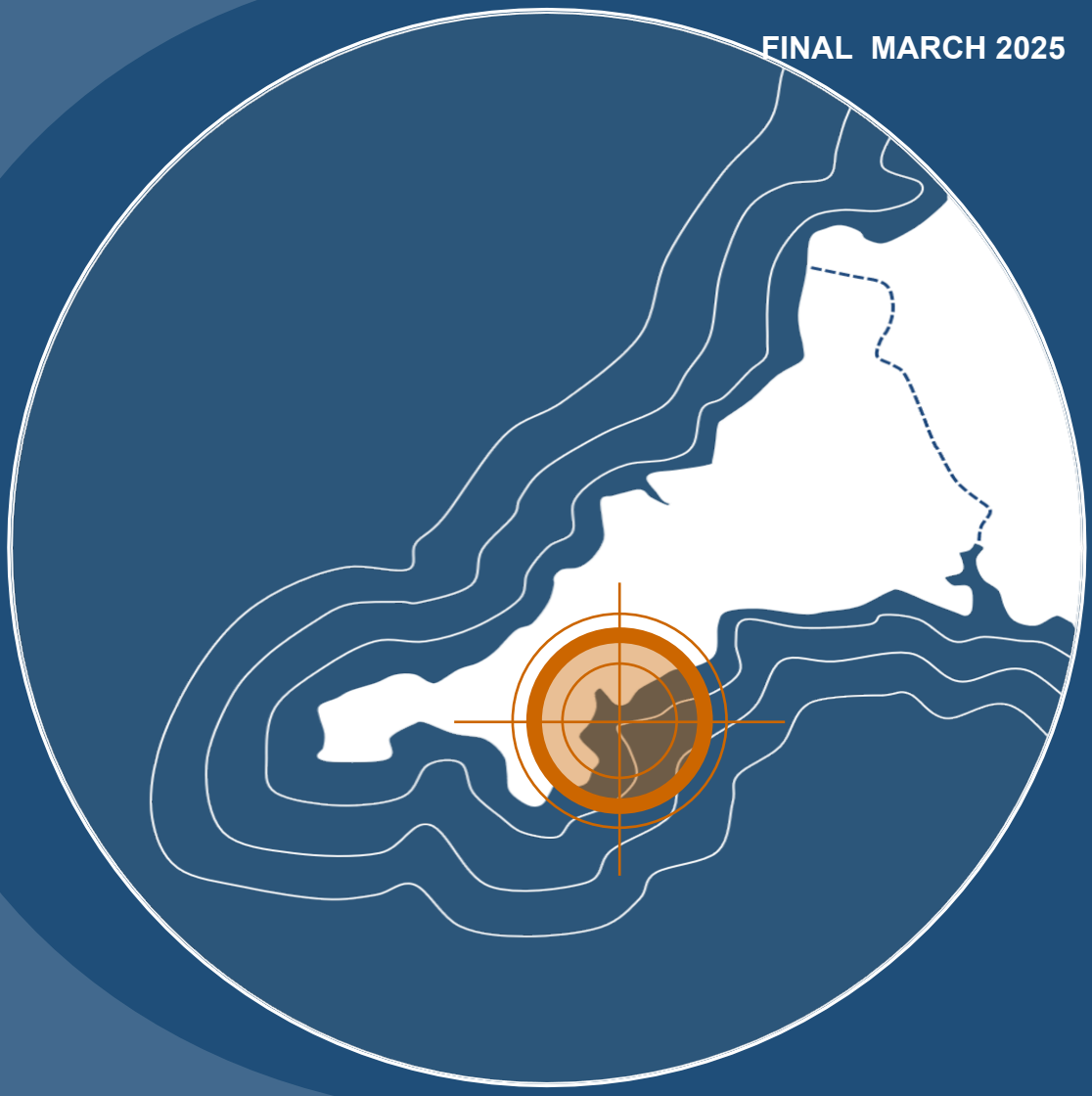
FAL AND HELFORD MARINE NATURE RECOVERY

ACTION PLAN

FINAL MARCH 2025



March 2025
Version: Final v5

Cornwall Catchment Partnership

Kaja Curry CONSULTING & SERVICES

Cornwall Wildlife Trust

NATURAL ENGLAND

Cornwall & Isles of Scilly Marine & Coastal Partnership

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Environment Agency

This project was funded by the Environment Agency's Water Environment Improvement Fund

PREFACE

This report is an output for Year 3 of the project entitled "Coordinating Cornwall's Coastal Recovery: coast and marine nature recovery action plans to achieve 30 by 30" project which ran from October 2024 - March 2025.

The partnership taking this phase of the work forward is hosted by Cornwall Wildlife Trust and includes Cornwall Council, Cornwall Catchment Partnership, Environment Agency, and Natural England. The project is funded through the Environment Agency's Water Environment Improvement Fund under the banner of 'Championing Coastal Collaboration' (3Cs).

The work has been carried out through Kaja Curry Consulting and Services for Cornwall Wildlife Trust. kajacurry@gmail.com

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All reports are available at:

https://www.cornwallwildlifetrust.org.uk/what-we-do/our-conservation-work/at-sea/coastal-partnerships

EXECUTIVE SUMMARY

This report sets out an Action Plan for marine nature recovery in the Fal and Helford, bringing together the work undertaken in previous year, to build a cohesive document. It includes summaries of the designated features and looks at the key drivers and pressures that are influencing the waters of the study area.

Opportunities have been identified and prioritised with the full involvement of local stakeholders, and are set out here under eleven headings with links to the relevant ecosystem benefits.

Finally, issues around implementation are explored with particular focus on marine licensing and consents and recommendations are made on management.

Throughout the document, there are strong links to the Cornwall and Isles of Scilly Marine Nature Recovery Framework and associated Local Nature Recovery Strategy.

This Action Plan is not a statutory document and there is therefore no legal requirement to deliver anything within it. Implementation is therefore going to rely on good will; the ability of the key partners giving their time willingly to coordinate their actions and to work together through partnerships and of course the availability of funding and grants. As such, the projects are expected to come forward on an opportunistic basis. It is hoped that this is the first step to achieve integrated marine recovery of some of our key habitats and features within the Fal and Helford marine and coastal area.

ACKNOWLEDGEMENTS

Gratitude must be expressed to the many colleagues and individuals who contributed to this work, particularly Victoria Spooner of Fal Harbour, Sue Scott of Cornwall Council, Jade Neville of Cornwall Wildlife Trust, Jenny Wright of Cornwall and Isles of Scilly Marine and Coastal Partnership and Abigail Crosby of Cornwall Council.

The work would not have been possible without the input of the Cornwall 3Cs Steering Groups, who in addition to those mentioned above also include Miles Carden, Claire Eatock, Philippa Hoskin, Lisa Goodall, Simon Jeffery, Justin Ridgewell, Robyn Samuel, Kate Sugar, Kenza Thomas, Ruth Williams and Dan Barrios-O'Neill.

Thanks also go to the many people who took part in the workshops, who brought their expertise and gave their time willingly to help prioritise the actions, to give guidance and advice so freely and generously They are Katie Bellman, Jess Churchill-Bissett, Meg Hayward-Smith, Mike Pereir, Patrick Polglase and Matt Slater.

Thanks must also be made to Tara Hooper, of Natural England for her assistance with the natural capital services section.

This report supplements the Cornwall and Isles of Scilly Marine Nature Recovery Framework, due to be finalised in 2025, which will include a summary of what is presented here.

ABBREVIATIONS

C&IoSMCP	Cornwall & Isles of Scilly Marine & Coastal Partnership
C3Cs	Cornwall 3 Cs Project
CC	Cornwall Council
CCP	Cornwall Catchment Partnership
CWT	Cornwall Wildlife Trust
DoC	Duchy of Cornwall
EA	Environment Agency
ERCCIS	Environmental Records Centre for Cornwall and the Isles of Scilly
FASS	Fisheries and Seafood Scheme
F&HEO	Fal and Helford Estuaries Officer
FMG	Falmouth Marine Group
GIS	Geographical Information Systems
IFCA	Inshore Fisheries and Conservation Authority
LNRS	Local Nature Recovery Strategy
MCZ	Marine Conservation Zone
MNRF	Marine Nature Recovery Framework
MPA	Marine Protected Area
MMO	Marine Management Organisation
mNCEA	Marine Natural Capital and Ecosystem Assessment (project)
NE	Natural England
Nm	Nautical miles
PSS	Protected Site Strategy
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SWW	South West Water

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1 PREFACE

This report has been prepared by Kaja Curry of Kaja Curry Consulting and Services on behalf of the Cornwall 3Cs Project with funding from the Environment Agency's Water Environment Improvement Fund under the banner of 'Championing Coastal Collaboration (3Cs)', and was carried out through a partnership of Cornwall Wildlife Trust, Cornwall Council, Cornwall Catchment Partnership, Environment Agency, Natural England and the newly established Cornwall and Isles of Scilly Marine and Coastal Partnership.

The focus of the 3Cs work overall is to improve coordination for coastal sustainability and resilience in England, addressing the significant challenges facing coastal and estuarine environments.

Coastal areas are highly interconnected, featuring diverse landscapes, complex ownership, and governance structures. Managing these environments presents unique challenges compared to inland areas, with multiple public and private sector interests contributing to complex planning and decision-making.

