Falmouth Bay to St. Austell Bay Special Protection Area (SPA)

This assessment of the Falmouth Bay to St. Austell Bay SPA was commissioned by Natural England to provide a case study of how environmental, social, and economic evidence for a place can be brought together to support decision-making for a thriving marine ecosystem and society.

The results of the assessment can be used to help inform decision-making which balances conservation and recovery priorities with the social and economic needs of the community, and to aid in outlining the next steps for management. For example, the assessment could support defining the actions that could arise from the nature recovery priorities identified in Cornwall Council's Local Marine Recovery Framework, or in the development of any future Protected Site Strategy.

Building the environmental, social, and economic evidence base via a natural capital approach:

Natural capital is a broad term that includes many different components of the living and non-living environment that directly or indirectly provide value and benefits to nature and society.

A marine natural capital approach considers both the intrinsic and monetary value of the environment. It views the marine and coastal ecosystem as a whole and recognises that a healthy functioning ecosystem supports human health, wealth, and wellbeing; and that the economy, society, and marine environment are inextricably linked.

Under the **marine Natural Capital and Ecosystem Assessment (mNCEA) programme**, Natural England has delivered evidence, tools, and guidance to enable the practical use of natural capital approaches in supporting recovery in marine and coastal environments.

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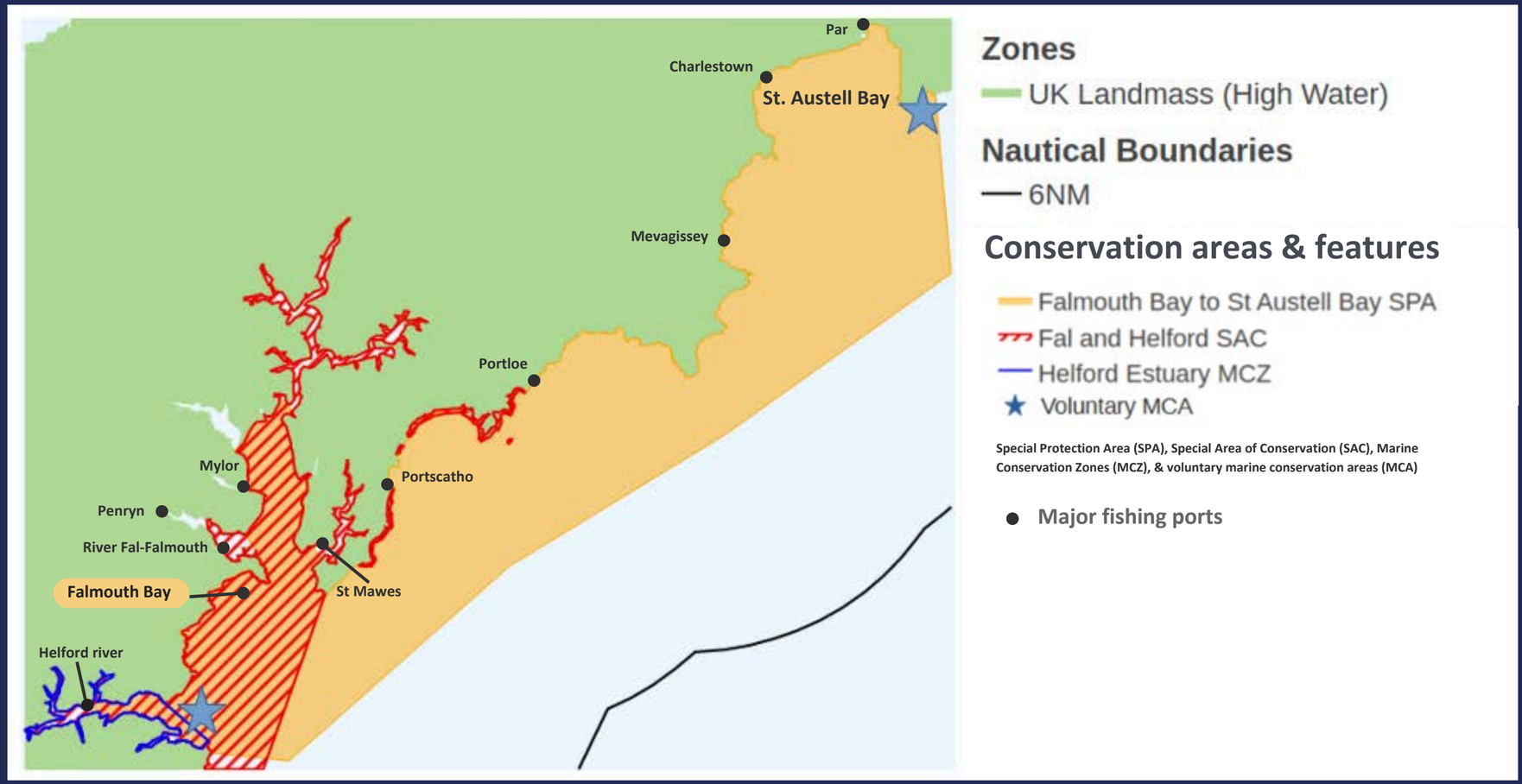
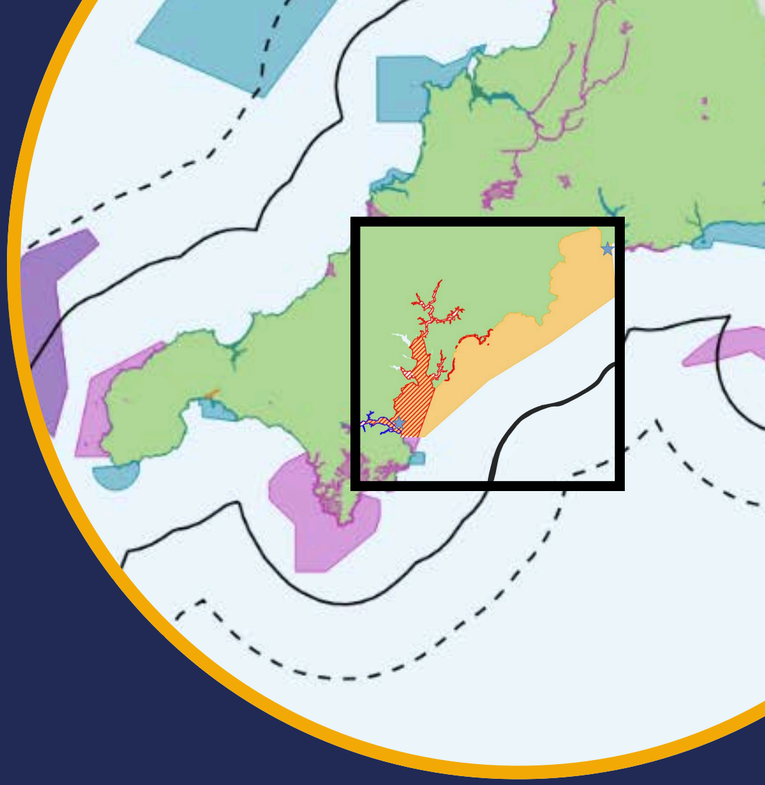
NCEA
Natural Capital and Ecosystem Assessment

Produced by Mindfully Wired

Falmouth Bay to St. Austell Bay SPA & surrounding protected areas





Other maps provided within the full Falmouth Bay to St. Austell Bay SPA study provide detail of:

- Recreational & cultural assets
- Marine infrastructure
- Threatened & declining habitats
- Pressures: fishing & water-borne pollution

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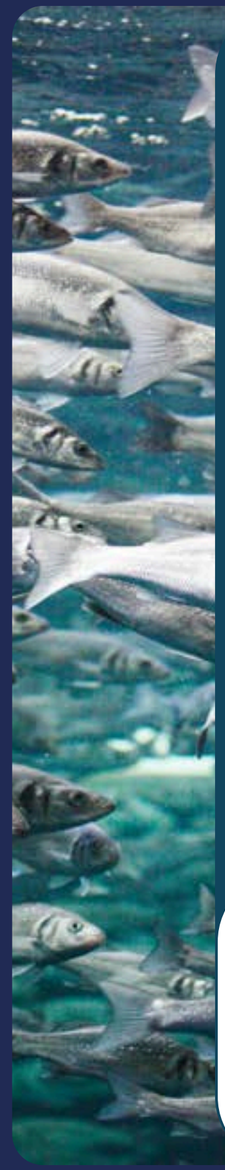
KEY ASPECTS

The assessment mapped Cornwall's 25,803 ha **Falmouth Bay to St. Austell Bay SPA**, which is protected for rare seabirds including the black-throated diver and Slavonian grebe. The site also includes the Helford Estuary Marine Conservation Zone (MCZ) (512 ha), designated for European flat oysters, and the Fal and Helford Special Area of Conservation (SACs) (5,855 ha), an important estuary for habitats including sandbanks and mudflats.

