

## East Marine Ecosystems

Reporting Annual Change in the  
East Region & Building Social Capital



# **EASTME Reporting Annual Change at a Regional Scale: Building Social Capital - Relationships & Communities**

## **Coastal & Estuarine Habitats**

**Jeff Kew RSPB**



# Thanks to all the contributors to the Coastal and Estuarine Community of Practice March meeting

- James Wood – Lincolnshire Wildlife Trust
- Kev Wilson - Lincolnshire Wildlife Trust
- Colin Scott - ABPmer
- Tony Dolphin - Cefas
- Mike Nelson & Mike Jones - Environment Agency
- Giles Bloomfield -Water Management Alliance
- Alison Andrews – Alde & Ore Community Partnership



# Background to the Coastal & Estuarine Habitats: Protection, Restoration & Recovery thematic topic - Context

- The framing of this thematic topic title places the emphasis on two aspects of this subject,
- firstly the status of these natural systems of this coast and estuarine habitats and,
- secondly, the management measures being directed to its protection and recovery.





## **East Regions coasts – Sedimentary & Dynamic – with many interlinked coastal and estuarine habitats**

- sedimentary and highly dynamic in nature, contrasting trial of the SWME Model.
- Understanding the status – stability of the coastal habitats is therefore challenging, specially documenting change over one year.
- There are a wide range of estuarine and coastal habitats, ranging from mud flats, saltmarsh, sand dunes, saline lagoons and saltings with complex transition zones.
- Together with extensive wetlands behind coastal structures.



## Sea level rise – Coastal Squeeze – Impact of Storms – this affects many other natural systems Habitats, seals, birds and shell fisheries

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- challenges of accelerating sea level rise and coastal squeeze are very real,
- as are the complex dynamics of erosion and accretion.
- Storms and storm surges can be highly significant.
- valuable to report on coastal and estuarine habitats annually since these impact on many other natural systems thematic topics, in particular coastal habitat communities, birds, seals and shell fisheries and help inform current and future initiatives





# Coastal Management

- The management – governance of these coastal areas is predominantly land based, and **very different** from the governance arrangement for marine protected areas.
- A wide range of measures are in place to manage coastal habitats in this region including extensive coastal nature reserves down the entire regional coast, with designations.
- New management measures such as Local Nature Recovery into the marine (via mNCEA) are being introduced with Local Authorities.
- Projects on restoration and recovery, managed realignment and beneficial use of dredge sediments have all figured highly within this region.



## ***What is the status of coastal and estuarine habitats? Loss or gain? – Studies in 2023***

Status of saltmarsh: Colin Scott described a very large scale study of status of saltmarsh in the EASTME region by the Environment Agency – Published Jan 2024

No simple answer.

Key reference for many regulatory initiatives

<https://www.data.gov.uk/dataset/2d5d8f23-3582-491b-aae4-c987ffabb910/saltmarsh-change>

## Storm Impact

The storms in the winter were 'normal' in the sense that their impact was much as usual.

None of the storms in 2023 were as damaging as the extreme storms in 2013

*In December 2013, parts of the UK experienced the biggest storm surge in 60 years. The East Anglian coastline was one of the hardest hit. Many may remember photos of houses falling into the sea. Storm damaged house in Hemsby after the December 2013 UK storm.*

*Images: Before & After – North Norfolk – Tony Dolphin, Cefas 2013*





Wet winter 2023/24  
Contributing to  
increased coastal  
erosion





# Seascape Demonstrator

- A joint partnership between Ørsted, Lincolnshire Wildlife Trust and Yorkshire Wildlife Trust
- Reintroduction of 500,000 native oysters
- Restoration of 2 hectares of seagrass
- Enrichment of 2 hectares of saltmarsh
- Biodiversity influence of reconnecting intertidal habitats in natural successional chain.
- Trial sites at Horseshoe Point and Spurn Point
- James Wood Lincolnshire Wildlife Trust
- <https://storymaps.arcgis.com/stories/f69c396076db426b9e1882a99bfeb0f7>



# Seagrass Restoration

- A non-compensatory resilience measure funded by Ørsted at Spurn Point
- Restoration of 30 hectares of seagrass
- Creation of seagrass nursery
- Dedicated technical staffing.
- Research into role as a finfish nursery and movement connectivity with offshore areas.
- James Wood Lincolnshire Wildlife Trust
- <https://storymaps.arcgis.com/stories/f69c396076db426b9e1882a99bfeb0f7>





# Protected areas: Coronation Coasts Reserves - Lincolnshire

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- In 2023 the Coronation Coast reserves on the North Lincolnshire Coast were launched.
- The aim was to expand National Nature Reserves and link well managed land – creating Super NNRs.
- A partnership has been established of the existing management organisation across these sites with enormous benefits and the prestige of the designation.



