Seagrass vs. Water Quality

Blue Marine Foundation, Project Seagrass and Surfers Against Sewage

BLUE MARINE FOUNDATION

PROJECT SEAGRASS

SURFERS AGAINST SEWAGE

Photo: Theo Vickers

Blue Marine Foundation is a UK charity working to protect and restore life in the ocean.

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The Climate Unit is dedicated to finding climate change solutions through protecting and restoration of the global ocean.

The concept

- Topic of conversation at COP26
- Raise awareness of water quality impacts on blue carbon ecosytems
- Impact on active restoration projects
- Increase the profile of blue carbon ecosystems to policy makers

Photo: Theo Vickers

Partnerships

SSP partner

Excellent science on seagrass health

Annual water quality report

UK wide data

Method

- Looked at:
  - Nutrient content of seagrass leaves
  - Ratios of particular elements in the seagrass tissue to estimate the amount of light available.
  - Phosphorus & nitrogen levels across 41 sites
  - Levels of turbidity and water clarity in coastal areas
- We found:
  - Heightened average percentage of elemental nitrogen in seagrass within the British Isles
  - On average, phosphorus levels were less than the global average though specific sites had double and triple the amount.
  - The highest concentrations of nitrogen and phosphorus are in estuarine seagrasses that are most vulnerable to catchment water pollution.
  - Water clarity was much lower than global average; limiting photosynthesis due to light availability.
  - We compared water quality from our data with results in the water framework directive.

Photo: Theo Vickers

Our recommendations

- **RECOMMENDATION 1:** The UK and the devolved governments should adequately enforce existing regulations to urgently reduce nutrient pollution, particularly in our estuaries and coastal zones, to prevent the deterioration of key habitats in the fight against climate change.
- **RECOMMENDATION 2:** The Department for Environment, Food and Rural Affairs, alongside the devolved governments should commission research to understand the consequences of elevated nutrients in habitats such as seagrass and their impact on Greenhouse Gas Emissions and on the UK's Nationally Determined Contributions.
- **RECOMMENDATION 3:** The UK and the devolved governments should update the UK Marine Strategy and define targets for seagrass meadow health using evidence-based Good Environmental Status indicators.

