East Marine Ecosystems

Reporting Annual Change in the East Region & Building Social Capital

EASTME Communication & Reporting Annual Change at a Regional Scale:

Building Social Capital –Relationships & Communities

2026 Seabed and Seashore

Ian Wilson

Benthic Solutions

Thanks to all the contributors

Thanks to the input from the members of the Seabed and Seashore Community of Practice for their input at the CoP and this presentation.

Including:

Ian Wilson (Benthic Solutions)

Ana Cowie (YWT)

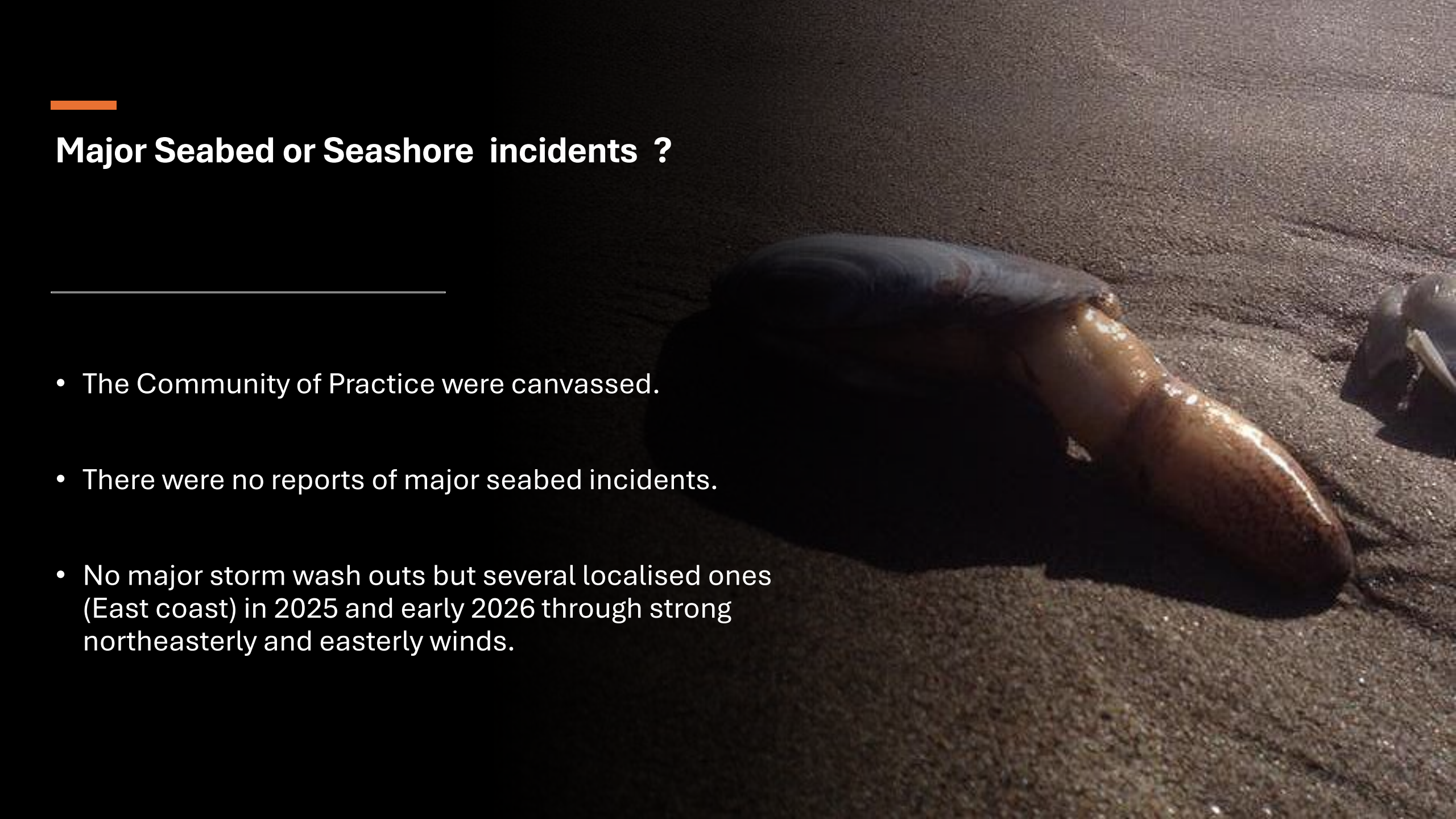
Keith Clarkson

Rob Spray & Dawn Watson (Seasearch)

Ella Constable (EIFCA)

Major Seabed or Seashore incidents ?

- The Community of Practice were canvassed.
- There were no reports of major seabed incidents.
- No major storm wash outs but several localised ones (East coast) in 2025 and early 2026 through strong northeasterly and easterly winds.