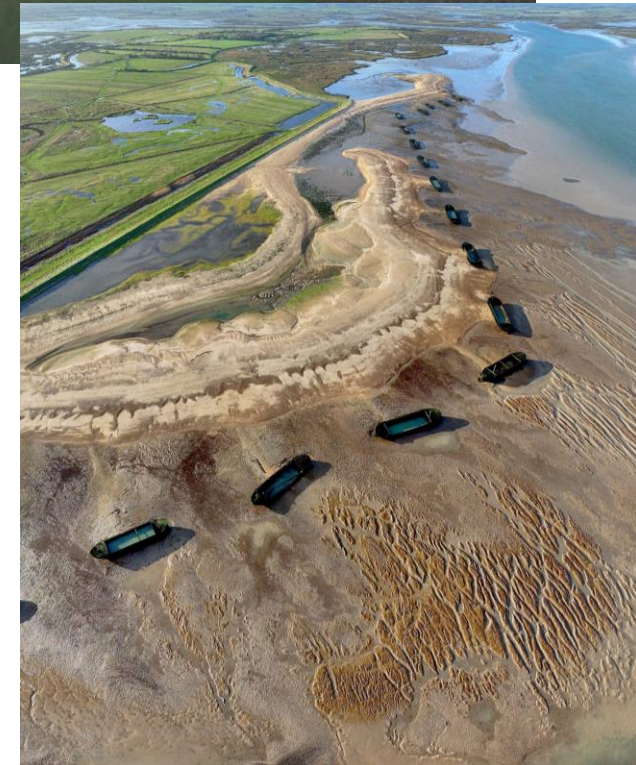


# Beneficial use of Dredge Sediment

- Increasing initiatives trying to beneficially use ~ 20 million m<sup>3</sup> of sediment from channel and harbour maintenance otherwise deposited at sea each year.
- A national Beneficial Use Working Group (BUWG) was set up after RSPB SEABUDS project (2018) meets regularly to support projects.
- Many challenges remain but valuable new examples.. On East Coast two main ones are:
- Horsey island: collaboration between Harwich Haven Authority (HHA), RSPB and landowner. Protective barrier recharged with 50,000 m<sup>3</sup> sand and gravel. Big success – 40 Little Terns chicks fledged in 2023
- Mersea Harbour: collaboration between HHA and Mersea Harbour Protection Trust (MHPT). 98,000 m<sup>3</sup> of sand and gravel at four sites Cobmarsh Island, Old Hall Marsh, Tollesbury Wick and Packing Marsh Island
- See ABPmer habitat restoration database at <https://www.omreg.net/> for more information