Alongside its wild spaces, this stretch of coastline is home to coastal communities, and multiple maritime sectors from fishing ports to recreational spaces and cultural sites.

SITE CONTEXT
Where you are setting out from, including the key aspects of the location.



Major fisheries include

(with the three highest value species landed per year 2018-2023):

- **Trawling:** lemon sole, monkfish, & whiting
- **Netting:** pollack, sole, & pilchard
- **Dredging:** scallops, sole, & monkfish
- **Lining:** mackerel, bass, & pollack
- **Potting:** crab & lobster

10 ports had an average annual landing value above £10,000 between 2018 and 2023.

The largest are:

- **Mevagissey** (£2m per year)
- **River Fal-Falmouth** (£1.1m per year)
- **Mylor** (£450,000 per year)
- **Helford River, St. Mawes, Charlestown, Par, Portloe, Penryn, & Portscatho** (average annual landings ranged from £17,000 to £170,000)

According to census data, 72 people were employed in fishing and aquaculture in the areas bordering the SPA in 2021 – 11% of the total for the county. Most of Cornwall's aquaculture activity is found within the study site, producing mussels and until recently oysters.

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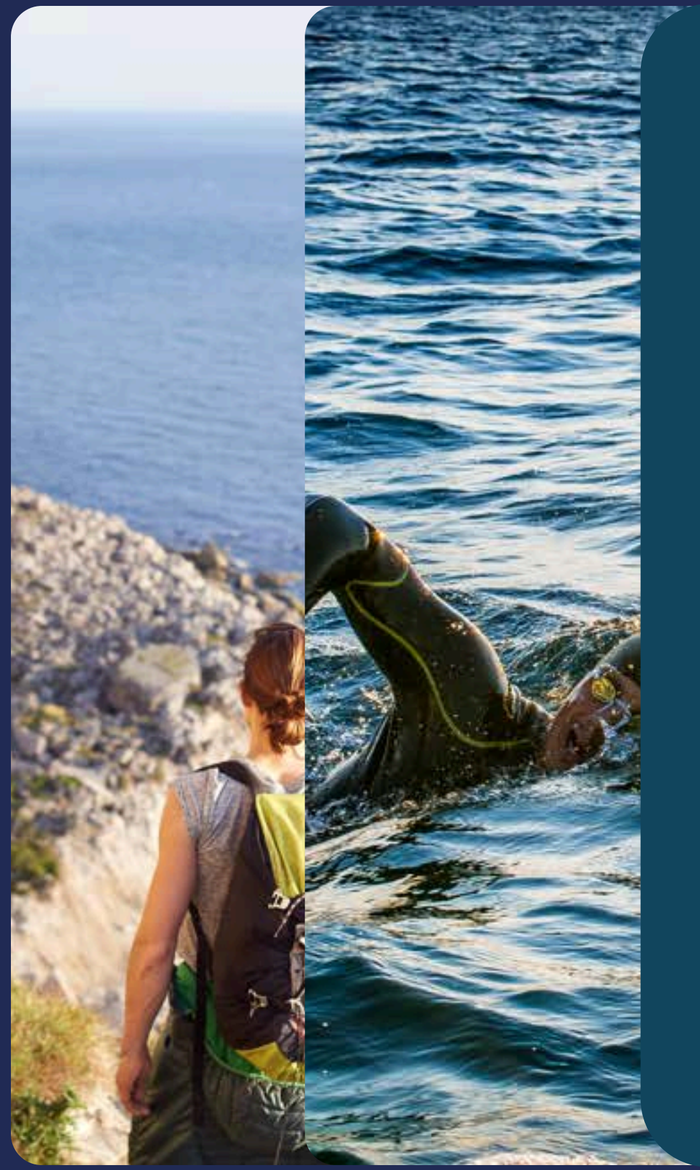

