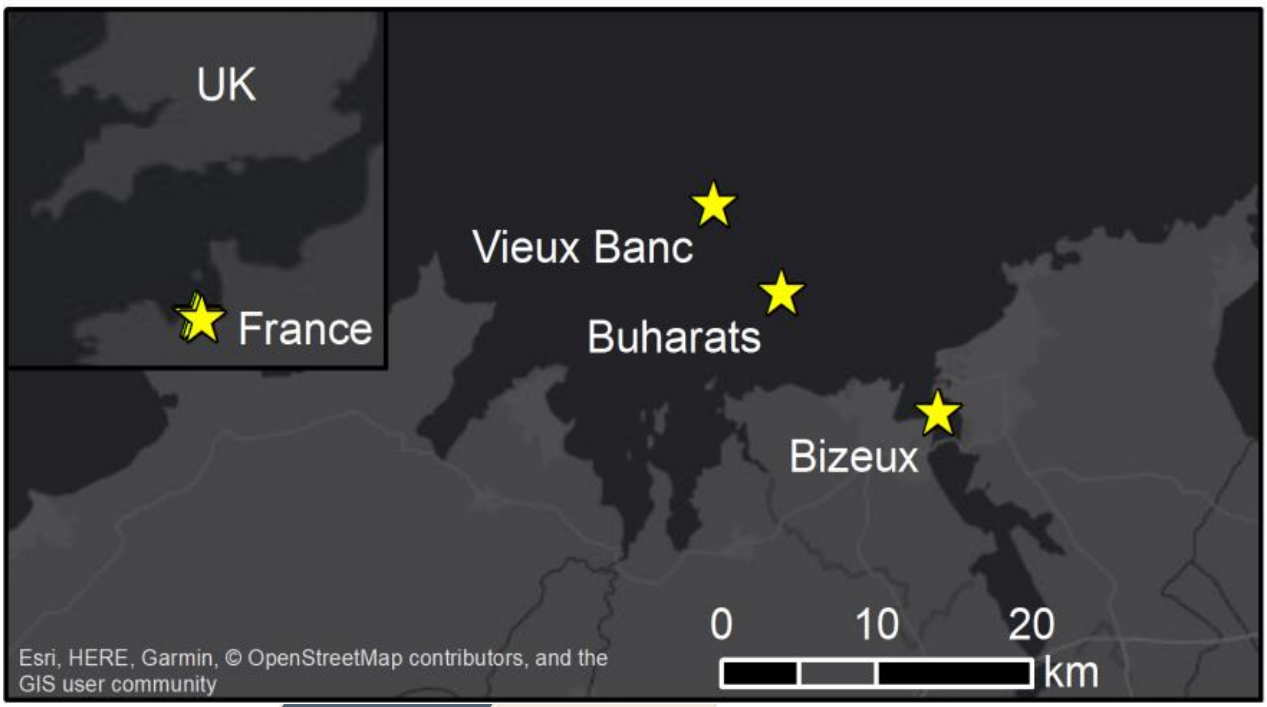
Following our Hamble Harbour rockpool installation in October 2020, project partner Bournemouth University returned in December to check on them and found a juvenile cockle (*Cerastoderma edule*) in one of the rockpools. The bottom rockpools had retained some silt providing habitat for species that are normally found in mudflats. We look forward to seeing how these rockpools develop in April!

The boat mooring modules descend beneath the waves in Saint Malo Bay, France

© *Museum national d'Histoire naturelle*

The boat mooring modules were successfully deployed at their three sites in France at the end of 2020: Bizeux (30th October), Buharats (26th November) and Vieux Banc (27th November). Each mooring is equipped with eco-friendly anchorage that ensures no impact on the mooring module or natural environment. Each mooring is deployed on a rocky plateau and it is hoped they will be well colonized by a variety of marine fauna, such as lobsters and crabs. Each deployment site is popular with divers, and the Marineff team at National Museum of Natural History, France, have created citizen science resources to collaborate with dive clubs in the region. These citizen science programmes will help raise awareness and help with understanding the true value of the eco-engineered boat moorings.