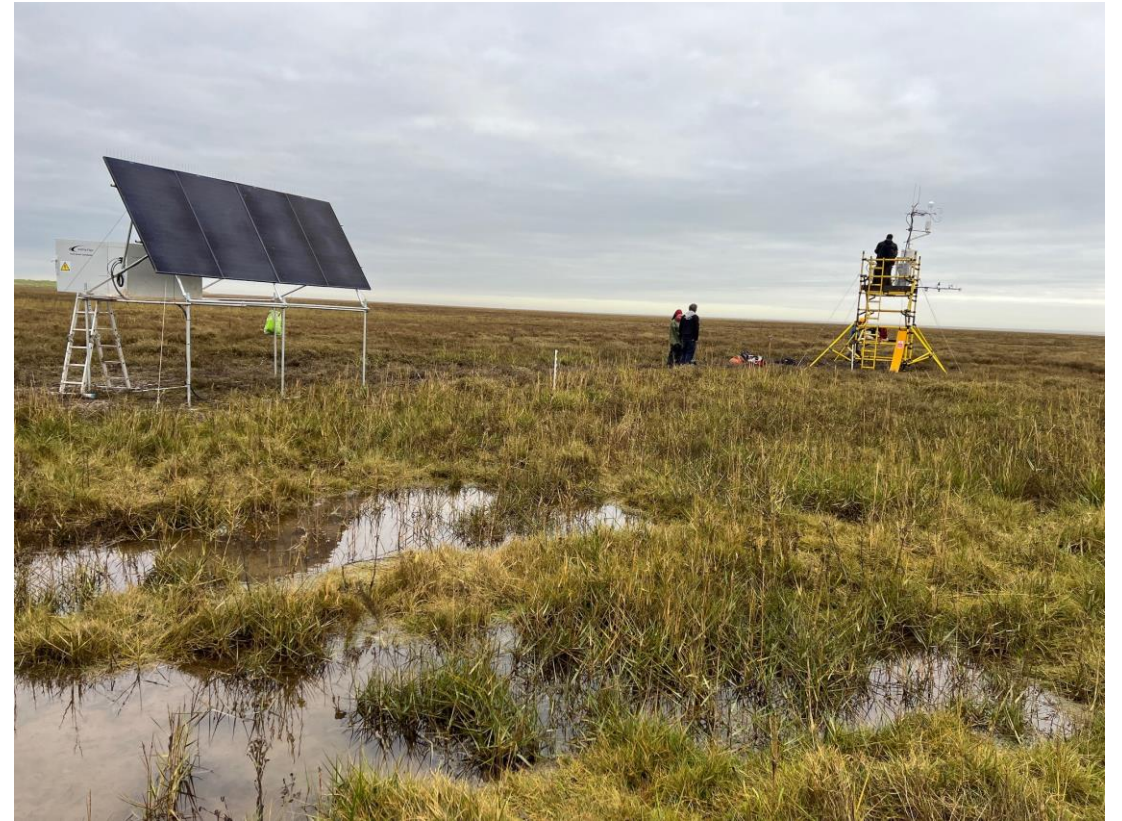
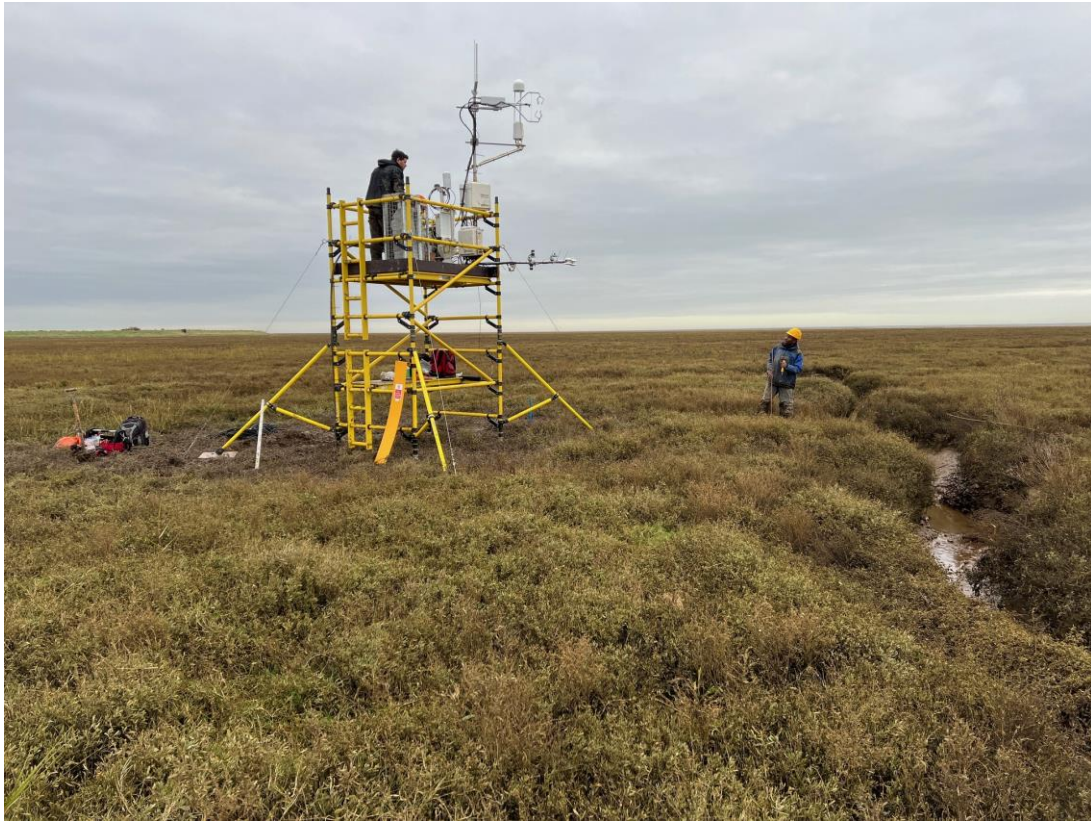


