Interreg

EUROPEAN UNION

2 Seas Mers Zeeën

SARCC

European Regional Development Fund

MAX

Adaptation to climate change

SARCC

NEWSLETTER JANUARY 2021

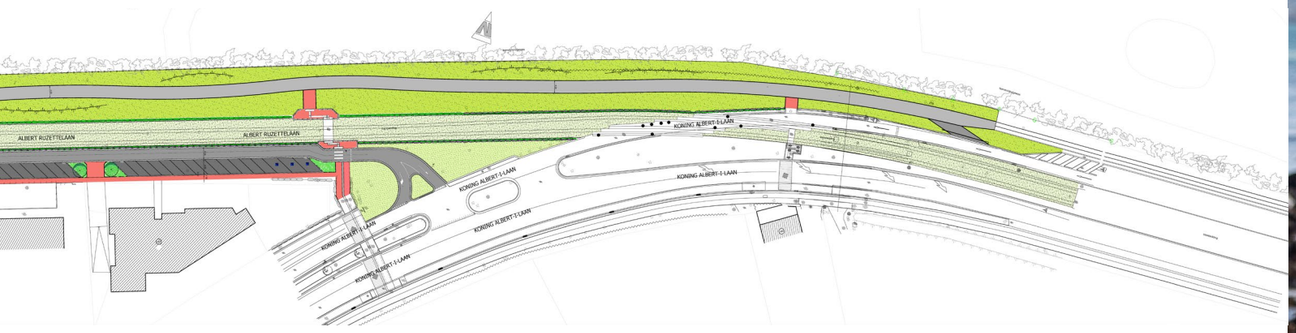
#4

PILOT UPDATES

BLANKENBERGE PILOT

Blankenberge is situated at the Belgian coast between Ostend and Knokke. The town has about 20.000 inhabitants year round and many more in the summer months. The site of the pilot consists of a part of the dunes between Blankenberge and Zeebrugge and also the road adjacent to these dunes.

The pilot concerns the breaking out of the road surface of a part of the road, closest to the dunes. This part contains a sidewalk, a bike lane, a parking lane, the actual road and another parking lane over a total width of 11 meters. After this part is broken up a new bike lane (width : 4 meters) will be realised. The rest of the area will be “given back to nature”. So that the already existing dunes will be able to expand over the broken up part of the road. As such an extra nature based solution, regarding coastal defence, will be created.



CORNWALL PILOT

In early-November 2020, the Environment Agency, Exo Environmental and contractors met at the pilot site in Newlyn to deploy 12 trial reef blocks and complete baseline monitoring. The Newlyn eco-reef is one of several pilot projects being delivered by Sustainable and Resilient Coastal Cities (SARCC which is trialling nature-based solutions to address climate change and sea level rise.

The prototype blocks, each weighing around 75kg, are manufactured from a granitic particulate by-product, sourced from a local quarry stockpile. These will help us to identify optimal surface textures for the reef. Ecological monitoring over the next 12 months will determine colonisation rates and species type. The project, programmed for full construction in summer 2022, aims to use scaled-up blocks within construction of the reef.

Large quarry stockpiles can cause issues with run-off into local streams, so as well as improving local biodiversity, demonstrating a low-carbon approach and helping locally to support circular economy, the blocks should also help to address water quality issues.