Key recreational spaces & cultural features:

- **Bathing water sites:** 16 designated sites (14 classified as excellent or good)
- **UNESCO World Heritage Sites:** Charlestown is within the Cornwall & West Devon Mining Landscape designation
- **National Trust:** Maintains 278.8 ha of coastal area
- **Heritage coast:** The Roseland, & Gribbin Head to Polperro (74 km)
- **Walking trails:** South West Coastal Path (92.5 km) – part of the King Charles III England Coast Path

Key maritime industries include:

- **Ports & docks:** Falmouth Harbour is recognised as the third deepest natural harbour in the world (34 m). Falmouth Bay is a designated Bunker Anchorage (for oil tankers)
- **Ferry routes:** 9 ferry routes including Fowey-Mevagissey
- **Marine energy:** Falmouth Bay Test Site (FaBTEST)
- **Aggregates & mineral extraction:** No active licensed extraction sites, but 3,800 ha has been licensed for offshore mineral exploration (lithium & other battery metals)
- **Telecommunications:** 1 subsea fibreoptic cable (Pentewan to France)

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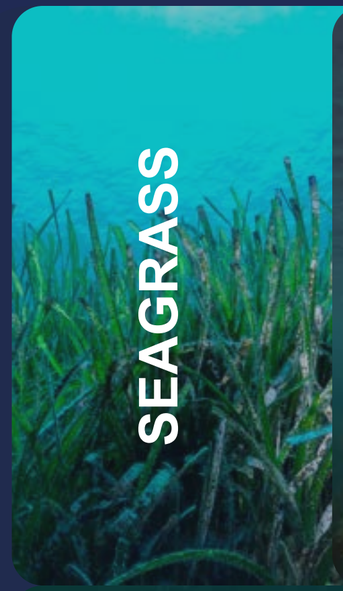
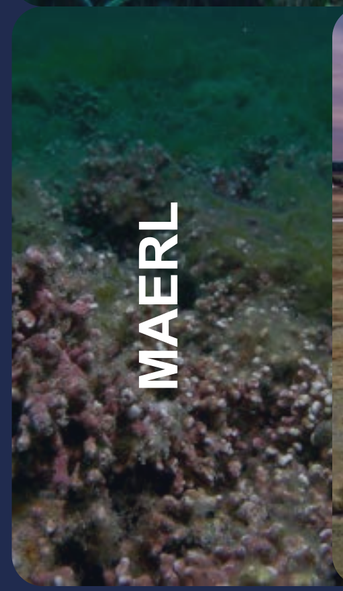
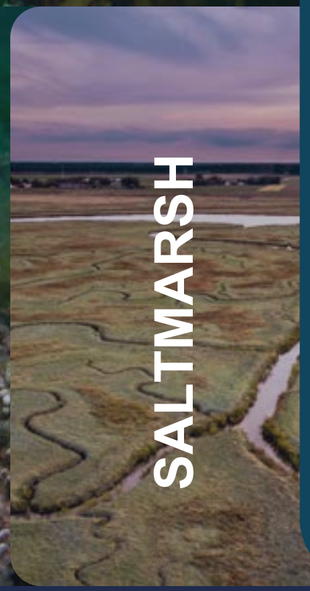
NATURAL FEATURES:
Habitats, species, geology, & heritage

Alongside the maritime industries present in the region, the area is important environmentally, with a number of natural features. These include threatened habitats, seabirds, freshwater migratory fish, and marine mammals within the coastal waters of the SPA.

NATURAL CAPITAL ASSETS
The presence & extent of natural features including the habitats & species found there.







Key seabed types:

- The majority of the seabed within the SPA is sand, with rocky outcrops extending from the headlands

Threatened or declining habitats:

- **Seagrass meadows:** The largest seagrass bed in England is found in St. Austell Bay, estimated at 263 ha across 14 separate areas
- **Maerl beds:** The SPA is home to nationally important maerl beds. Surveys in 2023 & 2024 showed these beds cover a larger area than previously thought
- **Saltmarsh:** 0.13 ha of saltmarsh has been recorded within the SPA, with significant beds in the Helford river estuary
- **Kelp forests & ross worm reefs:** These are also found regularly within the site

The site is of national and international importance for biodiversity, with around 600 species calling it home. The full assessment report details trends and ecosystem services for the main sea mammals, freshwater migratory fish, and seabirds within the SPA.

