LIFE Recreation ReMEDIES

LIFE Recreation ReMEDIES:

Reducing and **M**itigating **E**rosion and **D**isturbance **I**mpacts aff**E**cting the **S**eabed

LIFE 18 NAT/UK/000039
End of Project Summary Report

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Project Details

PROJECT NAME:
LIFE Recreation **ReMEDIES**: **Re**ducing and **M**itigating **E**rosion and **D**isturbance **I**mpacts aff**E**cting the **S**eabed.

DURATION: July 2019 – Oct 2024

TOTAL COST: The total project expenditure is projected to be € 2,911,930; 60% funded by the European Union and 40% funded by partners.

ReMEDIES is funded by the EU LIFE Programme and led by Natural England in partnership with:

- Marine Conservation Society (MCS)
- Ocean Conservation Trust (OCT)
- Plymouth City Council (PCC)/Tamar Estuaries Consultative Forum (TECF)
- Royal Yachting Association (RYA)

We have also worked closely with other stakeholders including The Wildlife Trusts (Essex, Hampshire and Isle of Wight and Cornwall), Community and Conservation Groups, diving and sailing clubs as well as a host of individuals who've helped make ReMEDIES such a success.

© Tim Ferrero / Hampshire & Isle of Wight Wildlife Trust

Together, our marine conservation partnership aimed to

- ✓ Promote awareness of these shallow sensitive seabed habitats and their importance. This includes maerl beds as well as seagrass.
- ✓ Reduce recreational pressures on these sensitive habitats through education, outreach and targetted training.
- ✓ Restore and protect sensitive habitats.
- ✓ Provide evidence of what works and share lessons learnt.

Introduction

We are leading England's biggest seagrass restoration project.

The South of England is blessed with rich, shallow seas and estuaries that host some of the UK's largest and most vital seagrass meadows. These meadows are critical to our environment's health.

On a healthy seabed, vital habitats like seagrass can flourish. Seagrass habitats provide nursery grounds for young fish – including many commercially important species such as pollock, plaice and herring – offer food and shelter for marine wildlife, help to reduce coastal erosion, clean surrounding seawater and capture and store carbon.

However, these waters are also crucial to the local communities and industries who rely on them for business and recreation. Human activity places immense pressure on these habitats, threatening these delicate seagrass ecosystems.

To address the ongoing health of the seabed, the LIFE Recreation **ReMEDIES** project, co-funded by the EU LIFE programme and led by Natural England, was established.

Alongside our partners Plymouth City Council, the Marine Conservation Society, the Ocean Conservation Trust, the Tamar Estuaries Consultative Forum and the Royal Yachting Association, we employed the latest science and innovation to develop a range of evidence-based strategies to protect and expand these essential marine habitats during this five-year initiative, ensuring our seabed thrives long into the future.

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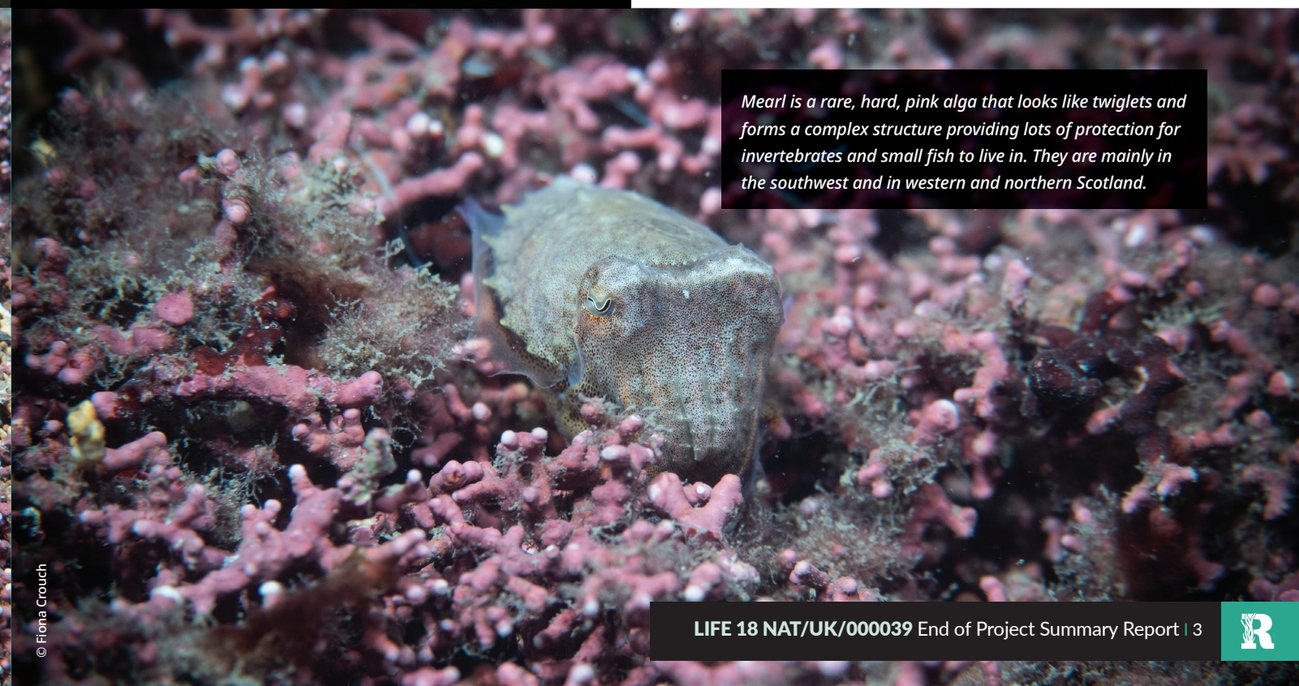