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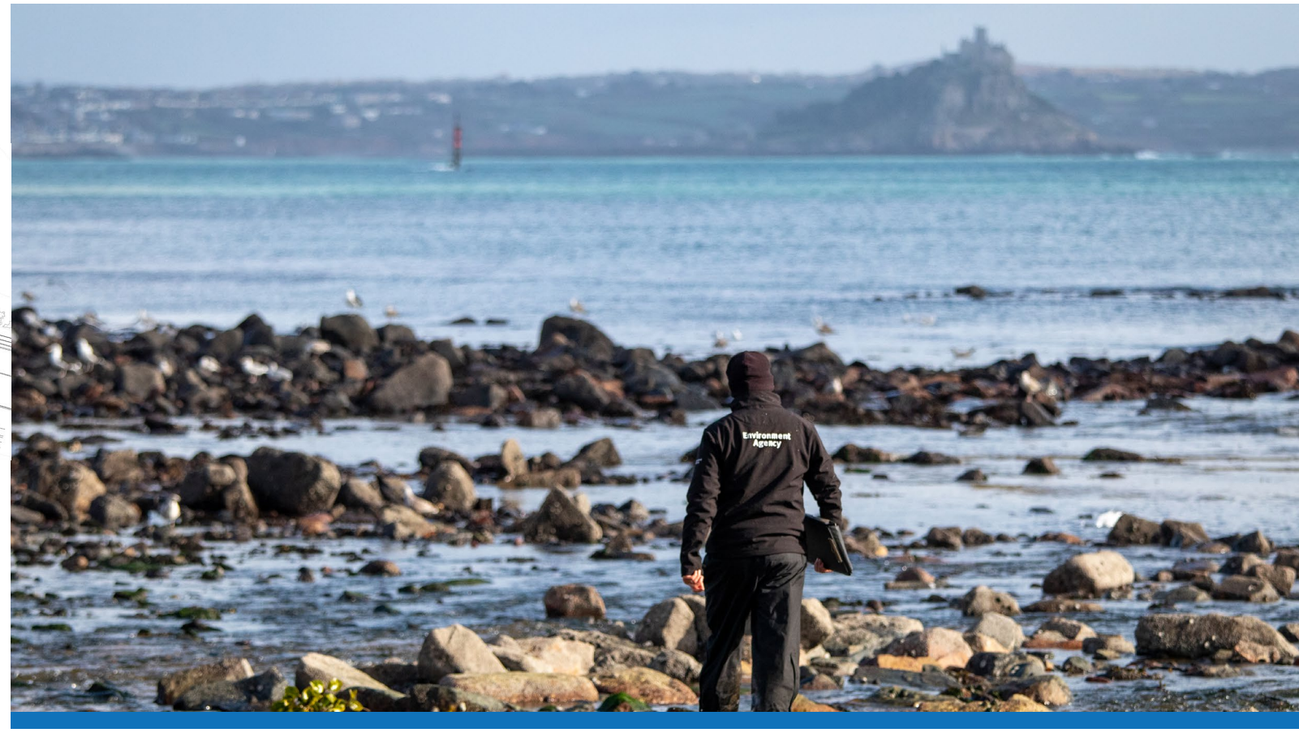


THE SARCC PARTNERSHIP IS PART FUNDED BY THE ERDF AND IS MADE UP OF 14 EUROPEAN PARTNERS

COMMUNICATIONS

WORK PACKAGE 6

The aim of this Work Package (led by Exo Environmental) is to maximise the SARCC project's impact and provide excellent return on investment from the Interreg 2 Seas programme through its communication and dissemination activities. The overall objective of Work Package 6 is to help stakeholders, target groups and key actors across coastal communities situated within the 2 Seas to understand how they can utilise the project outputs to build greater resilience to coastal flood risk by integrating nature-based solutions into urban landscapes and existing flood defences.

Project visibility is being maximised through a strong internal communication plan and an external communication strategy. We are disseminating the project results in the 2 Seas and beyond via external networks, a coordinated events programme and publishing results online through the SARCC website. This will enable coastal urban authorities and communities to benefit from the project long after its closure.

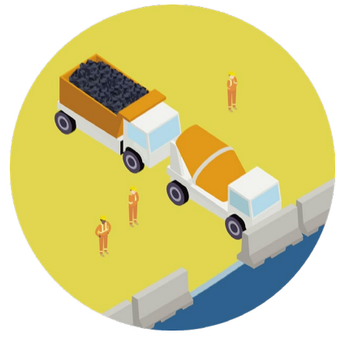
The communication plans and external strategy were put in place in the first couple months of the project and provide a clear path for the SARCC team to follow. The SARCC website is live and the SARCC Twitter & YouTube accounts are steadily growing in engagement.

Along with the SARCC newsletters which are being released twice a year, a number of informative videos are also being produced throughout the duration of the project. These include an 'Introducing Project Partner' video about each partner, helping the viewer understand more about the organisation and their involvement in SARCC. At the end of the project two overview videos will also be created to showcase the results and outputs.

The most recent video release is a short animation. It informs the viewer on what naturebased solutions are and the benefits of using NBS in contrast to hard grey-infrastructure. It also links all SARCC outputs together. The animated video is available online now via the SARCC website or on our SARCC YouTube channel. Give us a follow to stay up to date with new releases, there are some exciting ones coming!

Finally, we will also organise regional seminars and a SARCC closing conference. This is to be held in the final year and will provide an overview of the SARCC project, detailing the outputs and results.