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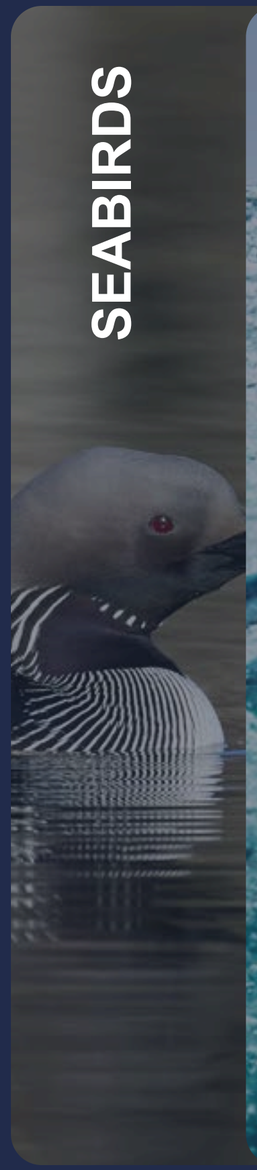

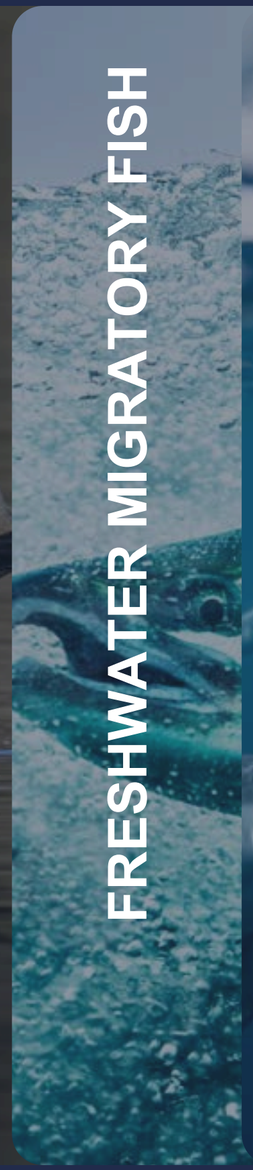

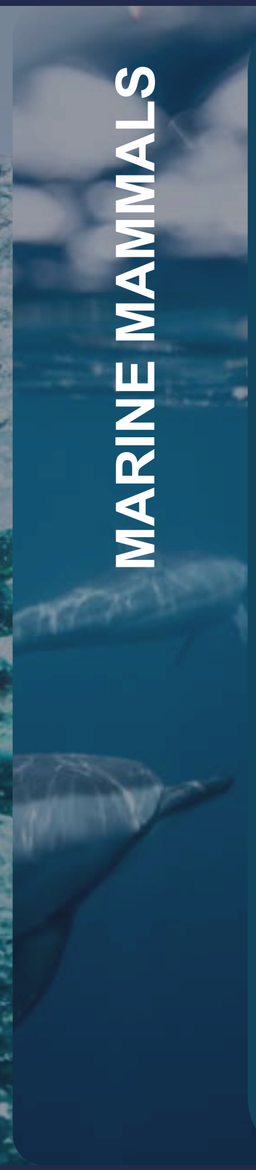

Seabirds:

The SPA is a site of European importance for rare seabirds and has been designated for three species (with population estimates from winter 2021): black-throated diver (27), great northern diver (395), and Slavonian grebe (12, including black-necked grebe).

Other seabirds found here include:

- Common eider
- Guillemot & razorbill
- Kittiwake & gull species
- Gannet, cormorant, & shag

Freshwater migratory fish have been recorded sporadically. These include:

- Atlantic salmon & sea trout
- Allis & Twaite shad
- European eel
- River & sea lamprey

Marine mammals:

The Cornwall Wildlife Trust's Seaquest Southwest citizen science project maintains sightings records of marine mammals. This shows that regular visitors to the SPA include:

- Bottlenose dolphin
- Short-beaked common dolphin
- Atlantic grey seal
- Harbour porpoise

Occasional visits by other marine mammals including fin whale, Risso's dolphin, common seal, white-beaked dolphin, and humpback whale have been reported. Other marine megafauna such as leatherback turtle, bluefin tuna, and basking shark have also been observed.