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Mearl is a rare, hard, pink alga that looks like twiglets and forms a complex structure providing lots of protection for invertebrates and small fish to live in. They are mainly in the southwest and in western and northern Scotland.

ESSEX ESTUARIES

SOLENT MARITIME
• Osborne Bay

PLYMOUTH SOUND AND ESTUARIES

FAL AND HELFORD

ISLES OF SCILLY

Why is ReMEDIES Needed?

Humans need clean and healthy oceans. The ocean provides more than 50 percent of our oxygen and is crucial for our survival as a source of food and power. Additionally, the ocean provides incredible health and wellbeing benefits through recreation and leisure activities.

- Large areas of the seabed within the five Special Areas of Conservation of the ReMEDIES project are currently in an unfavourable condition.
- Recreational activities in the ocean are increasing, which can put the pressure on sensitive habitats, like maerl and seagrass.
- Seagrass and Maerl are easily damaged by disturbance from human activities.
- Maerl beds are slow to grow, very fragile and do not recover from damage.
- There has been a significant long-term reduction in seagrass extent and quality for a number of reasons including a wasting disease, poor water quality, climate change and industrial and recreational pressures.

What Is NATURA 2000?

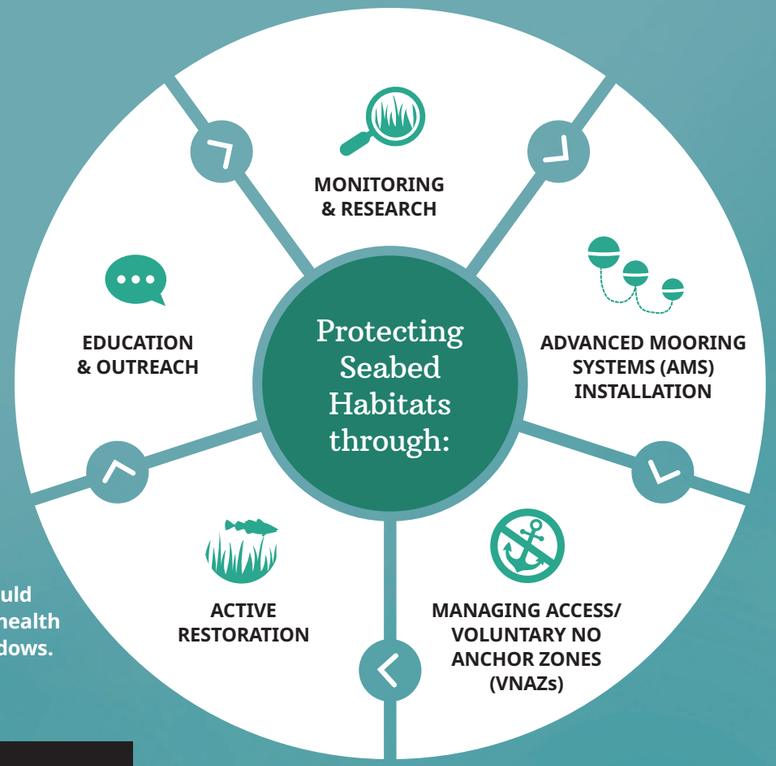
Natura 2000 is a network of protected areas across the European Union, aiming to protect animals, plants and habitats that are endangered, rare or found only in certain areas and which therefore are considered to be of "Community importance." A list of relevant habitats and species is incorporated in European nature law – namely the Habitats Directive and the Birds Directive.