Mersea Harbour Jim Pullen, Harwich Haven Nov 2021



Horsey Island  
Jim Pullen for  
RSPB January  
2024





# New Flux Towers

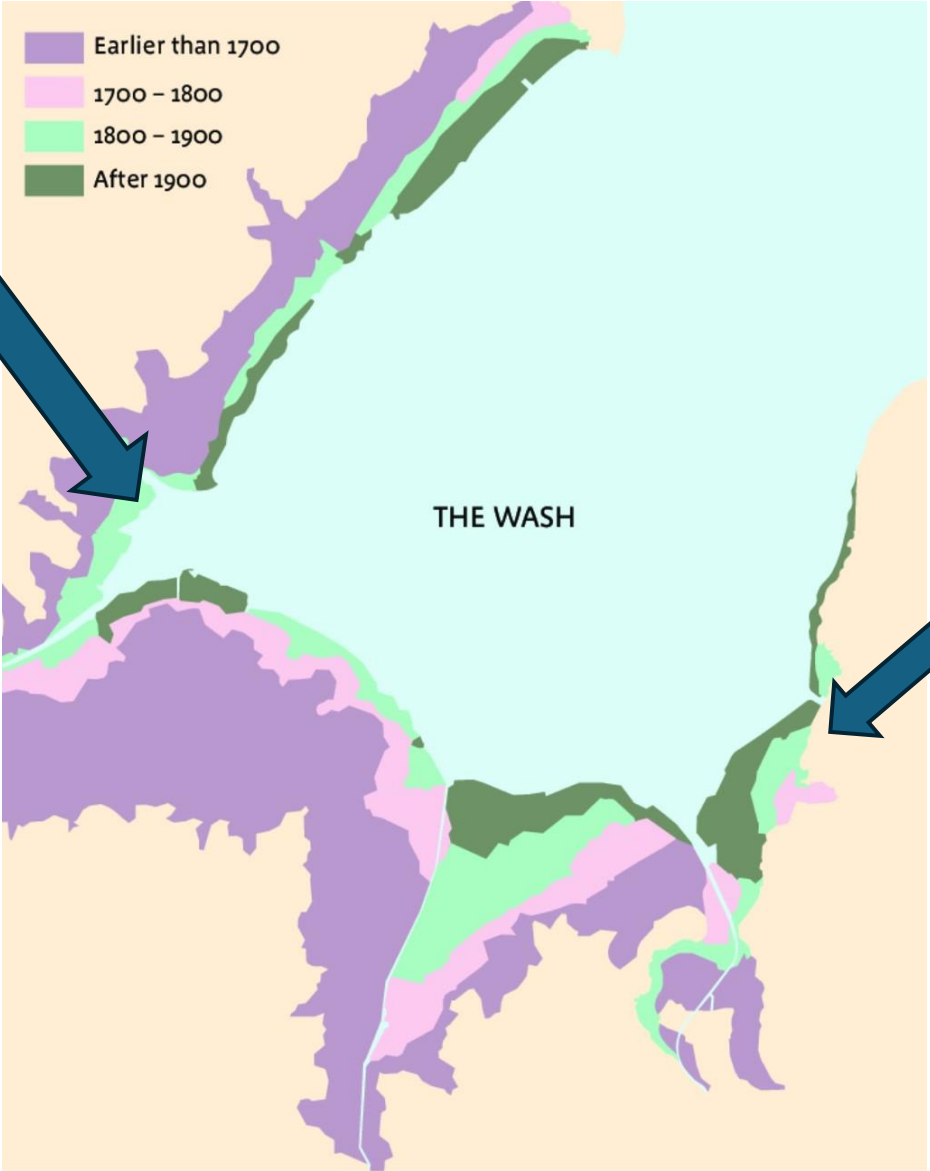
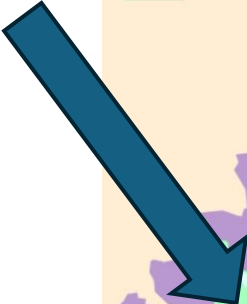