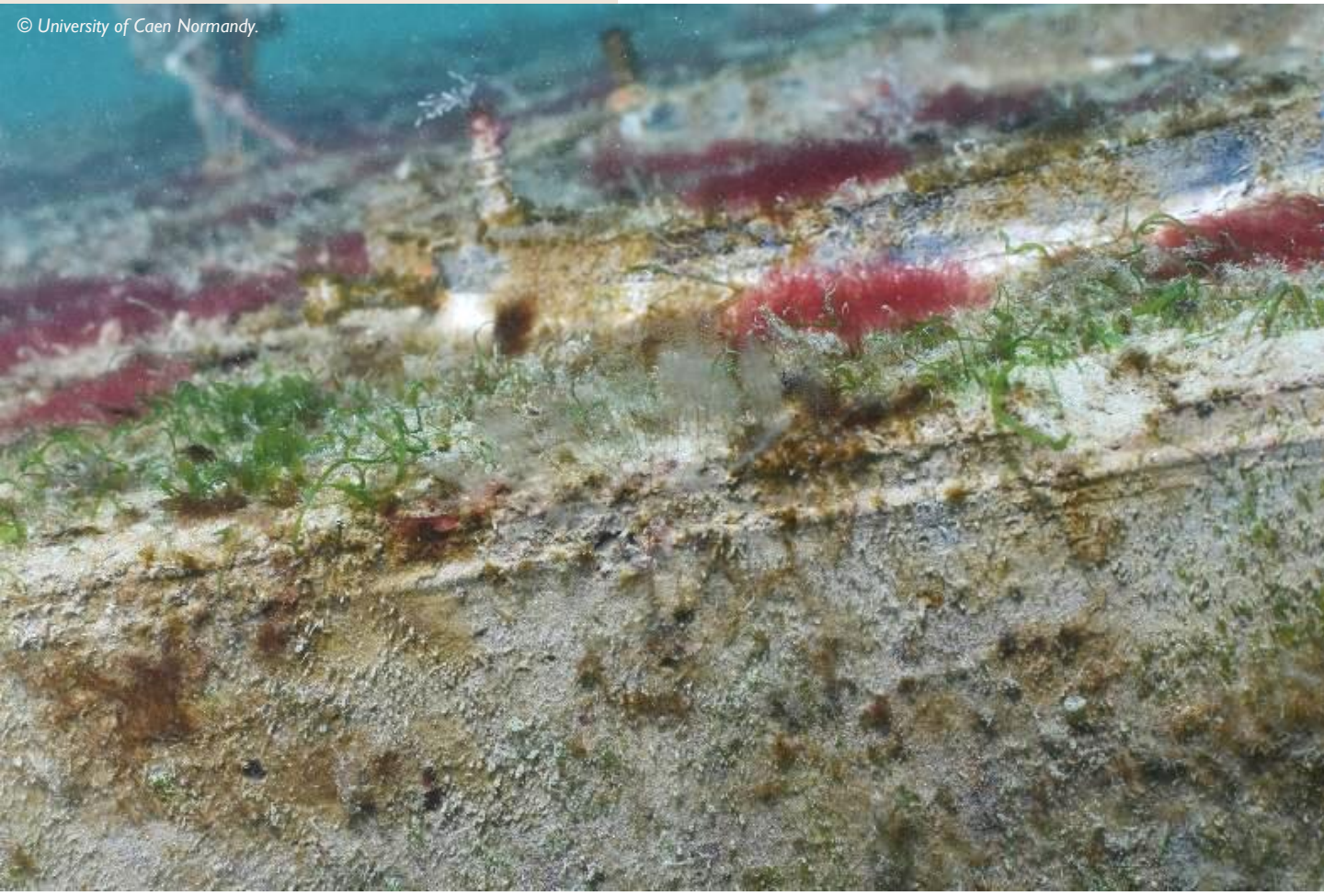


Top left: the boat mooring is lowered at the Buharats site, guided by a diver. Top right: the boat mooring at the Bizeux site settled into position. Middle left: Quentin Ternon of the National Museum of Natural History checks the mooring positioning at Bizeux. Middle right: A close-up of the anchor ring at the top of the mooring. Bottom: The boat mooring site locations.