What is a Special Area of Conservation?

Special Areas of Conservation (SACs) are designated under the European Union's Habitats Directive and are in place to protect special habitats and species. A well-managed SACs can have a positive knock-on effect across the whole marine environment. SACs also form part of the Natura 2000 network of EU protected sites and are protected under UK law.

How the Project Started

The ReMEDIES team identified five key strategic areas where it felt it could make a positive contribution to the health of the UK seabed, and seagrass meadows.



MONITORING & RESEARCH

Monitoring included a combination of techniques; such as boat based echosounders, drop down video surveys, and diver surveys.

Echosounders use sonar technology for mapping seagrass beds, while drop down video surveys capture still images for analysis.

The **ReMEDIES** team also engaged Natural England's Scientific Dive Team to conduct detailed surveys in the designated marine SACs. The dive team visited selected sites to:

- Visually inspect seagrass and count the number of plants in key areas, assessing the extent of seagrass coverage.
- Carefully collect seagrass samples for further analysis onshore, evaluating the health of the seagrass.
- Compare current survey data with data from previous surveys in 2018, providing insights into the habitat's ongoing health over time.

These dive surveys were essential for **ReMEDIES** to gain a comprehensive understanding of the health of these habitats and to monitor the impact of project interventions.

Additionally, the project engaged with Seasearch, a national network of volunteer divers who collected general information about the seagrass beds i.e. images and associated species records. This provided additional data and evidence to supplement the project.

A comprehensive behavioural science evaluation was carried out to collect three data sets; familiarisation interviews, impact interviews and an online survey which gathered views from over 250 UK recreational boat users on anchoring and mooring in seagrass areas.

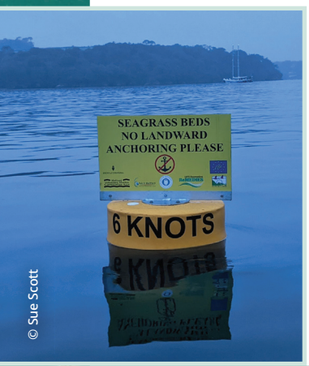
ADVANCED MOORING SYSTEM (AMS) INSTALLATION

One of the greatest challenges to seagrass meadows is the damage done by anchors and chains scouring the seabed. Finding solutions that offered protection to these delicate ecosystems whilst allowing mariners to continue using the affected areas was a priority.


© Google maps

ReMEDIES worked on multiple fronts to address this problem, including installing Advanced Mooring Systems (AMS) in affected areas. These systems allow boats to moor securely without damaging the seagrass by using buoys or bungee-systems to keep heavy chains off the seabed.

ReMEDIES has gathered feedback on experiences of AMS use from both mooring owners and harbour authorities, providing valuable lessons learned. Overall AMS are perceived positively by participants in the project and the newly formed UK wide AMS network will continue to share best practice and learn lessons to ensure this work continues.



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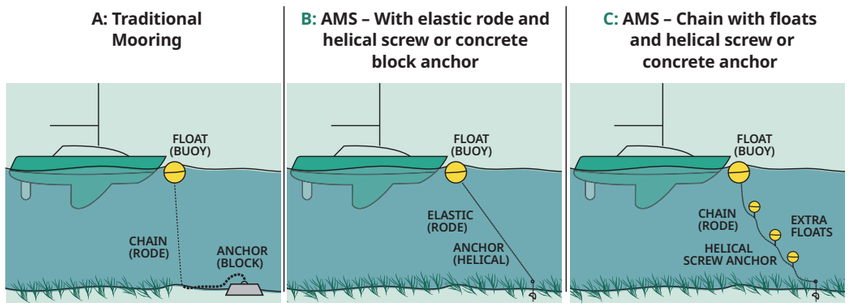

Image based on a graphic by the RYA.