Coastal communities are at the forefront of climate change, facing increasing risks from storms, sea-level rise, and coastal change. Growing pressures from development—including housing, ports, and recreational infrastructure—intensify competition for space, leading to coastal squeeze, habitat loss, and environmental stress. Without careful management, public access, ecosystem health, and biodiversity could be compromised.

England's estuaries and coasts hold valuable natural capital assets, delivering essential ecosystem services that support both the economy and societal well-being. Restoring and protecting these habitats provides ecosystem resilience to climate change, including carbon sequestration, flood mitigation, and biodiversity enhancement, ensuring a more resilient future for coastal environments.

The Fal and Helford was selected as a study area to investigate how the multiple stakeholders might work together to identify a marine nature recovery action plan that would sit alongside the framework being prepared at county level incorporating Cornwall and the Isles of Scilly.

This Fal and Helford Marine Nature Recovery Action Plan outlines the priorities identified by the key stakeholders. Such is the nature of the work that it is likely to constantly evolve from this point forward and further work is required to develop these projects and priorities identified here.

2 BACKGROUND

2.1 Definitions of marine nature recovery

Marine nature recovery is a key feature of the UK Government's 25 Year Environment Plan that was published in 2018 (H M Government, 2018). Legally binding, specific targets for Marine Protected Areas were later developed through the Environmental Targets (Marine Protected Areas) (England) Regulations 2022 following the Environment Act 2021. These targets require the restoration of 70% of designated features in MPAs to be in favourable condition by 2042, with the rest in recovering condition. This goal is further strengthened in the Environment Improvement Plan (EIP) (DEFRA, 2023) which commits the government to "*restore 15% of our priority habitats along the English coast by 2043".*

On land, nature recovery is addressed through the *Local Nature Recovery* Strategies, which are statutory documents that set out to map, plan and prioritise local action through investment using a clearly defined process. However, in the marine area, a different approach is required, due to the complexity of the marine environment, and particularly due to the high degree of connectivity between the habitats, the lack of visibility and data for these marine and coastal systems, and habitat restoration challenges due to uncertain impacts of wave action, sediment shifts and climate change. Human pressures are also more complex with activities on land impacting the waters through runoff and many activities taking place in areas at the same time, or distanced by tide or time of year. Finally, governance and regulation in these areas means that collaboration and partnership working is required.

There are, few definitions of marine nature recovery, but one was developed for Cornwall in 2021:

> ***Marine nature recovery*** *is needed to reverse past declines in wildlife and habitats and bring our seas back to life, so that they are healthy and thriving now and into the future for people, climate and nature. To rebuild the marine life-support systems that deliver the many benefits that society receives from a healthy ocean we need urgent action. This includes:*
>
> - *A growing and resilient MPA network designated and managed for nature conservation, including some Highly Protected Marine Areas.*
> - *Habitat restoration and creation within and outside the MPA network to help restore ecological processes and to connect marine wildlife populations.*
> - *Building resilience to climate change, including acting to protect, restore and expand vital 'blue carbon' assets and the ecosystem services that they provide.*
> - *Enabling people to enjoy, understand and connect with nature at sea, benefitting health and wellbeing.*

(Christie et al., 2021).

These principles were therefore followed in prioritising marine restoration within the Fal and Helford, and mean that both active and passive restoration are included.

Active marine restoration involves direct intervention, like seagrass planting or breeding and introducing oyster spat, to accelerate recovery. Passive restoration removes pressures, such as reducing pollution or restricting anchoring, allowing ecosystems to heal naturally. In the Fal and Helford, both approaches are needed; namely protecting maerl beds whilst also actively restoring seagrass and oysters together ensures long-term biodiversity and habitat resilience.

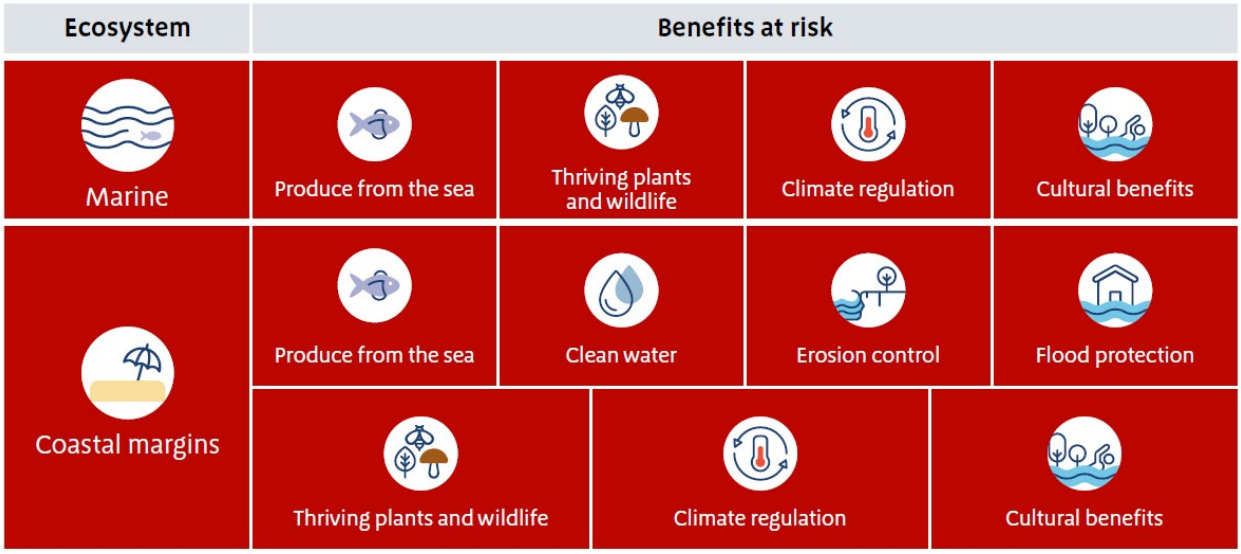
Moreover, public engagement and awareness-raising play a crucial role in marine restoration. These efforts aim to change behaviours and enhance understanding of how human activities can harm habitats and species, while also highlighting how adopting more sustainable practices can mitigate these impacts.

2.2 Ecosystem services and benefits

The marine environment (the ecoystem, or natural capital assets) of the Fal and Helford provide essential environmental, economic, and social benefits. These assets provide multiple benefits to society and individuals. They include things such as food, clean air and water, the reduction of flood risk, and our mental and physical health (Lusardi et al., 2024)

There are many ways to classify the services and benefits, and the words used are constantly changing as efforts are made to make them easier to understand. In 2024 Natural England changed its definitions from their previous standard and describe this in their recent document on the state of natural capital in England (Lusardi et al., 2024). However, these are slightly different from those used for their Natural Capital Atlas for Cornwall and Isles of Scilly (Natural England, 2021a) and the unpublished Natural England work on the Cornwall case study of the marine ecosystem services. Using both approaches, the ecosystem benefits using the new system is shown in Table 1. The icons are taken from Natural England's 2024 report (Lusardi et al., 2024) These ecosystem assets can only provide the benefits if they are in good condition and in this recent report, they found that all were at the highest risk level.

Figure 1: Summary of ecosystems and benefits at the highest risk (Source Lusardi et al., 2024)



Different components of the marine environment provide different levels of the benefits listed above. So, for example rocky reef habitat might provide seafood given the fish that this habitat supports as well as coastal protection whilst seagrass beds provide many benefits including fish, water quality, coastal protection and regulating climate change through its absorption of carbon. The levels of benefits provided by the environmental components are explored in the next chapter.

Table 1: Descriptions of ecosystem benefits from Fal and Helford

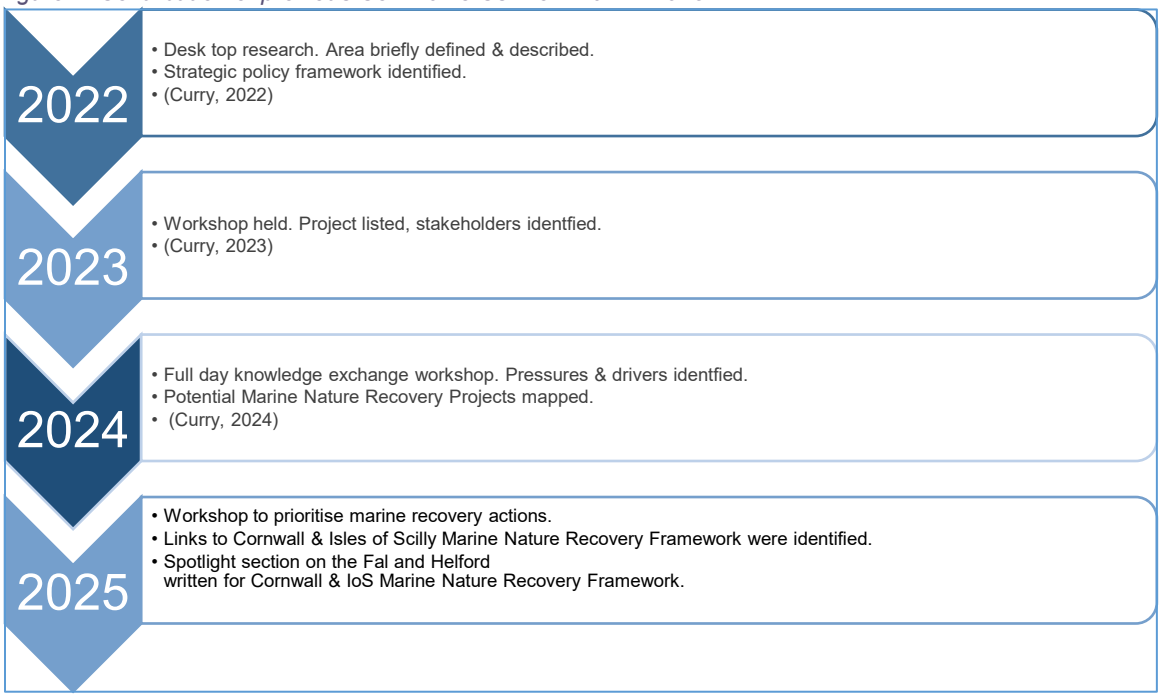
Icon	**Benefit** (Lusardi 2024)	**Benefit** (Natural England, 2021a)	**Description**
	Produce from the sea	Wild seafood	Products from the sea e.g. fish, shellfish and seaweed for food, fertiliser, angling bait, medicines.
	Aquaculture	-	Products from aquaculture e.g. fish, shellfish and seaweed for food, fertiliser, angling bait, medicines.
	Clean water	Water quality	Clean water, also underpinning e.g. water supply, sustainable ecosystems, cultural services, health benefits.
	Erosion control	Erosion control	Slowing of the erosion of land, soil, and coastal areas e.g. vegetation preventing soil erosion, salt marshes protecting sea walls.
	Flood protection	Coastal & flood protection	Reduced flood risk due to ecosystems e.g. slowing flows, increasing water infiltration, sand dunes as barriers to coastal flooding.
	Thriving plants and wildlife	Biodiversity - thriving plants and wildlife	Biodiversity, in its own right, and underpinning all other benefits. (Also contributes to pest and disease control).