For more information on the SARCC project, head to the SARCC website: www.sarcc.eu. To keep updated make sure to follow us on Twitter: @SARCCeu and sign up to the newsletter mailing list: www.sarcc.eu/newsletters



SARCC 2020 SEMINAR REVIEW

WORK PACKAGE 2

In November the first SARCC-seminar was held. Due to the COVID-19 epidemiological situation this first seminar was held digitally. The was organised by the Flemish Department for Environment, Spatial Planning. A series of pre-recorded video presentations about different themes and subjects was provided. These videos carefully introduced the key concepts to the public. These videos are still online and are a nice informative document for everybody who's interested in coastal nature-based solutions. Check them out here: https://www.sarcc.eu/2020-seminar!

The videos follow a nice timeline: starting with a general explanation about the challenges future climate and coastal change will bring to the coastal cities in our project region. From there we informed the public that coastal environments always have been a dynamic and evolving environment, also explaining the different Nature-Based Solutions (NBS) for coastal protection. These videos and presentations formed a sturdy base to follow the live panel conversation about the need, pros and cons, and other considerations of on the actual day of the seminar (on November 18th 2020).

Both in the videos and the panel conversation we tried to entice the spectators and attendees to look beyond the more obvious "grey" infrastructure solutions, by focussing on the added benefits provided by the different NBS and possible challenges that the implementation of NBS might entail. The panel consisted of:

- Jan Seys (moderator, VLIZ, Flemish Institute for the Sea)
- Bert Van Severen (co-moderator; Department of Environment and Spatial Development)
- Patrick Meire (University of Antwerp)
- Peter Van Besien (MDK – agency for Maritime and coastal services)
- Garry Momber (Maritime Archaeology Trust)

After a short introduction, the panel conversation started. Around 120 people tuned in, showing a big amount of interest in this topic. This discussion was structured around one general theme: How can we cooperate to achieve a climate resilient coastline in Flanders?

Almost every stakeholder knows what the challenges and goals are: climate change leads to rising sea-levels, which necessitates a safe, sustainable and resilient coast, protected against flooding. The question is, how to get there?

Professor Patrick Meire highlighted the way that climate change impacts the Belgian coast, and offered some perspectives on how it can be made more durable and resilient. He also emphasised the need for a systemic approach around NBS.

Garry Momber then stressed the values of a long term perspective on coastal changes. It can show people how significantly coasts can change over the course of time, explaining that they are actually very dynamic processes. At some points we can learn a lot from history; since people worked with nature instead of against it. We should not be afraid of changes.

Peter Van Besien highlighted the main problems of the Belgian coast during storms and how climate change might aggravate some of the existing issues. He explained that NBS could help to tackle a lot of the current issues. He stressed the need for pilot projects to test, but also to show the public how it works. The main adagio of the Agency for Maritime and Coastal Services is: "soft coastal solution wherever possible, hard solutions if needed", since some parts of the coastline (like harbours) are hard to defend via NBS.

After the panel conversation there was some time for some questions from the public. They touched a variety of subjects, ranging from technical questions, public acceptance and possible cooperation possibilities.

Not every question could be answered live so we've recorded them all and these questions will serve as inspiration for a whole bunch of other SARCC seminars and workshops. To be continued!

We hope to see you attending one of the next SARCC-events!

EXO ENVIRONMENTAL

SARCC PROJECT PARTNER 7

Exo Environmental Ltd was founded in 2014 to offer specialist surveying and consultancy services for dredging projects. In the last six years, the scope of our services has dramatically increased, but we pride ourselves on our core values which remain robust. We are committed to never standing still and push innovation in the sector forward. Exo is an active member of the Central Dredging Association (CEDA) and the World Association for Waterborne Transport Infrastructure (PIANC). Furthermore, our various dynamic research projects have led to extensive collaboration with the University of East Anglia, University of Essex, University of Bournemouth, and University of Southampton.

In the dredging sector the key overriding issue is "what to do with" the arising dredged material and how to get a permit or licence. Exo specialises in a number of methodologies for beneficial use of dredged material, including scenarios whereby this material is used to build or reinforce natural flood defences (under the umbrella of nature-based solutions, working with nature and nature inclusive design). This forms one of our contributions to SARCC amongst as explained in detail below.

Using dredged material to restore muddy intertidal areas such as mudflats and saltmarshes is a core expertise. Historically, saltmarshes were abundant on the coast and attenuated wave energy. Globally, over 50%[1] is lost to anthropogenic development and coastal squeeze, jeopardising that critical flood defence function. These so called 'Cinderella' habitats seem desolate but are in fact abundant and diverse in life with a vast array of eco-system-services, hence they are worth restoring.