UK Centre for  
Ecology & Hydrology

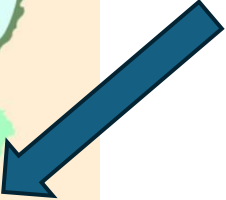


Landscape  
Recovery  
Projects

Greater Frampton



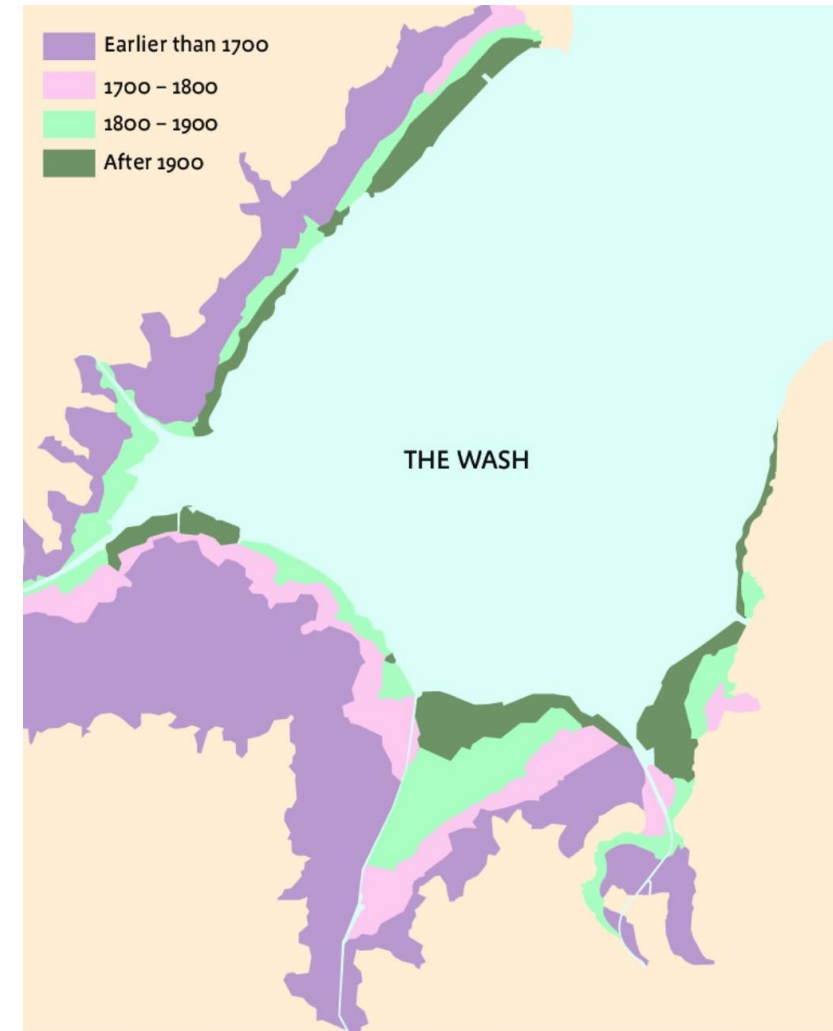
North-West Norfolk  
Coast Project



# Habitat Restoration Potential Mapping

## e.g. Intertidal

- Drivers BNG, Carbon, need for an adaptation pipeline
- Need to bring work together : EA (REMEMARE), Crown Estate, RSPB, WWT
- New working group : Crown Estate, EA, NE, NT, TWT, RSPB, WWT, Duchies of Lancaster and Cornwall
- Working with £200K Defra funding awarded to EA (to take an in depth look at 20-30 possibilities through modelling, ground truthing, carbon assessments, etc.)



## Management of 'hard points' -adapting from the unsustainable

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- Example of a current challenge : Benacre pumping station (within the responsibilities of the Water Management Alliance – Gavin Bloomfield)





# UNESCO Natural World Heritage Site – ‘East Coast Flyway’ Thames to the Humber

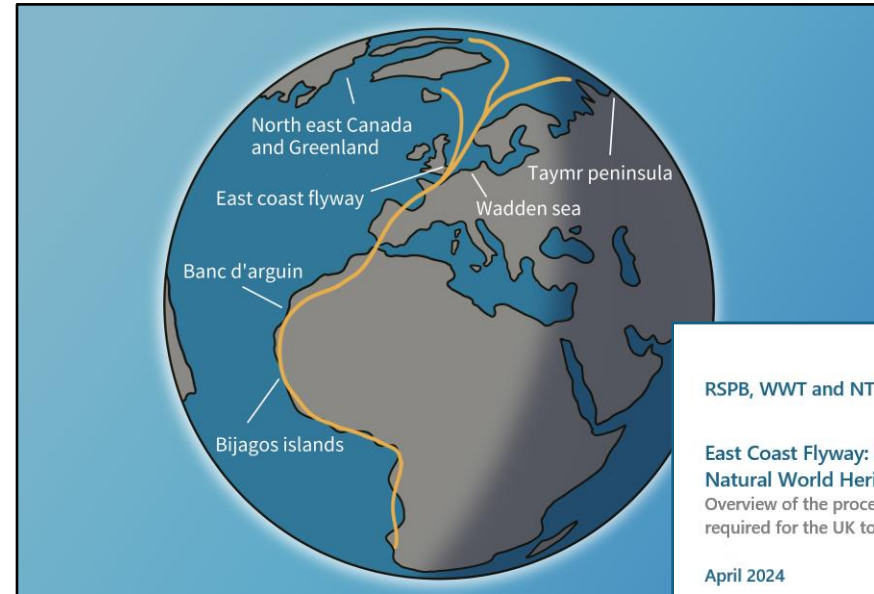
- Application by RSPB, the Wildfowl and Wetlands Trust (WWT) and National Trust (NT) with lot of support from Local Authorities and other stakeholders
- UK Govt decision to place on UKs’ tentative list in April 2023, confirmed on UNESCO list in September 2023  
<https://whc.unesco.org/en/tentativelists/6689/>.
- Area extends from the Thames to the Humber. Defined by 21 SPAs and 23 Managed Realignment sites;
- Coast being recognised because of global value as
  - Outstanding network of biodiverse habitats,
  - Importance to East Atlantic Flyway
  - Exemplar of adaptive management in changing climate
- Probably a 6-year nomination process. Potential to secure NWHs designation in 2030.
- Will require a lot of work, thematic reviews and extensive consultation and engagement with local authorities and communities
- EASTME can play a key role especially thematic studies