Limitations of sightings record data mean it cannot be used to draw conclusions on population sizes or trends.

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ECOSYSTEM SERVICES

In general, habitats and species can provide a variety of ecosystem services – the benefits humans and wildlife can receive if the ecosystem is in a healthy state. These services include:

- **Provision of wild seafood**
- **Regulating water quality**
- **Coastal protection**
- **Climate regulation (through carbon uptake & storage)**

Habitats & their level of association to their ecosystem services:

HABITAT	Seafood	Water quality	Coastal protection	Climate regulation
Saltmarsh	HIGH	MEDIUM	HIGH	HIGH
Seagrass	HIGH	MEDIUM	HIGH	LOW
Reef	HIGH	MEDIUM	HIGH	MEDIUM
Kelp forests	Insufficient data	HIGH	HIGH	HIGH
Maerl	MEDIUM	Insufficient data	HIGH	HIGH
Ross worm reefs	HIGH	MEDIUM	HIGH	MEDIUM

These habitats also act as important nursery and breeding grounds for mobile marine species, support recreation and tourism, and are critical seascapes, but there is less information available on these ecosystem services than those noted above.

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VALUE FROM NATURE

Available information on the economic value of the benefits provided by nature within the SPA is limited, but includes:

VALUATION
The monetary & non-monetary benefits that can flow from natural features & their associated ecosystem services to people & the surrounding environment.

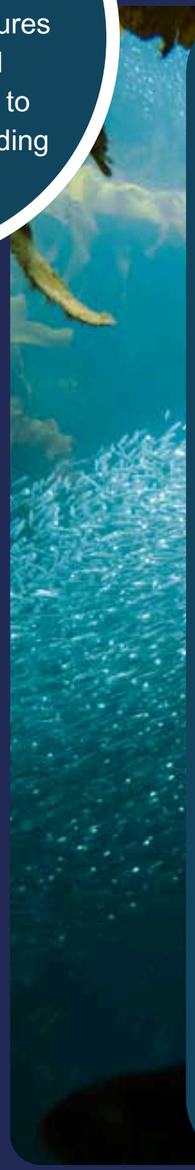
The value of seafood (landed value in 2023; 2024 prices):

- **Pelagic fish: £250,000**
- **Demersal fish: £900,000**
- **Shellfish: £400,000**

The annual value of carbon sequestration (2024 prices):

- **Sand: £70,000.** 1,686 ha sequesters 490 tonnes of carbon annually
- **Mud: £16,000.** 256 ha sequesters 110 tonnes of carbon annually

The SPA's section of the South West coast path – part of the King Charles III England Coastal Path is estimated to generate between £20-54 million visitor spend annually.



Beyond economic value, other metrics reflect the importance of the ecosystem services and benefits:

- **Seafood:** 17.5% of the total catch by the under 10m fleet landing into ports in Cornwall is landed within the site
- **Refuge, nursery, and feeding habitats:** marine habitats are crucial for the resident species to live, breed, and feed, and support the region's biodiversity
- **Heritage:** Approximately 80% of the SPA coastline (54 km) is defined as heritage coast, making up 20% of all heritage coast in Cornwal

Social and cultural values are often particularly difficult to monetise. They can be captured through participatory research, which can generate qualitative data (such as quotes) to express what people think is important and why.

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Social & cultural values of the SPA:

Sense of place:

"I've always wanted to live by the sea. And I still get a buzz when I walk out of my house and go over Tywardreath hill. And suddenly I can see the sea in front of me."

Aesthetic values:

"When the moon is going over and there's that line of silver all the way across the bay… I can feel the hairs in the back of my neck going up."