	Climate regulation	Climate regulation	Natural carbon stores and sinks contributing to reducing greenhouse gas emissions.
	Cultural benefits	Wildlife watching	The many ways our interactions with the natural environment enrich our lives e.g. through outdoor activities, creativity, learning, or just our personal connection with the places we frequent.
		Aesthetics	

2.3 Methodology

This work builds on the work previously undertaken through the Cornwall 3Cs Project during the period 2022 – 2025 as shown in Figure 2. This consists of a mixture of desk-top research, discussions, and participative workshops. Throughout the document the key elements from the previous work have been appended where appropriate and the full documents can also be found online through the links provided in the References chapter.

Figure 2: Contribution of previous Cornwall 3 Cs Work 2022 - 2025



2.4 The process

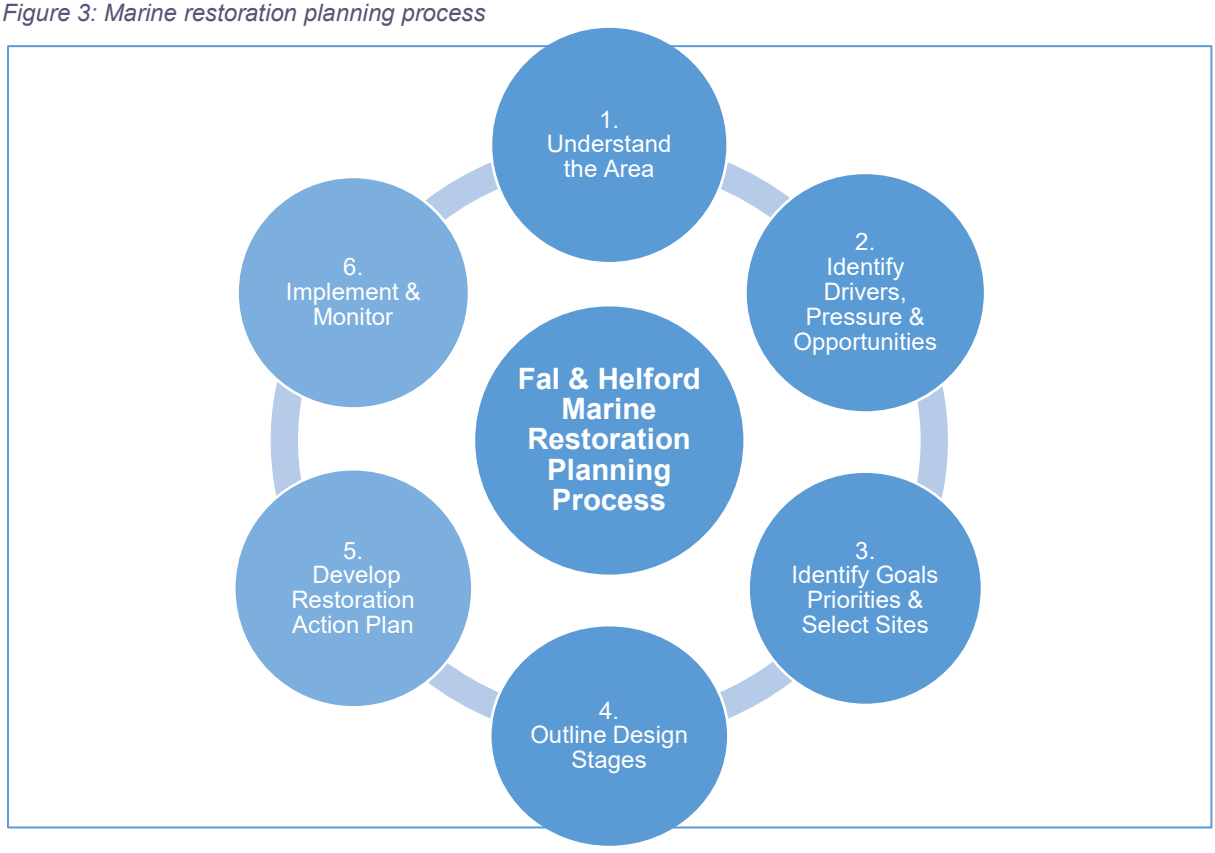
The Fal and Helford Outline Marine Nature Recovery Action Plan [from now on referred to simply as the "Action Plan"] has been written to support coastal and marine managers, together with their stakeholders, in further developing the priority restoration projects for the Fal and Helford. The methodology used for this has been developed following reference to a number of documents, and in particular (Gamble et al., 2021; Natural England, 2021b; Preston et al., 2020;

US EPA, 2022) This report describes the four key steps taken to create this Outline Marine Nature Recovery Action Plan shown in Figure 3. The four planning steps followed for this Action Plan have been:

- *Step 1:* **Understand Area**
- *Step 2:* **Identify Pressures, Drivers, and Opportunities**
- *Step 3:* **Identify Priorities, Goals and Select Sites**
- *Step 4:* **Identify, Design and Select Interventions**

Steps 5 and 6 are outside the scope of this document and will require further work.

Figure 3: Marine restoration planning process



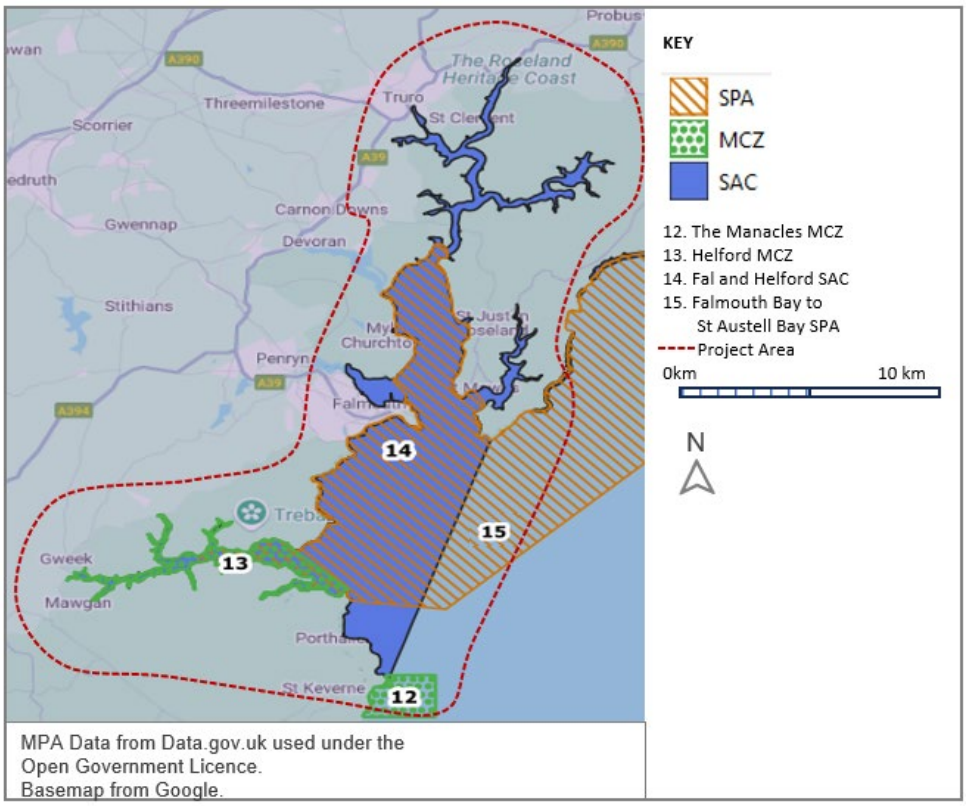
It should be noted that these steps are iterative and can inform each other, and so it may well be that they need to be revisited later. Steps 1 and 2 incorporates work undertaken as part of previous years Cornwall 3Cs activities.