VOLUNTARY NO ANCHOR ZONES (VNAZs)

Engaging and working with boaters was a crucial element of the ReMEDIES project. The data gathered from surveys undertaken with boaters and other water users enabled us to understand their activities, for both work and leisure, and listen to their concerns.

ReMEDIES set up a series of engagement events and discussions where we could help inform local communities about some of the little known, fragile and sensitive marine habitats on their doorstep. We used scientific evidence, data and imagery to explain the importance and need for protection. We worked with these communities to develop **Voluntary No Anchor Zones (VNAZs)**; areas delineated by special buoys that inform boaters of areas of concern, allowing them to make informed choices about where to anchor, in a way that helps to protect the marine environment and habitats around them.

ReMEDIES also launched **The Green Guide to Anchoring and Moorings**; a user-friendly guide to anchoring and mooring best practice, filled with practical advice for boaters to help us improve and protect important seabed habitats.

A first for the Solent: Voluntary No Anchor Zone installed!

Osborne Bay on the Isle of Wight's northeast coast hosts a vital seagrass bed within the Solent Maritime SAC, often visited by locals and tourists by boat. Surveys from July to September revealed that Osborne Bay experiences significantly higher boating pressure than other areas, with 5.3, 8.5, and 9 boats on average anchoring per hour in 2021, 2022, and 2023, respectively.

To protect the seagrass, a Voluntary No Anchor Zone (VNAZ) was introduced, modelled after successful implementations in Plymouth Sound and Fal & Helford SACs. Community consultations showed strong support. The installation of eight marker buoys was successful, marking the first VNAZ in the Solent Maritime SAC. Ongoing monitoring will evaluate its effectiveness in protecting seagrass habitats.


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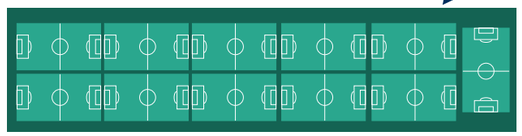
Background image © Michiel Vos / Ocean Image Bank

ACTIVE RESTORATION

Active restoration was key to the project, using modern technology and innovative scientific methods to plant 8 hectares (ha) of seagrass across key sites.

- 700 Volunteers in Plymouth, Portsmouth and Southampton from the National Oceanography Centre, members of the public and students from the University of Plymouth and City College Plymouth, packed over 60,000 biodegradable hessian seed bags ready to plant, 40,000 deployed into Plymouth Restoration Site and 20,000 Solent Restoration Site.
- Divers collected seagrass seeds from the seabed. The seeds were then cleaned and grown inside a state-of-the-art lab into new seagrass "pillows". These pillows were then re-planted back into the ocean, extending seagrass meadows and transforming the health of these habitats.
- A specially developed seed injection gun was used to plant seeds directly in the seabed.


8 HECTARES IS ABOUT 11 FOOTBALL FIELDS!


© Ocean Conservation Trust
Deploying plants from the lab


© Keith Hiscock
Monitoring seagrass


© Ocean Conservation Trust
ReMEDIES Seagrass Lab

EDUCATION & OUTREACH

Education, awareness, and outreach were central to the ReMEDIES project, forming a crucial part of our long-term strategy for healthier marine environments. Engaging with over 29,000 people including local communities, schools, water users, and citizen scientists, we aimed to educate the public about vital marine habitats and inspire action to help them thrive.

Recreational activity surveys, engagement events, and discussion panels with local water users allowed us to collect data, build relationships, and develop effective strategies. These interactions also served to inform the public about the importance of our seabed habitats, the threats they face, and **ReMEDIES'** efforts to restore them. Interpretation panels at key locations further informed visitors, while also enabling us to monitor public engagement through analysis of QR code data.


© Jules Webber / Natural England

Sustained engagement! Embedding skills and changing ocean values

An education program by the Ocean Conservation Trust, supported by the Marine Conservation Society and RYA, was designed to enhance understanding of sensitive seabed habitats and promote "ocean literacy." The program included public events, six roadshows at boating/sailing clubs, education fairs, and an annual school programme aimed at reaching 900 children through in-school activities and digital lessons.

Participants engaged in workshops and water connection experiences, such as rock pooling, snorkel safaris, aquarium visits, and try dives. Sustained engagements included multiple workshops over several weeks or months, often linked to a project challenge. This approach cultivates genuine interest, active engagement, and a sense of community, promoting enduring learning outcomes and a lasting connection to ocean conservation.