East Coast Flyway Map (left) by ABPmer;  
Aerial view of Burnham Overy-Scolt Head, Norfolk (centre) RSPB copyright  
Wader flocks on The Wash Snettisham, Norfolk (right) RSPB copyright

# UNESCO Natural World Heritage Site – ‘East Coast Flyway’ Thames to the Humber

- Report by ABPmer (April 2024) lays out actions and research needed. Main tasks
  - Describe its Outstanding Universal Value (OUV), why it’s “so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity”.
  - Describe site integrity (i.e. how the whole area links together);
  - Compare with other NWHs and similar locations globally; and
  - Set out plans for long-term management and monitoring.
- Seven Thematic studies
  - Mapping and data management;
  - Reviewing history, ecology, geomorphology and evolution;
  - Describing the value for migratory birds;
  - Detailing need for and value of coastal adaptation using case example;
  - Valuing the benefits to society and communities of the coast and the WHS nomination,
  - Examining the productivity and social value of benthos and fisheries; and
  - Explaining in more detail how the site will be managed and monitored.



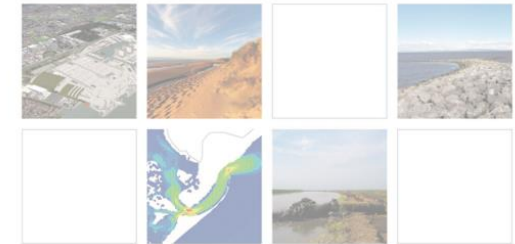
East Atlantic Flyway ABPmer;

RSPB, WWT and NT

## East Coast Flyway: Preparing a Natural World Heritage Nomination

Overview of the processes to follow and scope of work required for the UK to submit a nomination to UNESCO

