PEBL CASE STUDIES

SUBCAM2

Our most widely deployed monitoring tool, offering an affordable solution for extended visual observation of marine environments.

pebl-cic.co.uk/monitoring

CÂR-Y-MÔR

SEAWEED & SHELLFISH AQUACULTURE

carymor.wales

Owen Haines,
Co-founder of Câr-y-Môr

"For over 4 years, we have been using PEBL's marine monitoring tools to transform the way we capture the underwater world"

OBJECTIVES

Câr-y-Môr operates its seaweed and shellfish farms within a highly protected marine area, setting a standard for sustainable aquaculture. Their operations require close monitoring to protect sensitive reef habitats, adhering to their marine license requirement to prevent harm to these critical ecosystems.

SOLUTION

PEBL's SUBCAM2 was deployed to track the movement of marine infrastructure, taking images and video daily during the winter months. Simultaneously, videos captured by SUBCAM2 validated the stability and natural behaviour of the diverse marine species inhabiting the seabed.

BENEFITS

Evidence for regulators

SUBCAM2 allowed Câr-Y-Môr to demonstrate that even in severe storms anchors do not move. This evidence satisfied regulators, supporting an extension to their marine license.

Engage the community

The cameras high resolution images and videos of the diverse species and habitats beneath our seaweed and shellfish farms offer a highly engaging medium through which to demonstrate to stakeholders how our operations co-exist in harmony with nature.

EXO ENGINEERING

MARINE
ECO-ENGINEERING

exo-engineering.co.uk

William Coulet,
MD at Exo Engineering

"PEBL's Subcam provides the clear, critical evidence we need to affirm our structures' resilience to stakeholders during extreme marine events"

OBJECTIVES

Over 16 tonnes of eco-engineered ExoReef units were deployed at East Pickard Bay in the Celtic Sea at a depth of 20m. ExoReef units included articulated mattresses, frond mattress, ExoSpheres, and ExoHedrons which were tested against conventional rock amour and concrete blocks. The goal was to monitor the stability and ecological impact of eco-engineered reef blocks in dynamic marine environments. Objectives included tracking any movement of the structures during storms, assessing their effectiveness in aggregating mobile species, and evaluating the overall health of the surrounding marine ecosystem.

SOLUTION

PEBL's SUBCAM2 was selected for its advanced programmable features and durability under extreme conditions. We strategically mounted six Subcams to various eco-engineered structures. These cameras were positioned to survey the reef blocks, capturing high-resolution imagery and videos over an extended period, even during severe weather events, to monitor their stability and the interaction of marine life.

BENEFITS

Structural Monitoring

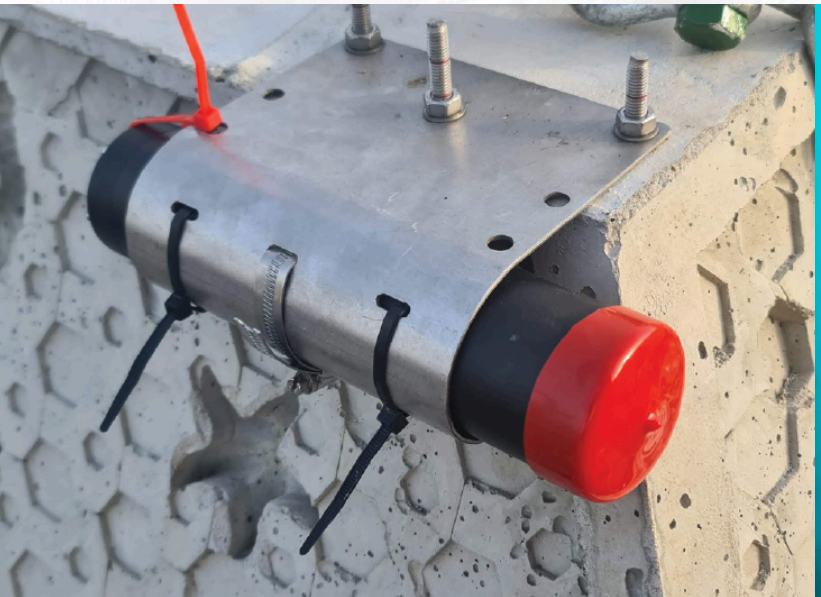
We accurately documented the movement, or lack thereof, of the reef blocks during high-energy storm conditions, ensuring their stability and the safety of marine habitats.

Biodiversity monitoring

Subcams provided clear footage of diverse fish species populating the eco-engineered reefs, aiding in the assessment of the blocks' ecological performance.

Stakeholder Engagement

Prior to this deployment, sharing video evidence of our ExoReef units during severe storms was not feasible. With PEBL's SUBCAM2, we've provided this visual confirmation for the first time, bolstering confidence among stakeholders in the resilience and effectiveness of our eco-engineering approach.



SEA TRUST WALES

MARINE CONSERVATION

seatrust.org.uk

Lloyd Nelmes,
Project Officer at Sea Trust

"SubCam has been pivotal in deepening our insights into the secret lives of sea creatures, helping us bring the hidden wonders to the forefront of conservation education"

OBJECTIVES

Sea Trust aimed to utilise SUBCAM2 to enhance their understanding of marine behaviour within their aquarium settings. Key objectives included:

1. Monitoring long-term behavioural patterns of marine species in captivity to improve welfare and aquarium conditions.
2. Utilising video footage to engage the public, fostering greater interest and involvement in marine conservation.
3. Expanding research capabilities to observe subtle ecological interactions and nocturnal behaviour, often missed during regular observation hours.

SOLUTION

SUBCAM2 provided Sea Trust with a non-intrusive method to observe and record detailed footage of their aquarium inhabitants. The high-resolution cameras were installed to oversee various tanks, enabling continuous monitoring. This enabled the study of intricate details of marine life interactions, behaviours during different times of the day, and the response of species to environmental changes within the tanks.

BENEFITS

Enhanced Animal Welfare

Continuous monitoring led to insights that informed better habitat design and care practices for the aquarium's species.

Public Engagement

Captivating video content from the camera was used to educate visitors and online audiences, increasing public interest in marine conservation.

Research Advancement

SUBCAM2 enabled detailed observation of marine species' behaviours, contributing valuable data to ongoing ecological studies.

Exhibit Improvement

The feedback from observing the animals helped refine and enhance the visitor experience at the Sea Môr Aquarium.