1. Katrina Davis (2019) Exeter University SWEEP project.

Another area of re-use involves the stabilisation and solidification of dredged material into useful products such as eco-rock armour and windfarm pylon scour-protection reefs. These eco-products offer a circular approach to dredged material, a local and low carbon resource. To improve this technology further, we have developed unique surface textures that enhance the biological colonisation of these artificial structures.

Surfaces for these eco-products have several critical features:

1. Shelter - In order to provide a suitable habitat function, the team has studied micro and macro textures to provide a range of opportunities for organisms to attach to the structure or find shelter.

2. Moisture - Retaining moisture is essentaial to support intertidal organisms. At micro scale, surface features prevent rapid drying out through providing shade and controling temperature, promoting biocolonisation.

3. pH - The pH of the surface should not be excessively high, for example conventional concrete (pH 12) prohibits rapid bio-colonisation.

4. Nutrients - Nutrients from the surface enhance the bio-colonisation and could offer benefits towards rapid colonisation and possibly targeting specific desired species.

Within the SARCC project Exo will continue to develop a set of surface textures that can be utilised to create hybrid-nature based solutions. These solutions can be in the shape of eco-reefs - enhanced hard engineering where conventional nature-based solutions are inadequate (often because of anthropogenic influence).

FEATURED TWEETS

A few tweets from the past few months. Make sure to follow us @SARCCeu and tweet with #SARCC to be featured next time!

@maritimetrust

Southampton, UK

Supporting Heritage Open Day tours at the Mayflower Theatre today. Presenting information on our Sustainable and Resilient Coastal Cities (SARCC) project and the D-Day wall recording. @mayflower @SARCCeu #HeritageWeek #HeritageOpenDays @HeritageFundUK

@SARCCeu

Bert Van Severen and John Bennett (@SouthendBC) conclude the SARCC 2020 Seminar. A massive thank you to the panelists and for all of those who attended!👏
#sarcc #nbs
@Interreg2Seas

@H_vandenberghe

Ghent, Belgium

Would you like to learn more about nature-based solutions that can be used as coastal protection in an urban context? Then sign up for this webinar on 18/11 #NBS #SARCC #SLR

WATCH THE VIDEO
TWITTER.COM/SARCCEU

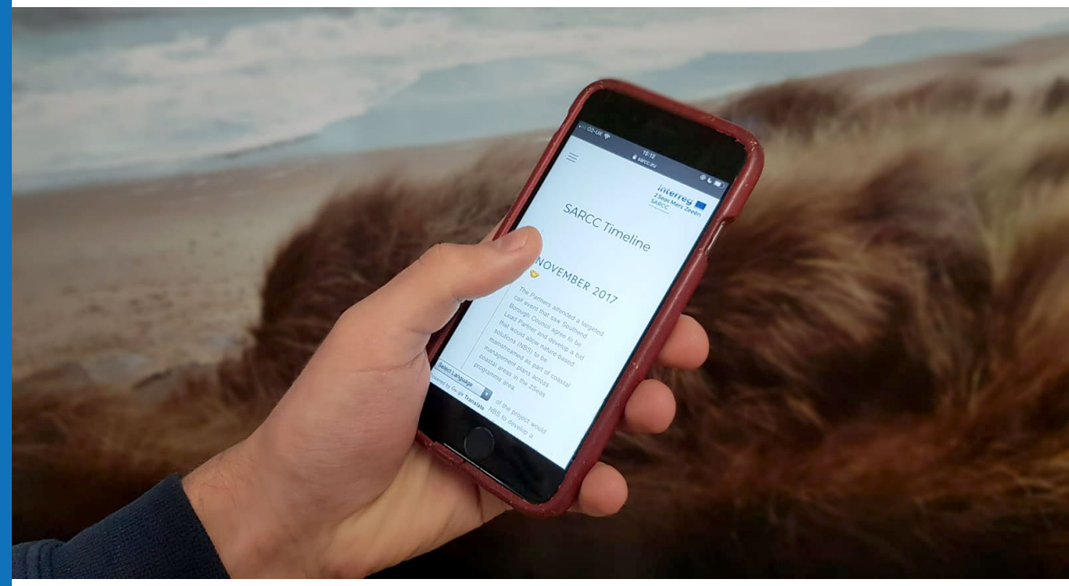
@Exo_Env

Cornwall, UK

#SARCC Nature-Based Solutions work is underway! 🥳
#nbs

SARCC PROJECT END DATE

In response to the delays caused by the Covid-19 pandemic, the SARCC project has officially been extended till 31 March 2023. This extension will allow the pilots work to continue and all of the SARCC outputs to be completed before the project end.



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