April 2024

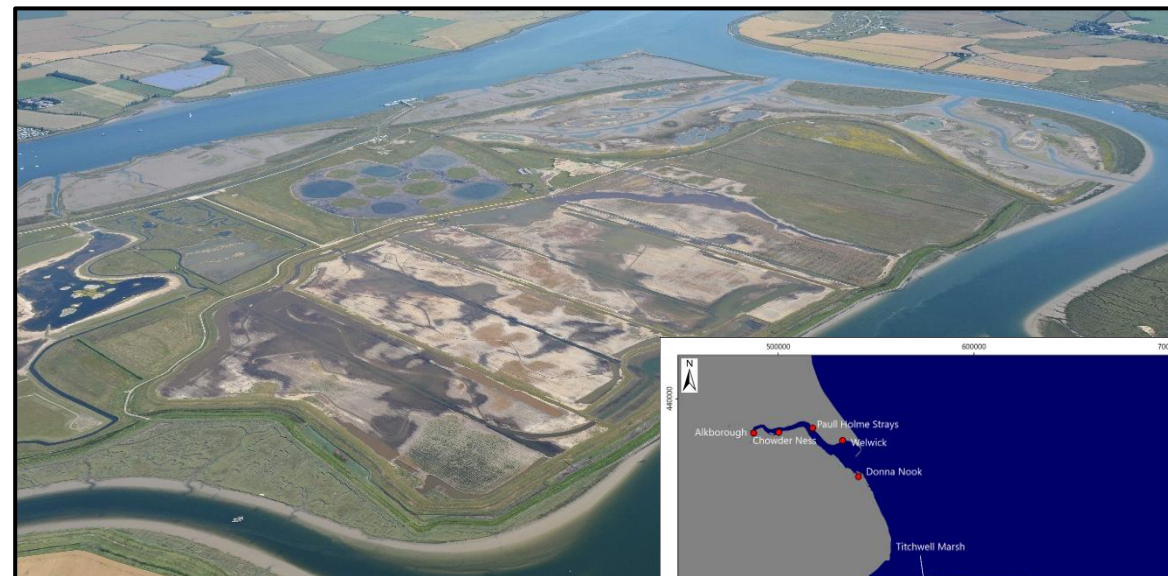


Innovative Thinking - Sustainable Solutions

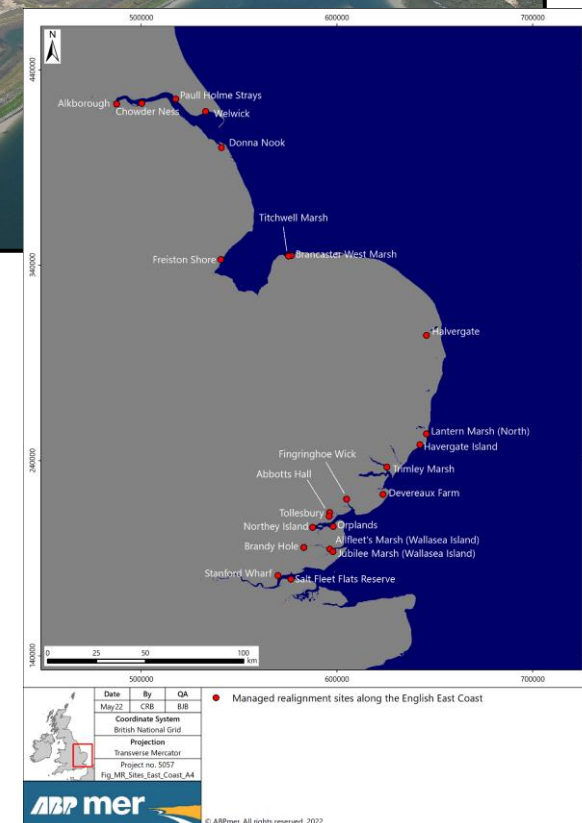


# Coastal Defences Realignmentments

- Thames to Humber already has 23 deliberate realignments over last 33 years – creating 1,365 ha intertidal habitat
- First ever Northey Island in 1991; Largest ever (800 ha) Wallasea Island (2006 to 2015) – 30,000 waterbirds each winter
- Several projects that are new or are in the pipeline?
- Two new at Northey Island (National Trust and RHDH) in 2019 and 2023;
- Also planned at Little Oakley, Hamford Water (Harwich), Skefling Humber (EA and ABP)
- Three ‘unmanaged’ realignments allowed to remain as intertidal including, Coopers Beach, Mersea (2020; Cattawade, Stour (2016); Hazlewood Marshes, Alde (2013); and Horseshoe Lagoon, The Wash (2014)
- See ABPmer habitat restoration database at <https://www.omreg.net/> for more information



Wallasea Island RSPB 2019



# The story of Clive

(Building social capital and communities)



**A journey of 2000+ miles in 4.5 days**







# Comment from an Essex landowner

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- “For me - seeing the story of Clive yesterday was much more than an incredible 2000 miles in 4.5 days. It had a personality at the centre of it. A champion, living in and off the environment we cherish - but that others might not recognise as anything more than mud.
- Clive represented a character of endurance, of stamina, of strength - all of which are admirable and to which people can associate.
- For you it is part of the story of the East Atlantic flyway. For me it is a single story that creates a single part of what is remarkable about the environment. It is a focus off which one could spin communicating the value of our environment.”





# Estuarine & Coastal Habitats: Conclusions

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- Complex and challenging work area, needing collaborative working
- Status reports on saltmarsh – mixed picture
- No extreme storm events in 2023
- Progress with multiple initiatives
- Recognition of East Coast global importance (potential UNESCO WHS) by UK Government
- ...and Don't forget to look up!