3 UNDERSTANDING THE GEOGRAPHIC AREA

3.1 The environment

The study area includes the waters of the Fal and Helford, extending to tidal limit, and parts of Falmouth Bay as shown in Figure 4 below.

Figure 4: Map of Project Area



The waters of the Fal and Helford are exceptionally rich in biodiversity, with 589 species recorded which represent 28% of all Seasearch recorded UK Species, and even this is likely to represent a fraction of the true diversity of the area. Within the Fal and Helford SAC, ERCCIS records show 213 species of conservation concern (i.e. nationally scarce or protected species)[1] which includes:

- 107 marine birds
- 22 bony fish
- 7 cartilaginous fish
- 12 algae
- 8 crustaceans
- 5 brown seaweeds
- 13 cnidarians
- 17 molluscs
- 17 marine mammals

[1] Source Cornwall Wildlife Trust / Seasearch.

The distribution of species and habitats across the area varies depending on exposure levels, ranging from extremely sheltered mudflats in the upper Fal to more exposed rocky shores near the mouth of the Helford. The region's south-westerly location, combined with warming sea temperatures, allows species typically found in more southerly waters to thrive—such as the Gaudy Babakina seaslug (*Babakina anadoni*).

The upper reaches of the Fal and Helford are fringed with intertidal sandflats and mudflats, which are vital for sediment-dwelling species. These areas support a diverse array of invertebrates and bird populations. Rare Atlantic salt meadows can also be found in the upper estuaries, transitioning from mudflats into ancient deciduous woodland, as seen at Ruan Creek and Calenick Creek on the Fal, and Mawgan Creek on the Helford. These salt marshes provide crucial habitats for polychaete worms, crustaceans, and bivalves, while their open edges serve as nursery areas for fish such as young bass. They are also vital feeding, roosting, and nesting grounds for wading birds and act as natural sea defences.

Further down, in the lower Fal and Falmouth Bay, extensive beds of maerl, blue mussels, and seagrass create complex ecosystems that support species such as juvenile bass, cuttlefish, and thornback rays. Rocky reefs in the area host the nationally important pink sea fan (*Eunicella verrucosa*) and thriving kelp forests, which play a key role in nearshore marine productivity. Native oysters are still found in the area north of the North Bank Buoy and potentially in the Penryn River.

Maerl is of particular interest, as it is the most biodiverse benthic habitat in temperate shelf seas, supporting an estimated 2,000 species of small benthic invertebrates (meiofauna) alone across its range in northern European waters (Grall & Hall-Spencer, 2025).

The Fal and Helford are also significant for marine birds. The area is the most southerly site in the UK for the Great Northern Diver (*Gavia immer*) and the most important wintering site in the UK for Black-throated Divers (*Gavia arctica*).

Beyond the marine and coastal environments, the region's ancient waterside woodlands and surrounding landscapes (part of the Cornwall National Landscape) enhance its ecological and scenic value. For more details on local conservation efforts, refer to the Cornwall and Isles of Scilly Nature Recovery Strategy.

Such is the quality of the area, that the waters are protected under the following key designations:

Falmouth & Helford Special Area of Conservation (SAC): this extends up to Penryn and includes the Percuil Estuary and up the Carrick Roads as well as the Upper Fal and the Helford. The protected features include sandbanks, mudflats, large shallow inlets and bays, saltmarsh and estuaries and reefs. Overall, the SAC is in unfavourable condition with a significant long-term reduction in habitat extent and quality, including for the seagrass and maerl.

Falmouth Bay to St Austell Bay Special Protection Area (SPA): this is a large area which includes much of the same waters as the SAC within the Fal area, and the area is protected due to its importance for seabirds and in particular black-throated diver, great northern diver, and Slavonian grebe.

Helford Marine Conservation Zone (MCZ): this includes the waters of the Helford Estuary, as far as tidal limits, and is designated to protect Native oyster (*Ostrea edulis)* populations.

The Manacles Marine Conservation Zone (MCZ): This site is located at the far south of the study area and is a relatively small MCZ extending just 2km from the coastline. The large underwater rocky outcrops provide for a huge variety of rich rocky reef communities and the seafloor includes maerl beds and sedimentary habitats. In the deeper waters are dense populations of the pink sea-fan (*Eunicella verrucosa*) and the habitats are ideal for mobile species such as the spiny lobster (*Palinurus elephas)* amongst others.

SSSIs: in addition, there are several coastal SSSIs which overlap with the SAC and are generally designated for their intertidal habitats including saltmarsh, sediments, and rocks as well as for birds they support.

A full list of the designated sites, along with their designated features and links to conservation advice are provided in the Appendix.

3.2 Condition assessments

Natural England is responsible for monitoring the condition of the designated sites through the site condition assessment process. The results are published within their Designated Sites system, and the condition for each feature/sub-feature is shown in the Appendix. Neither the Falmouth Bay to St Austell SPA nor the Helford Estuary MCZ have been assessed since their designation in 2017 and 2019 respectively, whilst the marine features of most of the SSSIs have not been assessed since 2010. Of the 32 sub-features that make up the Fal and Helford SAC, only four have been classified as favourable, with the rest deemed to be unfavourable. Maerl beds are in the worst condition with their condition declining as opposed to stable, signalling that action is urgently needed. Natural England consider this to be due to pressures and threats which include recreation (for example, damage from anchoring and moorings), invasive non-native species (INNS), fishing, climate change, development pressures, pollution and agriculture (which affects water quality).

3.3 Maritime economy

Falmouth Harbour, reputed to be the World's third deepest natural harbour, is home to Cornwall's busiest port and provides important deep-water anchorages for large vessels in Carrick Roads as well as in Falmouth Bay itself. The port, with its deep water and scenic neighbouring attractions, is popular with cruise liners, and has ship repair for all sizes of vessels.

In 2017, the marine sector overall was worth more than £0.5 billion to Cornwall, and 42% of contributing businesses were based in and around Falmouth, accounting for more than 250 businesses and approximately 6,000 jobs[2] The harbour and fishing activities support a major

[2] Falmouth – a port with a purpose. 2017.

part of the local economy with 42% of marine businesses clustered around Falmouth and Penryn.

Looking ahead, the port is focusing on future technologies, including offshore wind and renewable energy. Initiatives like the Marine Masterplan and the Falmouth Bay Test Site (FaB Test) aim to position Falmouth as a leader in blue technologies and sustainable industries.

3.4 Local communities

With fertile adjacent land, easy access to the water, stunning scenery and transport links, the area is an attractive place to live, work, study or visit with an estimated 74,000 people living in the surrounding parishes[3], and many more visiting as day-trippers and holidaymakers. Falmouth has a higher proportion of students due to the universities in the town whilst the other areas around the Fal have a slightly older profile (source ONS) compared to national figures reflecting the areas appeal as a retirement destination.

There is a lot of interest in the environment with 15 identified marine / coastal management community groups within the area, such as the Your Shore affiliated groups and Community Flood Groups as listed in Table 2 below.

Table 2: Community / Environmental Groups

Type	Names
Your Shore / Marine Conservation Groups (MCG)	○ Helford MCG ○ Falmouth MCG ○ Wild Roseland MCG
Friends of Groups	○ Friends of Pendower Beach ○ Friends of Sailors Creek
Plastic Free Community Groups	○ St Mawes & area Plastic Free ○ Truro Plastic Free ○ Plastic Free Falmouth ○ Plastic Free Helford River
Community Flood Groups (CFG)	○ Truro Community Flood Group ○ Flushing CFG ○ Gweek CFG
Site Management Groups	○ Fal & Helford SAC Management Forum ○ Fal & Helford SAC Advisory Forum
Other	○ Wreck Free Fal

3.5 Recreation and tourism

The Fal and Helford waters are the busiest in Cornwall, with an estimated 5,000 moorings of all sizes plus six marinas. The largest is Mylor marina which can accommodate 180 marina berths

[3] Source: ONS data.

and 250 swinging moorings, whilst others are much smaller. In addition to the vessels kept in the area all year, the waters are also a popular destination for sailors with thousands visiting annually. Other water-based activities are also common including paddleboarding, kayaking, angling, diving, swimming, rock-pooling, and visiting the beach, with five designated bathing beaches within the study area.

3.6 Ecosystem benefits

Using the JNCC universal Asset Service Matrix, the habitats present in the Fal and Helford have been mapped to the 2021a categories. This mapping has been ranked as 'H' for high contribution to the service, 'M' medium contribution and 'L' for low contribution. The tool is available for download using the Natural Capital Search tool following the methodology described by Tara Hooper in her unpublished case study report on Marine Natural Capital at Different Scales, Natural Capital Case Study: Cornwall and Isles of Scilly.