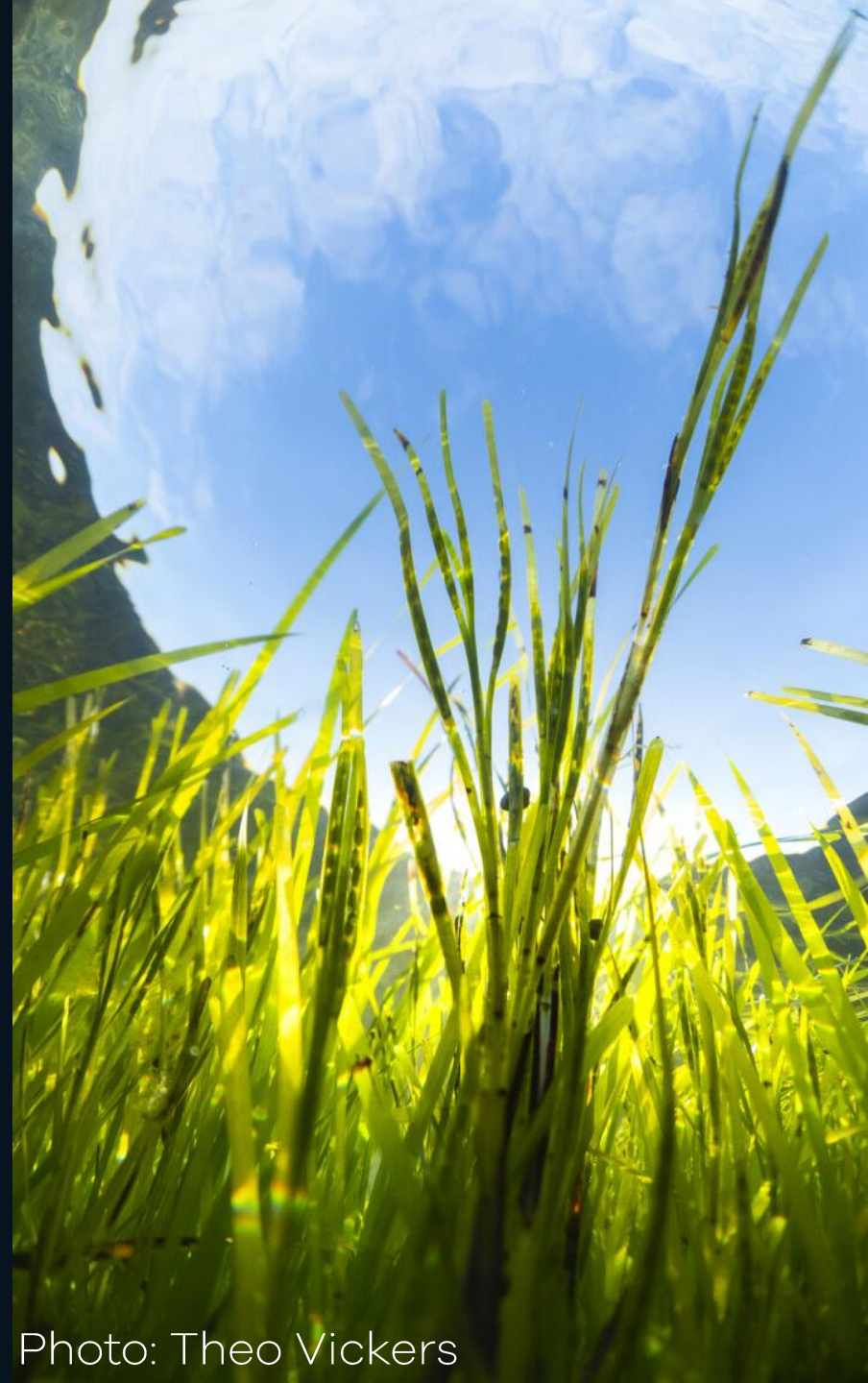

Photo: Theo Vickers

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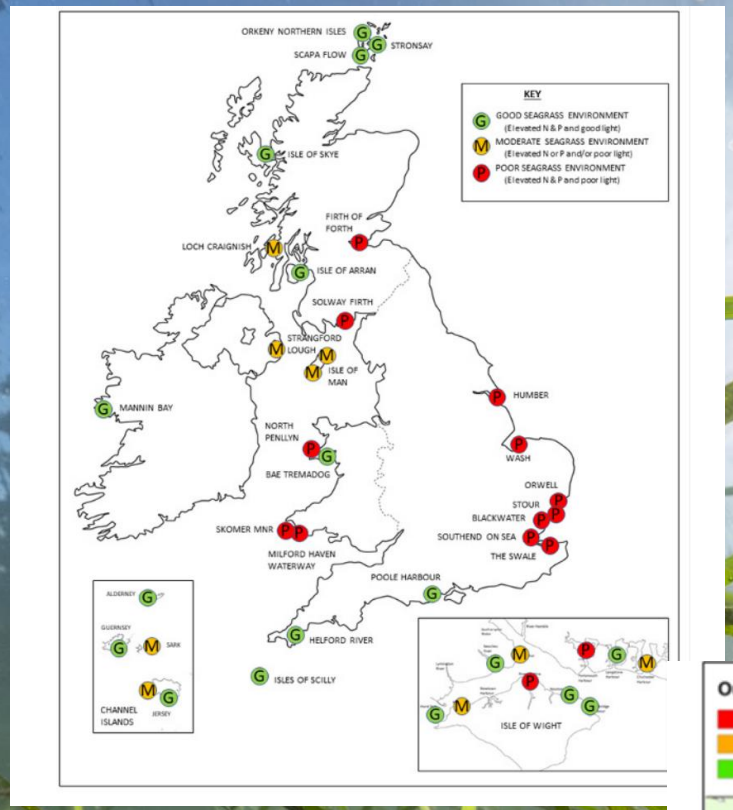
Recommendation 1

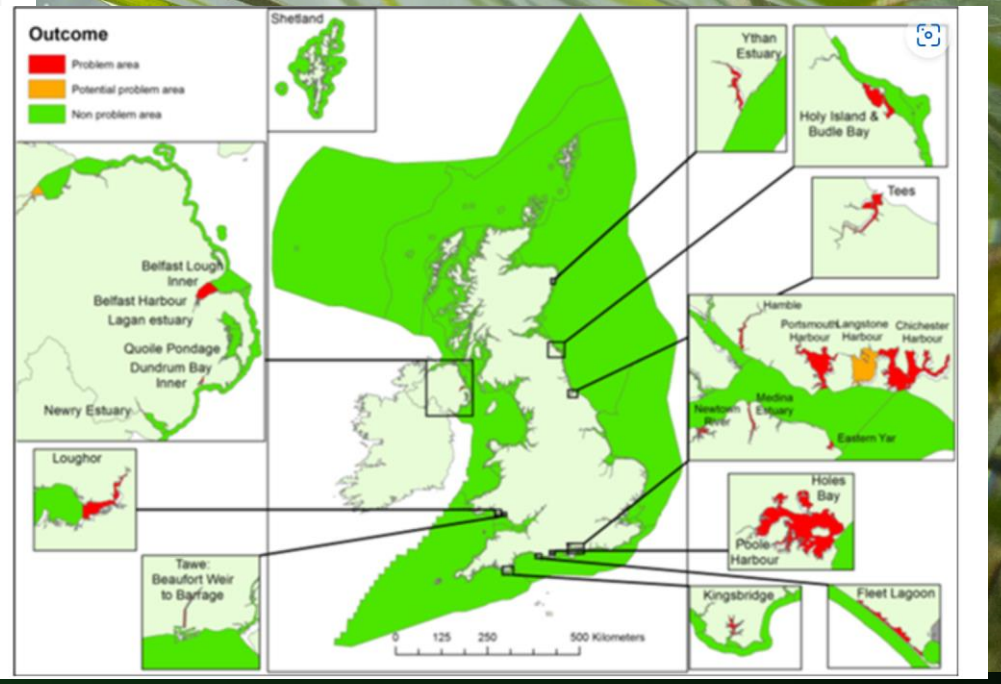
- Important to acknowledge the sewage spill crisis
- Highlight the link between our freshwater and coastal ecosystems
- Show lack of join up between policies coming from central Government
- Report got features in the Times: article linked here.

Photo: Theo Vickers

Recommendation 2

- Importance of recognising blue carbon ecosystems as solutions to the Climate Crisis
- UK Blue Carbon Evidence Partnership has the means to highlight the evidence gaps and commission research alongside the UK Blue Carbon Forum
- Blue carbon ecosystems are yet to be included in the Greenhouse Gas Inventory





Recommendation 3

- Importance of GES indicators for the public/sector.
- When investigating the eutrophication indicator, we noted it was measured across the entirety of the UKs EEZ.
- A need for coastal specificity to acknowledge blue carbon ecosystems there.

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Questions ?