- **Personal & cultural identity:** Feeling a total connection to the sea
- **Wellbeing & therapeutic values:** Positive emotional responses to being in the area, livelihoods reliant on the sea, people in the fishing community looking after each other
- **Social relations:** Sharing a beautiful place with local people & visitors, passing knowledge to the next generation
- **Care & stewardship:** Taking responsibility for cleaning up the beach & encouraging others to do so

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CONDITION & PRESSURES

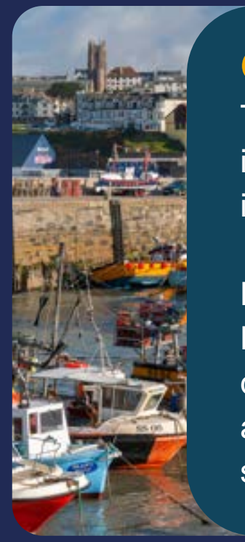
The wide range of uses of the area can put pressure on the natural features within the SPA. This affects their condition and their ability to support ecosystem functioning and ultimately deliver services and benefits to society.

Pressures include:

- **Commercial fishing**
- **Noise & pollution**
- **Recreation & tourism**
- **Shipping, energy, & infrastructure**

There is little information about these pressures at the scale of the SPA. What is available focuses on commercial fishing, pollution, noise, and recreation.

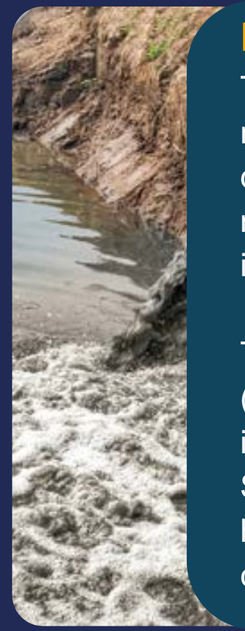
CONDITION
The condition of the environment & its natural features, & the main pressures they face.



Commercial fishing:

The SPA is home to ecologically important – but threatened – habitats including ross worm reefs, maerl beds, kelp forests, and oyster beds. High impact fishing activities pose a threat to the recovery of these habitats.

Landings from bottom trawls and dredging are particularly important for Mevagissey and Falmouth. More than half of the SPA is available for scallop dredging, and this represents 40% of the total scallop dredging area that is available to the inshore fleet in Cornwall. However, trawling and particularly scallop dredging have a high impact on the seabed.



Pollution:

Throughout the year, combined stormwater overflows and other discharges of nutrients and chemicals occur directly into coastal waters and into rivers that drain into them. South West Water, Cornwall's primary water provider, was ranked the worst company in the country (out of 9) for number of pollution incidents, with 194 actual incidents in 2023.

Two bathing water sites did not reach at least a 'good' standard: Par Sands (classified as Sufficient in 2023 and 2024) and Porthluney (classified as Poor in 2023 and 2024). This monitoring only takes place over the summer months. Significant further work is required to understand how the species and habitats of the coastline are impacted by the frequency, timing, volume, and category of the pollution.

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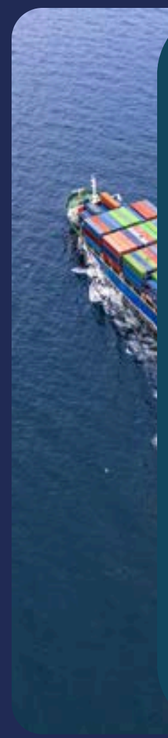

Marine noise:

Marine noise occurs from a range of sources including impulsive noise (e.g. from piling, seismic testing, and explosives) and high-power sonar (either from military use or acoustic surveys). Research into the impacts of marine noise on a range of species including marine mammals, sharks, skates, rays, and fish is ongoing.

Recreation & tourism:

Recent reports indicate that coastal users/walkers were the one of the top causes of disturbance for marine wildlife during 2014-20, followed by tripper boats and paddle sports. Human disturbance can cause a change in wildlife behaviour, and can impact their ability to rest, feed, and breed - all of which affects their survival.

WHAT DOES IT ALL ADD UP TO?

The results of the assessment can be used to understand the environmental, social, and economic trade-offs that need to be considered by management decisions. The assessment can also provide an evidence base to help decision-makers develop marine nature recovery strategies which enhance the benefits derived from our seas, and to inform next steps towards a thriving marine environment for the benefit of all.

View the complete Falmouth Bay to St. Austell Bay SPA case study to explore the full assessment details.

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NCEA Natural Capital and Ecosystem Assessment