Table 3: Benefits provided by benthic habitats

Habitat	Wild Seafood	Water quality	Erosion control	Coastal protection	Climate regulation (carbon)	Wildlife watching	Aesthetics
A3.1 - High energy infralittoral rock	High	Med		High	Med	High	Low
A3.2 - Moderate energy infralittoral rock	High	Med		High	Med		Low
A3.3 - Low energy infralittoral rock	Med	Med	High	High	Med		Med
A4.1 - high energy circalittoral rock	Med	High		Med	Med	Med	High
A4.2 -Moderate energy circalittoral rock	Med	High		Med	Med		High
A4.3 - Low energy circalittoral rock	Med	High		Med	Med		High
A5.13 - Infralittoral coarse sediment	Med				Med		Low
A5.43 - Infralittoral mixed sediments	Low		Low	Med	Low		Low
A5.6 - Sublittoral biogenic reefs	High	Med	Med	High	Med		Low

Table 4: Benefits provided by threatened and declining marine habitats

Habitat	Seafood	Water quality	Erosion control	Flood protection	Coastal protection	Refuge, nursery and feeding habitat	Pest and disease control	Climate regulation (carbon sequestration)	Regulating the environment (incl. atmosphere conditions)	Recreation & Tourism	Aesthetics
Saltmarsh	High	Med	High	Med	High	Med	Med	High	High		Med
Seagrass beds	High	Med	Med	Med	High	Med	Med	Low	Med		Med
Kelp beds		High	High		High	High		High	High		
Rossworm reefs	High	Med	Med	Med	High			Med	High		Low
Mussel beds	High				Med			High	Med	Med	
Maerl	Med			Med	High		Low	Med	High	Med	Low

Table 5: Benefits provided by cetaceans

Species	Wildlife watching	Research	Aesthetics
Minke whale	High	Med	High
Short-beaked common dolphin	High		
Risso's dolphin	High	Med	High
Bottlenose dolphin	High	High	High

There are many gaps in the assessments and not all the benefits provided by the features have been fully included. For example, maerl is not assessed even though it is known to support 500 species of invertebrates and 150 seaweed species in UK and Ireland waters (source: MarLIN). However, the tables do provide useful data on which to highlight those habitats which are of particular importance and helps to focus efforts on restoring those features that provide the most benefits to us.

3.7 Local marine management & stakeholders

The Fal and Helford SAC Management Forum brings together the relevant authorities with statutory powers in the marine environment within or adjacent to the SAC. The current members are the four local port authorities (consisting of Falmouth Harbour, St Mawes Harbour plus the two Cornwall Council Harbours of Penryn and Truro), Cornwall and Falmouth Councils, Cornwall Inshore Fisheries and Conservation Authority (IFCA), Environment Agency, Natural England and Marine Management Organisation, Duchy of Cornwall, and the Port Health Authority as well as the SAC Advisory Group and A&P. The management forum does not have any statutory powers but rather acts in a collaborative manner, meeting quarterly and sharing information. The associated Advisory Group supports the Management Group and is open to other organisations who wish to engage with the management of the SAC. There is a Fal and Helford Estuary Officer, employed by Cornwall Council who provides information to the community and helps manage the marine leisure activities to ensure that they do not impact on the SAC features. Management of the SAC operates through cooperation and that whilst there is a cross-section of organisations with often different aims and views, the Forum members all share the common goal of ensuring and protecting a healthy marine environment. As such the Forum is the platform at which best practice is discussed, information on activities and plans are exchanged and changes in published guidance is reviewed.

As mentioned above, management of the waters is complex with many stakeholders involved or with an interest in the water and what happens on, under or in it. These can be categorised into access and tourism, climate change, coastal partnerships, community, fisheries and aquaculture, Heritage and culture, land and fundus owners, marine and coastal infrastructure and development and marine economy. Some organisations have an interest in more than one category. A full list of the stakeholders, identified in 2023, are appended.

4 DRIVERS, PRESSURES & OPPORTUNITIES

'Drivers' are seen as the driving forces that can lead to environmental pressures; whilst 'Pressures' are seen as the stresses that arise from a driver that cause a change in the natural environment.

Understanding the drivers and pressures on the Fal and Helford is crucial for shaping an effective Nature Recovery Action Plan. Identifying root causes, such as climate change, tourism, and fishing, ensures targeted actions to reduce habitat loss, pollution, and biodiversity decline. This knowledge supports science-led restoration, policy development, and stakeholder collaboration for long-term ecosystem recovery and resilience.

4.1 Drivers

Drivers are seen as the root cause of environmental change in the marine and coastal habitats of the Fal and Helford. Drivers go onto interact with or cause pressures resulting in change to the marine environment. For the Fal and Helford, the key drivers as identified at the 2024 workshop are shown in Table 6 below.

It should be noted that this a simplified approach to identifying the key drivers, and that the situation is actually much more complex and layered. For example, overarching global and national policy initiatives to decarbonise energy systems drives the demand for Floating Offshore Wind (FLOW) as well as other future fuels.

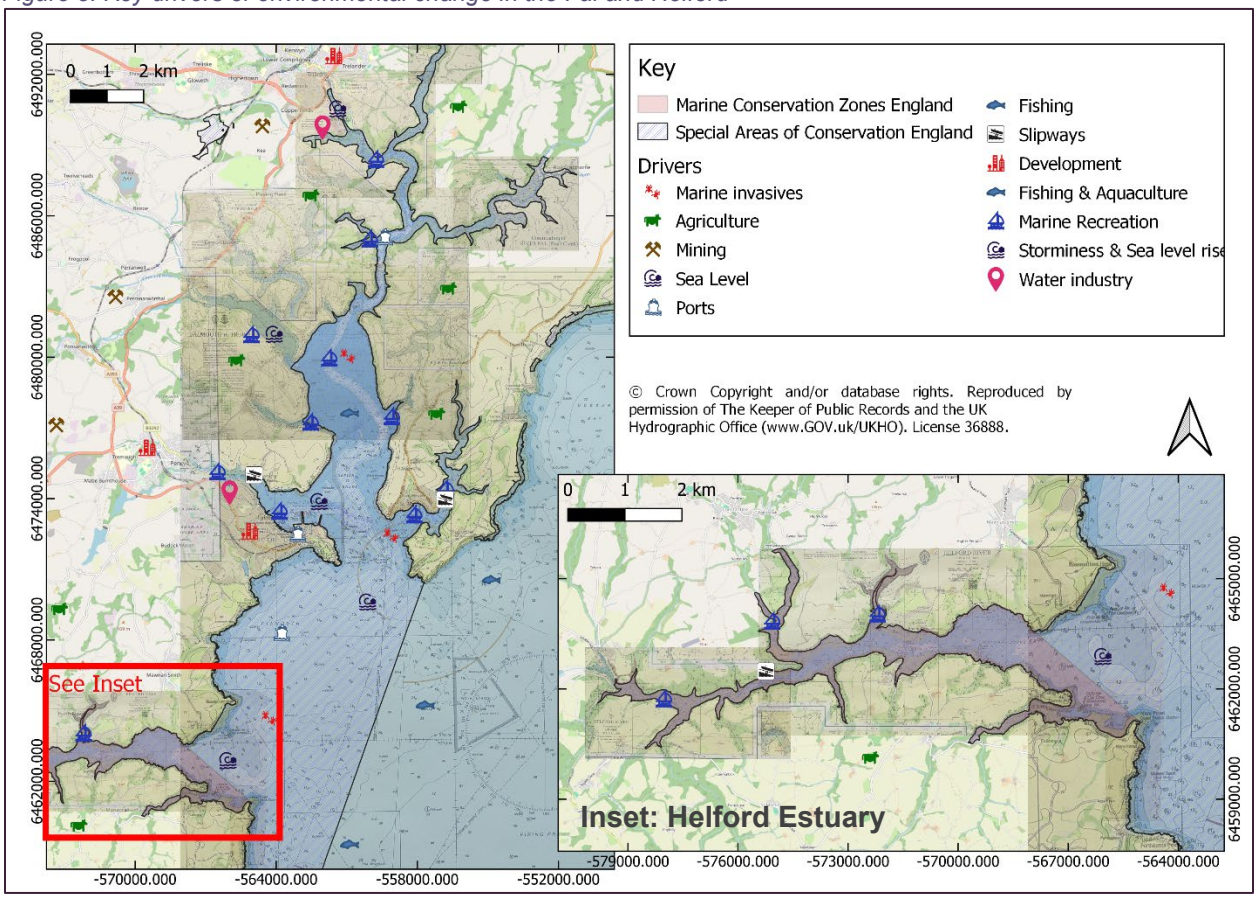
Table 6: Key drivers affecting the Fal ad Helford

Drivers	Comment	Areas
Agriculture, mining, and forestry	Changes to agricultural practices leading to increased silt in rivers and harbours resulting in impact on habitats including shift from grazing to crops. Mining resulting in impacts on water quality.	All rivers and harbours. Devoran and Carnon Valley
Biosecurity	Spread of invasive non-native species.	Falmouth & Helford Estuaries
Climate change	Climate change / sea level rise leading to irreversible habitat loss (especially saltmarshes), migration of saltmarsh and flooding. Also increased rainfall and its associated effects lead to [tidal] gate closure, increased levels of silt in harbour,and reduction in flood storage capacity and protection.	Falmouth Estuaries
Fishing and Aquaculture	Fishing activity including all commercial fisheries activities, scallop dredging and tuna fisheries, netting and potting, native oyster fishery and Pacific oyster cultivation. Potential for seaweed farms which can increase potential for new developments which can lead to disturbance and increase in [sea] anchors. Aquaculture is not currently an active pressure.	Areas of current fishing activity. Gerrans Bay for seaweed farming, also throughout area.