University of Caen Normandy dive on the breakwater modules in Cherbourg harbour

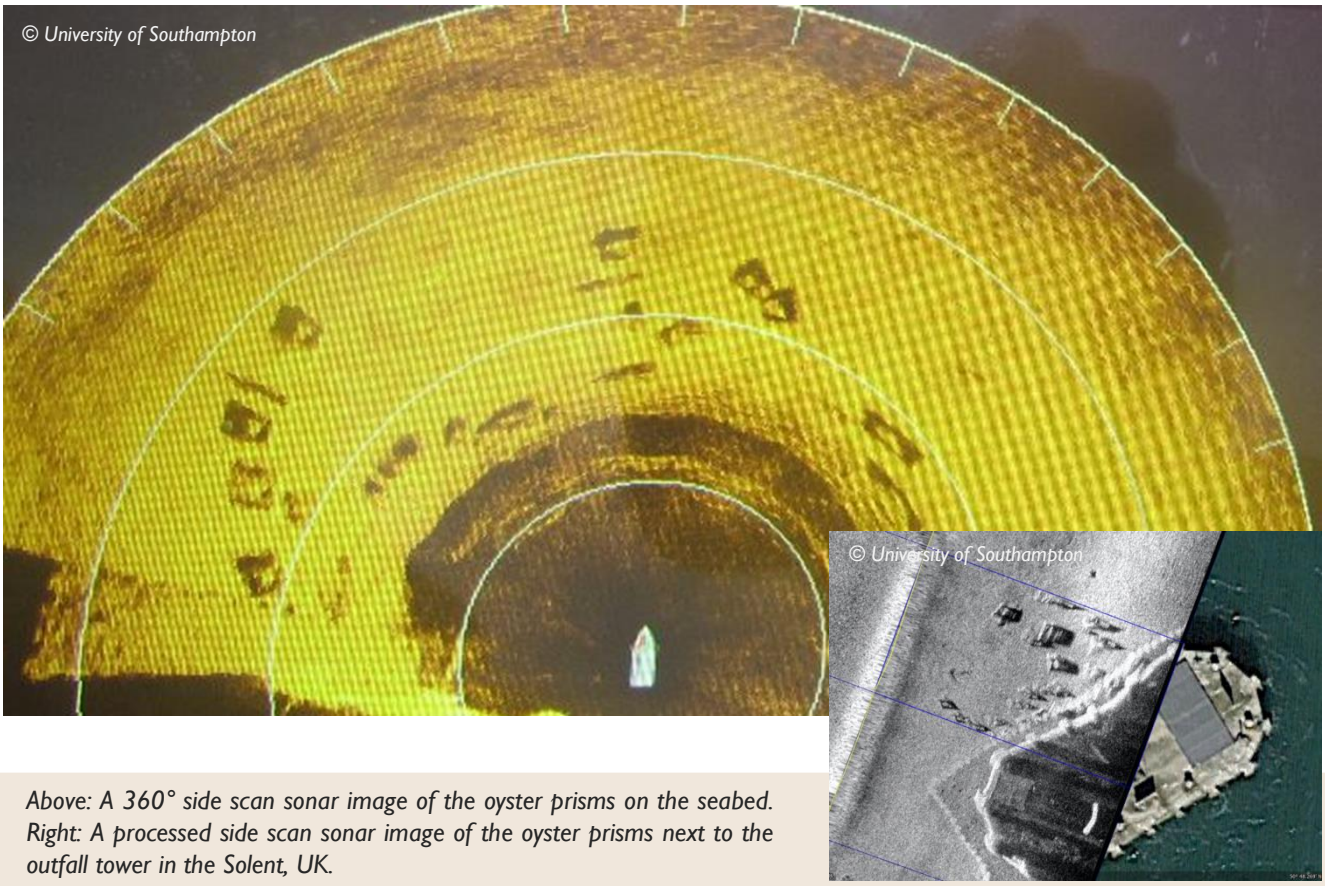
Two months after their deployment, the Marineff team at University of Caen Normandy dived on the breakwater modules in Cherbourg harbour at the end of November 2020. Some promising early growth was found with typical colonising species present in a short turf of red, brown and green algae, bryozoans and calcereous tubeworms. This colonisation should increase significantly in the spring of 2021!

Top: the top of the breakwater modules covered in a patchy turf. Middle: a camera-shy velvet swimming crab (Necora puber). Bottom: feathery bryozoans and algae growth add more texture the breakwater modules.



Marineff Project spotlight on…

Side scan sonar



Above: A 360° side scan sonar image of the oyster prisms on the seabed. Right: A processed side scan sonar image of the oyster prisms next to the outfall tower in the Solent, UK.

Our latest newsletter feature will be delving deeper into the experimental designs, monitoring methods, and equipment used throughout the Marineff project and will give our readers a unique opportunity to learn more about the processes behind-the-scenes. If you have a suggestion for a spotlight feature, please email Jess Bone at jbone@bournemouth.ac.uk. For our first Marineff spotlight feature, we will be sharing more about the University of Southampton's use of side scan sonar.