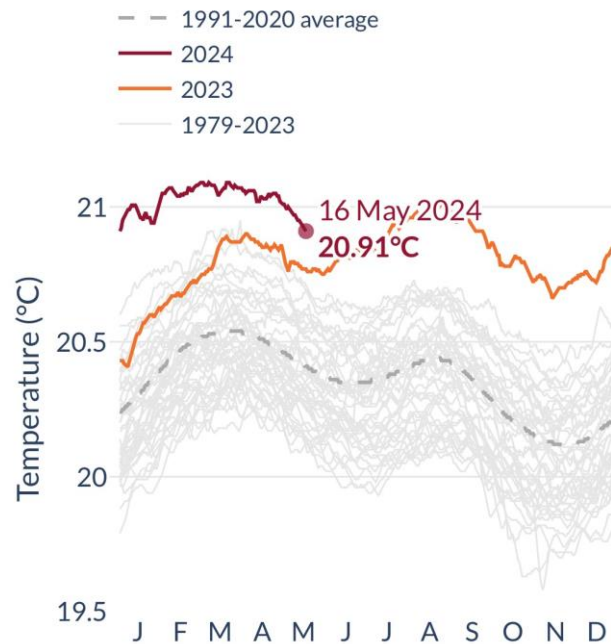


Absolute values      Anomalies

### Sea surface temperature

ERA5 1979-2024 (60°S - 60°N mean)

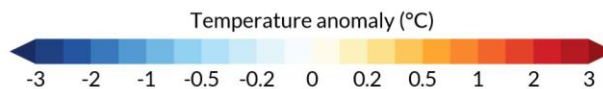
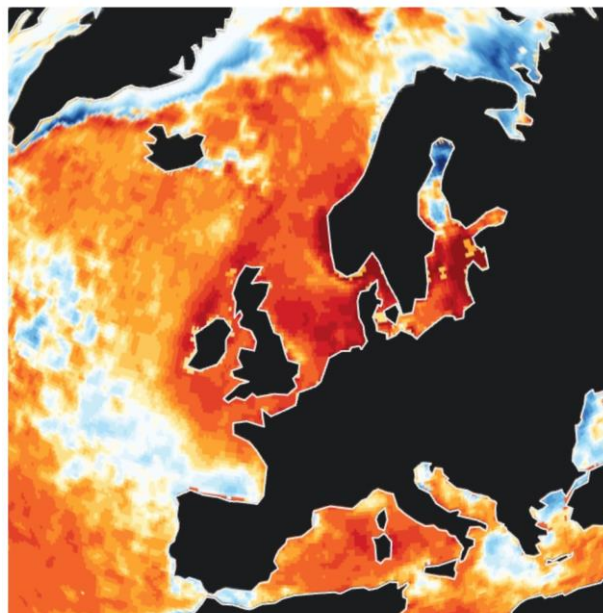
Data: ERA5 • Credit: C3S/ECMWF



### Sea surface temperature

Daily mean anomaly - 16 May 2024

Data: ERA5 • Credit: C3S/ECMWF



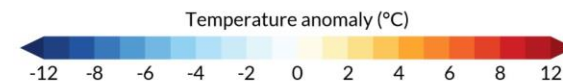
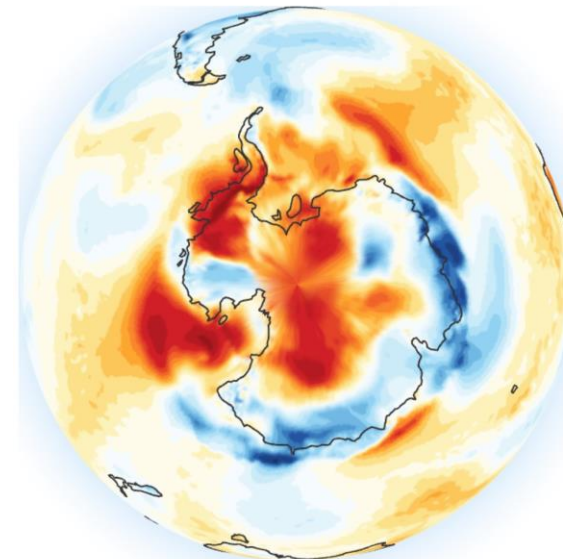
Absolute values

Anomalies

### Surface air temperature

Daily mean anomaly - 16 May 2024

Data: ERA5 • Credit: C3S/ECMWF



# Sea level rise and climate change



Copernicus Climate Change Service



**Restoring Meadow, Marsh and Reef (ReMeMaRe)**  
***Restoring Estuarine & Coastal Habitats***  
Conference July 10-11<sup>th</sup> Scarborough

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- **The REMEMARE conference** will focus on a wide range of restoration and recovery projects, with both case studies and generic issues.
  - **Book here:** ReMeMaRe 2024 — OCF - Ocean & Coastal Futures Ltd (corsizio.com)
  - <https://ecsa.international/reach/restoring-meadow-marsh-and-reef-rememare>