Development & Infrastructure	Infrastructure mentioned included sewage treatment works; Newham STW was mentioned, as was the over-stretched sewage system, outfalls, and the increasing number of sewage discharges. Water treatment works were also mentioned particularly new water abstraction plants using desalination. Roads and rail and transport infrastructure was also mentioned as a driver. Also, increased port development and associated activities can result in consequential impacts such as increased recreational boating or shipping.	Sewage Treat Works and discharges were particularly mentioned. Fal Estuaries and Helford.
Recreation and tourism	Recreation was the most frequent driver being cited by all tables and across all areas. Of note was the increase in marine leisure and recreation leading to increased anchoring and mooring, more associated sewage and discharges, more risk of abandoned boats and derelict boats and more of a demand for slipways and access points. The drive towards more recreational fishing of all types was also noted including angling, spearfishing, foraging, and potting as was the drive towards more SUPs and kayaks leading to increased disturbance.	All areas but particularly coming out of the urban areas and towards areas of good access and marinas and slipways.
Shipping & offshore development	Bunkering and all shipping activities were identified as was the 'Fabtest' area in Falmouth Bay as an area to test offshore wave and devices. Offshore wind was also identified as a key driver leading to more vessel movements and thereby disturbance and abrasion. The demand for more ships was associated with more port development.	All deepwater navigable areas. The Fabtest site is south of St Anthony Head.

Some of these drivers are linked to a specific known location, and where this is the case, they are shown in Figure 5.

Figure 5: Key drivers of environmental change in the Fal and Helford



4.2 Pressures

Pressures happen because of the drivers previously identified, and can be considered as stressors or forces that impact on the marine and coastal environment. These pressures result in changes that can degrade habitats, affect biodiversity, and disrupt ecological balance.

The pressures identified for the Fal and Helford through the workshop are shown in Table 7.

Table 7: Fal and Helford Pressures identified by stakeholders

Pressures	Comment	Areas
Water pollution	- Marine litter, antifoul, fuel and oil pollution and all forms of boating waste. - Agricultural runoff, nutrient loading slurry agricultural chemicals and soil. - Sewage discharges. - End of life and abandoned boats.	All area with high levels of marine recreation. Upper estuaries. Proximity to sewage discharge points.
Recreational and commercial pressures	- Seaweed farms could potentially result in biological pressures and seabed abrasion. - Tourism and increasing water-based recreation can result in litter and wider pollution, wildlife disturbance and seabed abrasion.	Gerrans Bay Whole area. Helford was especially identified for water-based tourism. Also,

	- Shipping can potentially result in more seabed abrasion from anchoring, risks of pollution through bunkering activities and noise and visual disturbance. - Cruise ships were seen as causing multiple pressures. – Offshore wind developments were also identified. – Wildlife disturbance (especially from recreational boating); - The Fabtest area was seen as potential pressure which could impact on the seabed from the anchoring of test equipment. Damage to Maerl is not reversible.	St Mawes but whole area potentially impacted. Port areas. Offshore areas Fabtest area South of St Anthony Head.
Habitat degradation	- Damage can occur to seagrass meadows, maerl beds, and saltmarshes from anchoring, dredging, and coastal development.	Seagrass, maerl, saltmarshes. All areas.
Invasive species and disease	- Non-native species can alter ecosystem dynamics, competing with native species, and affecting fisheries. Diseases can also be considered as non-native and can have a devastating impact such as Bonamia which impacts shellfish and Avian flu which impacts seabirds.	Maerl, seagrass, kelp beds. Native oysters. Seabirds. Areas of Pacific oysters.
Climate change	- Changes due to sea level rises and increased silt leading to reduction in flood water storage. - Habitat loss due to sea level rises. - Changes to the shoreline due to climate change. - Changes to agriculture could lead to increased siltation rates from runoff.	All upper tidal areas which are prone to siltation. All shoreline areas.

The Fal and Helford therefore face multiple environmental pressures. Pollution from marine litter, sewage, and agricultural runoff the whole area. Tourism, shipping, and offshore developments contribute to seabed abrasion, wildlife disturbance, and pollution. Climate change alters hydro-morphology, causing habitat loss and increased siltation. Physical and biological pressures, including anchoring and invasive species, threaten seagrass and maerl beds.

This list, whilst not comprehensive, was used to inform the identification of opportunities for marine nature recovery in the Fal and Helford.

4.3 Marine nature recovery opportunity themes

There are three main ways to reduce risk to support marine nature recovery:

- Restore ecosystems actively
- Reduce impacts of drivers of change, allowing for passive restoration
- Make natural capital central to decision-making (Lusardi et al., 2024)

For the purposes of this action plan, we have focused on the first two, whilst also including actions to raise awareness and understanding of the value of the marine natural capital assets and the services that they provide.

At the workshop held in 2024, opportunities were identified for marine and coastal restoration in the Fal and Helford. In total 124 were identified under 11 categories as shown in Table 8.

Table 8: Marine nature recovery themes for Fal and Helford study area

CATEGORY	COMMENT
Maerl and kelp	Under pressure, particularly from water pollution, anchoring, dredging / port development and invasives. Bottom trawled gear is also considered by some to be an issue for maerl outside of the SAC.
Seagrass	Susceptible to pollution and anchoring/mooring impacts. Small scale passive restoration and protection underway through mooring management and some replanting.
Native oysters	Supports the unique Fal fishery, Abundance of oysters varies over a roughly 10-year cycle.
Invasive Pacific oysters	Ongoing management is required to manage this invasive species.
Fish and marine mammals	Numerous cetacean species and seals visit and use the estuary and coastal waters, and seals are also present using the waters and haul-out sites.
Recreational boating management (including abandoned boats)	This incorporates all actions from educating boat users to reduce disturbance to wildlife as well as removing the abandoned vessels found on the foreshore of the estuaries.
Upper estuarine, reedbed, saltmarsh and SSSI sites	There is potential for restoration work on the habitats with specific links to flood prevention.
Water quality	As probably the main threat to the Fal and Helford, many opportunities were identified around upstream thinking (tackling water quality issues at their source through river catchment management, ultimately reducing the need for costly downstream treatment). improving monitoring, litter removal and raising awareness.
Resilience, habitat improvements and whole site approach	The measures identified under this heading were around a more integrated management approach with new multi-functional restoration sites identified.
Public awareness and education	Public awareness was seen as critical, with a need to improve understanding to drive behaviour change and build a stronger sense of stewardship to the marine environment:
Monitoring and Data Gaps	Due to the lack of data, monitoring activities were seen as very important with many data gaps identified.

The full list of 124 opportunities, along with their locations where known, are appended.

4.4 Links to MNRF and LNRS

This document is intended to compliment the Cornwall and Isles of Scilly Local Nature Recovery Strategy (LNRS) (Cornwall and Isles of Scilly Local Nature Partnership, 2025) and the emerging Cornwall and Isles of Scilly Marine Nature Recovery Framework (MNRF) and provides more detail on how they will be implemented within the Fal and Helford area, with particular emphasis on the local priorities.

Care must particularly be taken in the intertidal areas, as these areas come under the statutory LNRS, and should therefore have regard to the policies therein and especially the following: LNRS actions:

- Action A62: Create intertidal habitats;
- Action A63: Restore intertidal habitats;
- Action A64: Manage habitats and activities to reduce pollution, including from run-off;
- Action A65: Reduce wildlife disturbance;
- Action A66: Increase education resources in publicly accessible intertidal spaces

Regarding the MNRF and this document; it is unfortunate that they are structured under different priorities, but this is due to the Fal and Helford priorities being identified before those of the MNRF. However, it is easy to see the synergies between them as shown in the following table.

MNRF Priority	Does it overlap with Fal & Helford Recovery Key Theme?	Fal and Helford Marine Nature Recovery Action Plan
1. Seagrass	✓	Seagrass
2. Maerl	✓	Maerl
3. Kelp reef	✓	Kelp
4. Native oyster	✓	Native oyster
5. Seals	✓	Marine mammals, fish, and seabirds
6. Whales and dolphins	✓	
7. Sharks & Rays	✓	
8. Tuna	✓	
9. Sea worms	✘	-
10. Seabirds	✓	Marine mammals, fish, and seabirds

Although there is no equivalent of the MNRF sea worm priority, this group of invertebrates will benefit from many of the actions identified in the Fal and Helford Marine Nature Recovery Action Plan.

5 ACTION PLAN

5.1 Process

This action plan is a synthesis of the work carried out through the workshops held between January 2024 and February 2025. In 2024, stakeholders came together to identify the marine nature recovery opportunities within the Fal and Helford. The 124 separate items were then prioritised at the workshop held in February 2025. The following tables summarise this, grouping them under the marine nature recovery themes.

Some of the opportunities offer additional benefits to other species or habitats in addition to the targeted one, and where this is the case, they are shown. The ecosystem benefits that would gain from these actions are also shown using icons.

5.2 Action Plan

Key to icons:


Produce from the sea / wild seafood.


Clean water / water quality


Flood / coastal flood protection


Climate regulation


Aquaculture


Erosion control


Thriving plants and wildlife / biodiversity


Cultural benefits / wildlife watching / aesthetics

Maerl

1. Maerl Research and Management Project
Increase understanding of general ecology, distribution, and effective restoration methods and understand impacts of fisheries.