Side scan sonar provides an acoustic image of the seabed. A conventional boat echo sounder sends narrow pulses vertically down to the seabed and the time taken for it to be reflected back indicates the depth. With side scan sonar a fan of pulses is sent out either side of the boat and, as the boat travels forward, a "picture" of the seabed is built up. *Humminbird* was the first manufacturer to produce a low cost system for the boating leisure market. Their latest innovation is a 360° sonar transducer which rotates, constantly imaging the seabed around the boat. This will be invaluable to anglers who will be able to "see" the fish below and around them. Within the Marineff project the University of Southampton team will use this 360° sonar to guide their ROV (remotely operated vehicle) surveys around the oyster prisms and estimate the fish density.

TPC

in focus

TPC, Travaux Publics du Cotentin, is a subsidiary of VINCI CONSTRUCTION France based in Cherbourg.

Thanks to TPC's location, it has developed several fields of activity such as Industrial Civil Engineering, Roads and Roads, Asbestos Removal, Deconstruction, Earthworks and Maritime Works, in addition to operating two quarries. This has led to an annual turnover of €18 million.

TPC had already participated in the RECIF project, the Marineff project's predecessor, in collaboration with some of the current project partners. It was therefore natural that TPC participated in the Marineff project.

The role of TPC within the Marineff project consists of:

- ensuring the feasibility of the breakwater and oyster module designs by projecting into future large-scale industrialization
- building the 36 breakwater modules and 30 oyster prisms for their immersion in the Channel

Left: the completed breakwater modules.
Below, from left to right: Arnaud Passelac, Directeur de TPC; Alexandre Marchienne, Principal Work Supervisor; Geoffrey Gerard, Management Control; Margaux Divrande: QSE Engineer; Charles Willemy, Site manager and Methods Engineer; Guillaume Etienne (not pictured).
Bottom, from left to right: the steel rebar frames are fitted to the formworks for the breakwater module manufacture; the completed oyster prism.

FROM MATERIALS AND INFRASTRUCTURES TO MARINE ECOSYSTEMS:
INTERACTIONS AND NEW APPROACHES

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BULLETIN #1

INVITATION

ESITC Caen, lead of the European Project MARINEFF, and its partners invite you to participate in the Marineff International Conference, being held in Caen (Normandy, France) from 14th to 16th September 2021.
This conference, as a part of the MARINEFF project, will gather researchers, representatives from industry and other stakeholders to highlight research and case studies about the ecological maritime infrastructures, from construction materials, design to marine biodiversity.

The MARINEFF project

The MARINEFF project was selected under the European cross-Broder Cooperation Programme INTERREG V/A between France (Channel) England, co-funded by the ERDF. It brings together 9 French and British partners.
The Marineff project's goal is to enhance and protect coastal and transitional water ecosystems in cross-roder Channel regions. The project aim is to realise new biomimetic infrastructures to improve the initial ecological status of water, by at least 15%.

Interreg France (Channel Manche) England

EUROPEAN UNION

FROM MATERIALS AND INFRASTRUCTURES TO MARINE ECOSYSTEMS: INTERACTIONS AND NEW APPROACHES

TOPICS

Abstracts and paper proposals are invited in the following topics:

1. Marine infrastructures (incl.artificial reefs) eco-engineering and nature-based solutions: ecological design, engineering and technology
2. Impacts of marine infrastructures on biodiversity and coastal functioning - Monitoring strategies and protocols
3. Interactions (physical, mechanical, chemical and biological) between materials (concrete, steel, wood, composite...) and the marine environment and biodiversity
4. Stakeholders engagement and collaborative approaches with respect to coastal environment and economy
5. Case studies and pilots

Conference format: oral presentations, poster sessions and external lecturers.

The conference languages will be in French and English.

Abstract, paper submission and registration: Scienceconf.org

ORGANIZING COMMITTEE

- BOUTOUIL Mohamed (chairman)
- LEBRUN Jérôme
- DUFEU Matthieu
- SEBAIBI Nassim
- BOURGUIBA Amel
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to be continued...

Registration fees

Before March 19th, 2021:

Full registration	400 euros
Students	200 euros

After March 20th, 2021:

Full registration	500 euros
Students	300 euros

Registrations close the July 31st, 2021.
If the organizing committee is unable to host the participants, the conference will be held online.

IMPORTANT DATES

- Deadline abstract submission: Jan 17th, 2021
- Notification of acceptance: Jan 31st, 2021
- Deadline submission of full paper: Mar 15th, 2021

Venue

For more informations

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