ReMEDIES *engaged over 29,000 across 560+ outreach events (including boat clubs & shows, dive clubs, events, schools and home educator community sessions)!*

National and International Coverage, and Awareness Raising

In addition to leading the way in scientific monitoring, restoration and local community outreach, raising public awareness of seagrass and marine habitats, nationally and internationally, was a key aim for the ReMEDIES project.

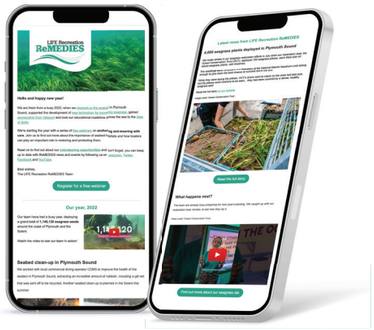
Over the five-year life of the project, **ReMEDIES** was able to educate, inform and deliver its core message far and wide, through print, TV, radio and social media. Highlights of our press and communications campaigning include:

- Over 35 print and online media articles including **The Daily Telegraph**, **Scuba Diver Magazine** and **The Ecologist**.
- TV appearances on primetime shows like **BBC Countryfile** and **ITV West Country**.
- Radio interviews with major stations across the country including **BBC Radio Cornwall**, **BBC Radio Sheffield** and **Greatest Hits Radio**.
- Podcast interviews on popular podcasts like **BBC Five Live Science** and **For What It's Earth**.
- Engaged with the **European Scientific Diving Community**, **the World Seagrass Symposium in Napoli** and the **UN Turkish Delegation visiting Plymouth**.
- Academic publication in journals like **Conservation Land Management**.
- Eye catching short films including *Underwater Heroes* with **The Eden Project** and our own end of project video production for the **LIFE Recreation ReMEDIES** project.
- Consistent social media output across major social platforms like Instagram and Facebook, e.g. World Seagrass Day and Seagrass Awareness Month.

OUTREACH:

- The ReMEDIES website was viewed 50,000 times by people from all over the world.

- Our social media platforms grew a following of over 2,800 marine enthusiasts internationally.



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Key Achievements

17 AMS for boats installed and 24 markers	3 Voluntary No Anchor Zones established	Over 10 Infographic Panels installed at all sites	8HA AREA 8ha of subtidal seagrass planted	Innovative lab-based seagrass seed planting methods trialled
PLANTING METHODS 3 Innovative seagrass seed planting methods trialled sub-tidally	THE GREEN GUIDE Launch of The Green Guide to Anchoring and Moorings filled with practical advice for boaters	Education programme for schools and outdoor events developed	GOOD PRACTICE GUIDE Seagrass Restoration Good Practice Guide written and accessible	AMS AMS Lessons Learned and Good Practice, guide written and accessible

Background image © Michiel Vos / Ocean Image Bank

Long Term Benefits

The work done by ReMEDIES has paved the way for a brighter future for the UK's seabed.

The project will enable an analysis of the condition of seagrass habitats in the five designated areas, and a thorough understanding of the needs and wishes of the local communities around them. This will pave the way for evidence-driven solutions that enable greater awareness and protection of these important habitats whilst educating and involving local water users, enabling them to make better informed choices about where to anchor their boats and establishing safer practices for mooring.

Marine licences for AMS installation and seagrass planting have been secured through the Marine Management Organisation. This highlighted the challenges marine restoration projects face to secure licences and enabled lessons to be learnt for future projects.

Multiple new scientific techniques were trialled in the growing and planting of harvested seeds and seagrass. This helped to expand and restore seagrass meadows across multiple sites and continued monitoring provided invaluable data and evidence for future condition assessment and management decisions. There is a growing appetite for seagrass and marine habitat restoration nationally and internationally so sharing the **ReMEDIES** learning will ensure an invaluable, lasting legacy.

Following two successful ReMEDIES Advanced Mooring Systems workshops in Plymouth and Southampton, six weekly meetings to catch up on AMS developments has now evolved into a network of over 40 representatives across the UK from NGOs, public authorities, harbour authorities to sailing clubs involved in specific trials or interested in AMS and management tools relating to anchoring and mooring. The purpose of the network is to share lessons, advice and experience and has helped support and develop further trials outside ReMEDIES areas. This includes projects in Portland, Strangford Lough and the Isle of Wight.