Beneficiary: Maerl

1.	Actions	Description	Timeframe	Who	Comment
1.1	Research into effective restoration methods	Research needed into effective restoration methods.	1 year	Natural England (NE), Cornwall Wildlife Trust (CWT), Cornwall Inshore Fisheries & Conservation Authority (IFCA), Marine Management Organisation (MMO), Academic partners.	In 2025, a Cornwall Maerl Forum is being held which will help bring expert together and share data.
1.2	Explore potential innovation around anchoring and moorings to reduce impacts.	Understand impacts of anchoring on maerl by recreational and commercial vessels.	3 years	NE, IFCA, harbour authorities.	Cornwall IFCA can provide images generated from sidescan data that demonstrates the impact of commercial shipping anchoring on maerl in Falmouth Bay. Otherwise little research has been carried out on the anchoring impacts on maerl and there is potential for innovation in relation to this.
1.3	Understand and manage impacts from bottom trawled fishing gear	Work with IFCA to understand the risks and implement measures if required.	2 years	NE, IFCA, CWT, MMO, Academic partners.	Bottom trawled gear has been prohibited within the SAC since 2008, but there are no management measures on maerl outside of this.
1.4	Address water quality and runoff issues affecting Maerl.	Identify and address the sources of water quality issues.	3 years	Environment Agency (EA), Port Health Authority, Cornwall Catchment Partnership (CCP)	Testing could be carried out to identify sources of pollutant affecting Maerl. In the case of nutrients, then work will be needed with landowners and SWW.

Benefits Provided: 

Kelp

2. Kelp Restoration Project
Increase

Beneficiary: Kelp

2.	Actions	Description	Timeframe	Who	Comment
2.1	Undertake a kelp condition assessment	Assessment to include the EA Kelp Reef mapping data.	1 year	Natural England, EA.	Understanding the current extent of kelp to establish a baseline is very important.
2.2	Develop an Aquaculture Framework	Agree a Framework to establish guidelines and strategies for sustainable seaweed farming. Also consider including mussels, oysters, and any other species.	2 years	CWT, Cornwall & Isles of Scilly Marine & Coastal Partnership (C&IoSCMP), MMO, NE, Duchy of Cornwall (DoC).	Little work has been done nationally on this and so there is potential for innovation in relation to this. Explore grants from MMO's FASS scheme.
2.3	Explore seasonal restrictions on harvesting / foraging	Explore bylaws / codes of conduct to seasonally restrict kelp harvesting.	1 year	CWT, C&IoSCMP, MMO, NE, DoC.	
2.4	Support a 'Sea Forest for Cornwall' education programme.	Raising awareness of the roles of kelp as 'underwater forests'. To include the impacts of poor water quality.	3 years	CWT, Falmouth Marine Group (FMG).	As well as an awareness programme, should involve citizen science programme to support monitoring.

Benefits provided: 

Native Oysters

3. Native Oyster Restoration Project
Develop a collaborative native oyster restoration project to include rejuvenating existing oyster beds, adding substrate in historic oyster areas and developing a native oyster hatchery.

Beneficiary:
Native oysters

3	Actions	Description	Timeframe	Who needs to involved	Comment
3.1	Project scoping and design:	Desktop research into historic and recent stock assessments, literature review, stakeholder engagement, site identification and environmental testing, implementation and alignment with both the Fal Fishery Order 2016 and the associated Regulations. Explore grants including from MMO's Fisheries and Seafood Scheme.	3 years +	CWT, NE, IFCA, MMO, Native oyster fishers, Fundus owners, academic partners, Fal & Helford Estuaries Officer (F&HEO).	High priority given the significance of the Native Oysters and the associated fishery. Lessons to be learnt from Remedies, and the work in the Solent, where they have avoided the need for marine licenses by suspending them in cages. Local IFCA work has included buying back oysters from license holders and re-laying them within the Fishery area in order to increase the potential for larval production. Recent research has shown stock levels to be at a 11-year high. There is also research into benefits of harrowing. Spatting ponds / collection / growing on can also be explored. Given the legislation around the Fal Fishery, it may be that any regeneration projects will need to be carried out in areas outside of the designated Fishery area.
3.2	Address water quality and runoff issues affecting Native Oysters and potential restoration sites.	Identify and address the sources of water quality issues.	2 years	EA, Port Health Authority, Cornwall Catchment Partnership	Water quality is critical for restoration success. Testing to be carried out to identify sources of pollution.

Benefits provided: 

Seagrass

4. Expand Intertidal Seagrass Restoration Project

Continue the 'Seeding Change Together' restoration at Ruan Cree) and further expand the seagrass (*Zostera nolteii)* restoration sites, with controlled seagrass seed collection.

Beneficiary:
Seagrass
Zostera nolteii

4	Actions	Description	Timeframe	Who needs to involved	Comment
4.1	Continue restoration at Ruan Creek	Monitor impacts of restoration so far, trial new planting methods, involve the community, raise awareness.	3 years +	CWT, NE, Fundus owners. Academic partners.	CWT's Seeding Change Together project started in 2022 with the aim to restore dwarf seagrass on the intertidal mudflats. 4,000 seeds were collected and planted many successfully growing.
4.2	Expand restoration to other sites	Identify other possible sites, liaise with fundus owners, undertake baseline monitoring, collect seed, implement restoration, and evaluate.	3 years +	As above	

Benefits provided: 

5. Restore seagrass (*Zostera marina*)

Undertake citizen science, improve water quality and reduce recreational boating impacts in order to help restore seagrass.

Beneficiary:
Subtidal seagrass
Zostera marina

5	Actions	Description	Timeframe	Who needs to involved	Comment
5.1	Citizen science around seagrass and biodiversity	Run a citizen science project around seagrass and biodiversity that monitors the health of the seagrass.	3 years +	CWT, FMG. CC, Seasearch.	There is scope to expand the Seasearch to harness local people to collect more data on the health of the seagrass and the impact of the restoration activities.
5.2	Improve catchment management to drive up water quality	Identify the key sources of water pollution from land affecting seagrass and target actions where needed.		EA, Cornwall Catchment Partnership.	
5.3	Recreational boating management	See below.			

Benefits provided: 

Fish, sea mammals and seabirds					
6. Reducing human impacts on fish, sea mammals and seabirds					**Beneficiaries:** Cetaceans, Seals, seabirds, fish
6	**Actions**	**Description**	**Timeframe**	**Who needs to involved**	**Comment**
6.1	Extend and improve monitoring through Seawatch and Seaquest.	Explore ways to improve and streamline these citizen science reporting apps. Promote their use and use the data to raise awareness and increase understanding.	Ongoing	CWT, harbour authorities. FMG, Academic partners.	Tie in with the Cetacean Acoustic Trend Tracking Project to understand their use of the estuary. This links with the public awareness section.
6.2	Reduce marine litter and remove ghost fishing gear.	Work with fishers and the local community to reduce the amount of litter in the marine environment.	Ongoing	Local communities, FMG, CWT, voluntary groups, divers, F&HEO.	Fishing and beach litter continue to impact on seals, cetaceans, and fish.
6.3	Awareness programme to reduce disturbance incidents	Targeted, clear programme of engagement to reduce marine wildlife disturbance by water users, including coastal dog-walkers.	Ongoing	Local communities, FMG, CWT, voluntary groups, divers, F&HEO.	This links to Public Awareness section.
Benefits provided:   					

Marine Recreational Management					
7. Reducing impacts from marine recreational anchoring and other activities				**Beneficiaries:** Seagrass, Native oysters, Maerl. Seabirds, Seals, Cetaceans, fish.	
7	**Actions**	**Description**	**Timeframe**	**Who needs to involved**	**Comment**
7.1	Continue the Recreation Mitigation Project:	This is the project funded by planning obligations, to reduce mooring / anchoring impacts on seagrass and maerl by installing seabed-friendly moorings, and encouraging anchoring away from sensitive seabed. The full list of projects is appended.	Ongoing	CC, harbour authorities, NE, F&HEO.	This includes installing more AMS moorings, trialling the ROV 'MarkSetBots' for yacht racing, and continuing engagement with boat users at St Mawes SC and Helford. This links to public awareness and education
7.2	Expand the Recreation Mitigation Project.	Expand the river patrols by recreation rangers to other areas outside of Helford.	Ongoing	CC, harbour authorities, F&HEO.	Evidence shows that having a visible on-water presence on the Helford is effective in changing behaviours. So it needs to be expanded.
7.3	Explore whether further bylaws or controls are needed.	Work with the MMO to explore whether there are sufficient controls in place to prevent detrimental impacts on designated habitats from unlicensed marine recreation.	2 years	MMO, harbour authorities, IFCAs, F&HEO.	Clarity on cross-warranting and enforcement would be useful and whether cameras would help with monitoring / compliance.
7.4	Comprehensive engagement programme	Run a comprehensive engagement programme aimed at all marine recreationists including paddleboarders, dog walkers, sailors, anglers, on how to reduce their impact.	Ongoing	CC, F&HEO, community groups, CWT, FMG.	
7.5	Remove abandoned vessels	See Upper Estuaries section			
Benefits provided: 					

Upper Estuary					
8. Explore active restoration measures to recover estuarine habitats.					**Beneficiaries:** Saltmarsh, Reedbeds, all.
8	**Actions**	**Description**	**Timeframe**	**Who needs to involved**	**Comment**
8.1	Identify, plan, and implement reedbed restoration.	Trial reedbed restoration techniques In Ruan Creek to compliment the seagrass restoration taking place.	3 years +	CWT, EA, NE, Fundus owners. MMO, Academic partners.	Methods have been tested in other areas through the ReMeMaRe project and some of these may be appropriate for the Fal.
8.2	Remove abandoned boats.	Identify and remove abandoned vessels to prevent them from releasing pollutants into the marine environment.	3 years +	Harbour authorities, F&HEO, Wreck Free Fal & Helford, EA, community groups.	There are numerous abandoned and forgotten vessels decaying in the upper estuaries which if not removed will leach pollutants into the marine environment. Links to water quality.
Benefits provided: 					

Water quality, resilience, and whole site management

9. Water quality, resilience, and whole site management					Beneficiaries: All
9	**Actions**	**Description**	**Timeframe**	**Who needs to involved**	**Comment**
9.1	Adopt a 'whole' site approach for integrated management.	Explore with relevant authorities their support in such an approach and implement.	Ongoing	CC, harbour authorities, NE, MMO, IFCA, CWT.	This would involve adopting an approach that looks at all of the key species, habitats and designations within the Fal and Helford study area in order to deliver multiple benefits including fisheries, and the local economy.
9.2	Upstream thinking / inland working / source to sea actions.	Targeted work to reduce pollution from entering the coastal waters.	3 years +	EA, South West Water (SWW), Cornwall Catchment Partnership, communities, FMG, landowners.	This could include actions to reduce pollution entering for example yellow fish markers in urban areas with an associated awareness campaign; links to the Catchment Partnership to reduce agricultural runoff, reduction in combined sewer outfall discharges etc.
9.3	Explore feasibility of creating a marine restoration 'test' site at The Bizzies	Scope and explore the feasibility.	2 years +	MMO, harbour authorities, NE, CWT, C&IoSMCP.	Establishing sites to test new marine restoration techniques is a lengthy process, so it could be practicable to establish a pre-licensed site.
Benefits provided: 					

Public awareness & education					
10. Public engagement to raise awareness and increase understanding					**Beneficiaries:** All
10	**Actions**	**Description**	**Timeframe**	**Who needs to involved**	**Comment**
10.1	Explore developing a 'Ocean Literacy' engagement programme.	Develop a coordinated approach to increasing public understanding of the ocean's influence on us and our impact on the ocean, empowering informed decision making and responsible stewardship.	Ongoing	CWT, C&IoSMCP, FMG, community groups, schools, NE, University of Cardiff.	2021 – 2030 is the Decade of the Ocean, and implementing an ocean literacy programme would do much to support the work already carried out. Ensure the community groups are fully engaged.
10.2	Integrate the Fal and Helford Charter of the Sea priorities.	These describe the local communities' priorities.	Ongoing	CWT, C&IoSMCP, FMG, community groups	Local communities have identified their priority concerns as being around education and engagement, water quality, plastic pollution & marine litter and wrecks and abandoned boats, so local community groups will need to be fully integrated into actions concerning these.
10.3	Install 'living sea wall' tiles and use them to increase awareness.	These can be installed at visible and accessible sites and are useful in raising awareness about marine conservation.	1 year	Harbour authorities, landowner, MMO, FMG	Funding is available to do this. Some have already been installed at Church St car park in Falmouth.
Benefits provided: 					

Monitoring and data gaps					
11. Securing the data needed to support effective decision-making					**Beneficiaries:** Se
11	**Actions**	**Description**	**Timeframe**	**Who needs to involved**	**Comment**
11.1	Implement an integrated 'Smart monitoring' to measure water quality in the Fal and Helford	Real time monitoring to understand water quality for water users as well as to understand the impacts on the environment.	3 years +	EA, NE, Harbour authorities, IFCA, academic partners.	Ensure that data is available for use by all. It could include F-PODs for acoustic monitoring and rovs. All data to be fed into data hub.
11.1	Ensure that citizen science is used to support all work and collect robust data.	Explore streamlining the existing data logging apps such as Seasearch and include the ability of water users to log data as well. Also, consider the ability to log wildlife disturbance incidents.	Ongoing	CWT, NE, EA,	There are numerous opportunities for the better use of locally collected data, but it should not replace professionally collected information following the strict protocols required for condition assessments.
11.2	Address data gaps relating to specific habitats and features.	To follow			
Benefits provided: 					

6 IMPLEMENTATION

6.1 Challenges

There are many challenges with implementing nature recovery work, particularly in the marine environment (Natural England, 2023), and these can be summarised as:

Funding availability: funding has not yet been identified for the implementation of this action plan, but it is hoped that by having the measures listed within a cohesive plan, it may be easier to attract and identify suitable monies.

Lack of baseline data: even though the study area has more data than most other parts of the coast, nevertheless, and given the infancy of active marine restoration, there is often a lack of comprehensive data against which to measure change.

Funding for long-term monitoring: this does not always align with funding provisions which are often short-term.

Small scale nature of projects: this can make it difficult to know whether they can also be successful at a larger scale.

Impact of wider externalities; this can make it difficult to know whether it is the project that has caused the result, or whether there are other factors at play such as water quality, pollution, weather events and climate change.

Securing licenses: many of the opportunities will require marine licenses and Natural England consent, which can be costly and time consuming.

Managing conflicting stakeholder interests: this can be particularly challenging for projects that require behavioural change from other sea users.

6.2 The key principles of scaling up delivery

Although still a relatively new field, there have now been a number of major marine restoration initiatives that have been undertaken and lessons are being learnt on how to deliver the 'bigger, better and more joined-up' approach called for in the 'Making Space for Nature' report of 2010.

The following measures are identified as critical to shift the scale and increase the effectiveness of marine restoration:

1. **Be ambitious:** be bold and plan for large seascape scale initiatives to deliver wider impact.
2. **Ensure evaluation is built-in:** it can be helpful to name it 'evaluation' rather than 'monitoring' and it is imperative that sufficient resources are included with 10 - 15% of the project budget generally considered to be acceptable.

3. **Share and use information and resources:** make use of the shared resources and learning already available and ensure that any data and findings are likewise shared into the central hub.
4. **Involve the community** and use existing community structures / networks if they are already there and develop local champions.
5. **Recognise that some habitats / features are easier to 'sell' than others** - e.g. oysters are easier than saltmarsh.
6. **Diversify your audience** as part of any engagement activities, be imaginative for example use music and dance to appeal to a wider audience or use associated blogs with appropriate language to target younger people.
7. **Include ecosystem benefits:** but it can be helpful to focus beyond blue carbon and more on some of the other ones.
8. **Think long-term** as restoration requires ongoing management.
9. **Build in collaboration** at every level to ensure integrated and effectively delivered measures.

6.3 Licensing and consents

Marine licensing and consents have been identified as two of the key challenges of delivering active marine restoration, particularly for work within marine protected areas (Gamble et al., 2021). Early engagement with the key statutory bodies is therefore crucial for any restoration project during the early planning stages. The key areas of jurisdiction are detailed in the table.

Table 9: Competent inshore authorities and agencies requiring licenses and consents

	Description	Responsible Agency
Marine licensing and planning	For activities in the sea and on the seabed	Marine Management Organisation (MMO)
Protected species licensing	Covering actions that may disturb or impact protected species during survey or conservation activities.	Natural England (NE)
Seabed ownership	Permissions or licenses may be required from entities like the Crown Estate or harbour authorities.	Duchy of Cornwall / Crown Estate / Fundus owners, harbour authorities
Habitat regulation assessments	Conservation guidance for activities within or near Marine Protected Areas	Natural England (NE)

	(MPAs) to safeguard habitats and species.	
Water quality considerations	Addressing activities affecting or influenced by water quality.	Environment Agency
Inshore Fisheries	Addressing inshore fisheries and conservation interests/	Cornwall Inshore Fisheries and Conservation Authority
Navigational considerations	Within harbour authority jurisdictions, consent is needed.	Harbour authorities.

Additional concerns include safe navigation and the protection of historically significant assets. A marine license serves as statutory consent, requiring the license holder to comply fully with its conditions. It's important to factor in timeframes, as obtaining a license can take several months, and conditions like issuing Notices to Mariners may need to be addressed before starting restoration efforts. Regulators should ideally be engaged at least 12 months before field activities commence.

Budget considerations for licensing include pre-application advice, permit fees, and costs associated with fulfilling post-licensing conditions. Tables and figures summarizing competent authorities and legislative details across UK nations and Ireland should be consulted for further guidance.

6.4 Implementation management

This Action Plan is not a statutory document and there is therefore no legal requirement to deliver anything within it. Implementation is therefore going to rely on good will; the ability of the key partners giving their time willingly to coordinate their actions and work together through partnerships and of course the availability of funding and grants. As such, the projects are expected to come forward on an opportunistic basis.

To keep implementation structures to a minimum, it is recommended that oversight of the implementation is provided by an existing group such as the SAC Management Forum with support from the Cornwall and Isles of Scilly Marine and Coast Partnership. Roles would need to be clearly defined but the focus should be on:

- clear communication framework to help resolve any issues and to keep everyone informed;
- easy reporting structure to ensure all projects provide feedback on their progress on at least an annual basis;
- updates of funding opportunities;
- sharing of monitoring information;
- coordination of public engagement activities;

- keeping the Action Plan up to date as new opportunities / pressures arise.

Whilst further work is needed, this does provide some structure to develop an implementation plan in more detail.

7 REFERENCES

Christie, J., Williams, R., & Sugar, K. (2021). *Marine Nature Recovery (MNR) – First steps towards MNR within Cornwall's inshore seas*.

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