The project was also successful in highlighting the importance of a healthy seabed and raising the profile of seagrass locally, nationally and internationally. We engaged with the public on multiple fronts to educate, inform and inspire a greater appreciation for, and understanding of, these vital marine habitats and the species that depend on them.

© Angie Gall / Natural England

The Future

The project made great strides in the understanding, preservation and restoration of vital marine habitats, and identified areas for future research and improvement.

Protocols for establishing and implementing Voluntary No Anchor Zones and Advanced Mooring Systems can be continually refined and improved as a result of the trials undertaken and data collected. There is no doubt this work is challenging, but working in partnership, sharing best practice and lessons learnt will ensure that others can navigate difficulties encountered during the project and ensure resources are maximised.

Continued outreach to local communities and the public will allow for a greater understanding about these habitats and the need to protect them. Formal education in schools and workshops could help sow the seeds for a comprehensive understanding of these habitats. This would help foster a global community dedicated to the protection and restoration of these vital marine ecosystems and inspire a new generation of conservationists and citizen scientists.

The results will be shared in the End of Project Conference and reports published via the Save Our Seabed website. There is also a longer-term plan which will build on the success of the project, ensuring these habitats continue to flourish for future generations.

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Background image © Lewis Jefferies

Special Thanks to Everyone Involved

LIFE Recreation ReMEDIES is funded by the EU LIFE Programme and led by Natural England in partnership with:

Marine Conservation Society is working to solve the climate crisis, protect marine wildlife and clean up our oceans. It takes an all-encompassing approach to conservation by combining scientific research, advocacy, education, and community engagement to protect marine ecosystems and promote sustainable management of marine resources.

Ocean Conservation Trust inspires ocean advocacy by connecting people with nature. Their team of marine biologists, educators, and divers focuses on behaviour change and habitat restoration, using an optimistic, solutions-based approach. They create accessible, inclusive ocean experiences designed to foster a love for the sea and encourage its protection. Through these efforts, the Trust aims to inspire positive action and ensure the long-term health of vital ocean habitats.

Plymouth City Council is a member of the **Tamar Estuaries Consultative Forum**, a partnership of organisations responsible for managing the Plymouth Sound and Estuaries Marine Protected Area (MPA), including a strategic marine recreational scheme. This MPA is internationally important, home to a stunning diversity of wildlife, and enriched by the culture that has developed around it.

Royal Yachting Association is the national body for dinghy, yacht and motor cruising, all forms of sail racing, RIBs and sports boats, windsurfing and personal watercraft and a leading representative for inland waterways cruising. **The Green Blue**, the environmental outreach programme for the Royal Yachting Association, brings over a decade of experience in environmental sustainability within the leisure boating sector.

SPONSORS

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VOLUNTEERS AND SEAGRASS HEROES

Essex ReMEDIES volunteers:
Alan Minister
Jan Phenix
Karen Davies
Kevin Imbush
Martin Barsley
Safa Daud
Stephen Barnes
Suki Swindale

Also:
Sue Scott Cornwall Council
All recreational impact surveyors from Essex Wildlife Trust
Vicki Spooner Falmouth Harbour
Falmouth Marine Conservation Group volunteers
Tim Ferrero Hampshire and Isle of Wight Wildlife Trust
Helford Marine Conservation Group volunteers
All the volunteers who contributed to the Recreational Activity Surveys coordinated by the Hampshire and Isle of Wight Wildlife Trust
Sue Hawley Isle of Wight Estuaries Officer

Rhys Madden UKRI Policy Internship Scheme
Dave Curno RYA / The Green Blue's South-West volunteer
Ann Johnson St Lawrence surveyor and event helper
Gilly Terkelsen Stone Sailing Club
Simon Wakefield Stone Sailing Club
Ian Marwood Tollesbury Climate Partnership
Phil Manning Tollesbury Climate Partnership
MCS Sea Champions and Seasearch divers
OCT volunteer divers and seed bag packers

LIFE Recreation ReMEDIES

More information at:
Scan here or visit

SaveOurSeabed.co.uk

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Working in partnership with:

NATURAL ENGLAND · RYA · THE GREEN BLUE · MARINE CONSERVATION SOCIETY · ocean conservation trust · PLYMOUTH CITY COUNCIL · TAMAR ESTUARIES CONSULTATIVE FORUM · Co-funded by the European Union · NATURA 2000

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