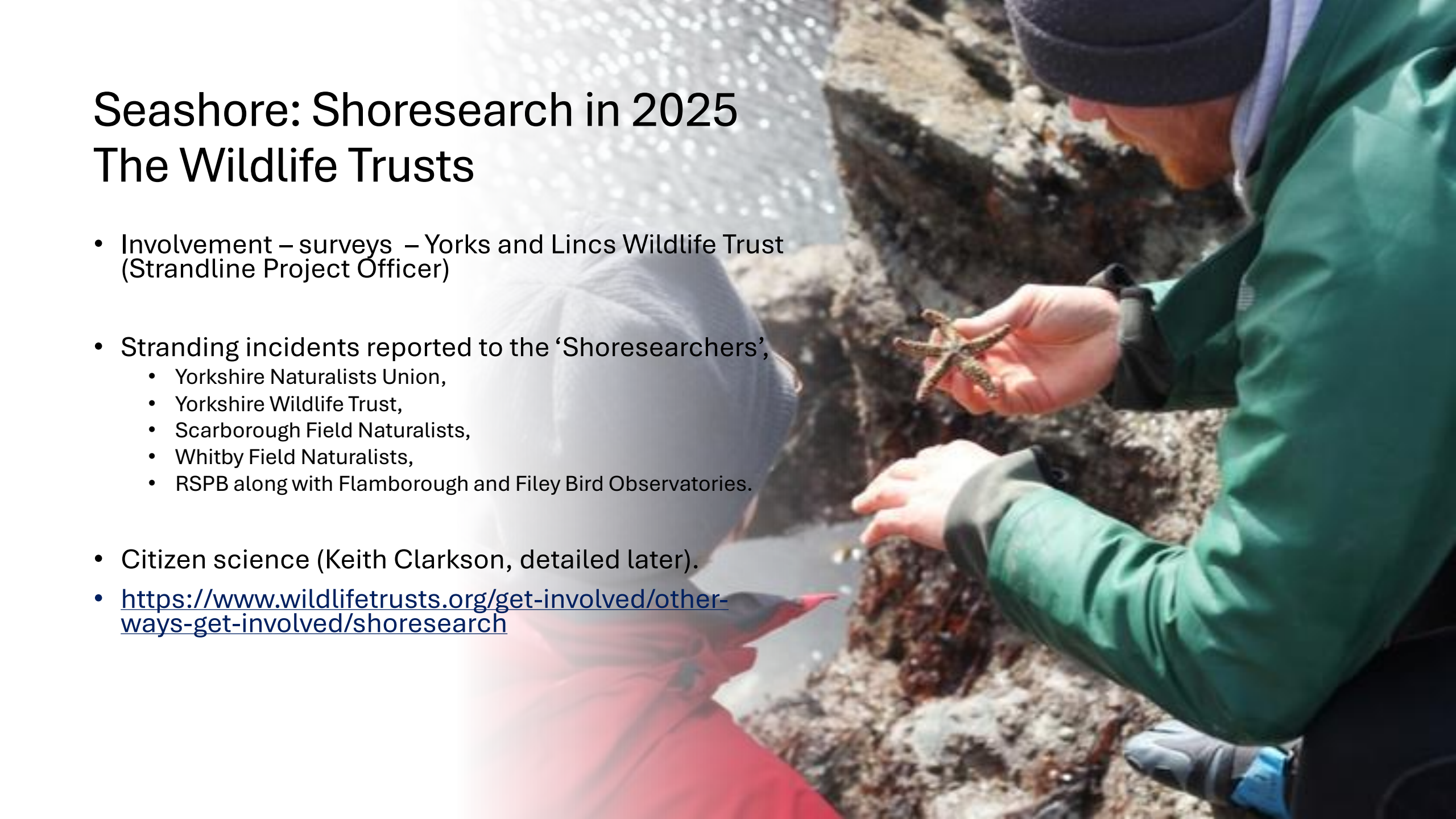


Seashore: Shoresearch in 2025
The Wildlife Trusts

- Involvement – surveys – Yorks and Lincs Wildlife Trust (Strandline Project Officer)

- Stranding incidents reported to the ‘Shoresearchers’,
  - Yorkshire Naturalists Union,
  - Yorkshire Wildlife Trust,
  - Scarborough Field Naturalists,
  - Whitby Field Naturalists,
  - RSPB along with Flamborough and Filey Bird Observatories.

- Citizen science (Keith Clarkson, detailed later).
- https://www.wildlifetrusts.org/get-involved/other-ways-get-involved/shoresearch



Yorkshire Wildlife Trust

Shoresearch

Shoresearch is The Wildlife Trusts' national citizen science survey of the intertidal shore, the world of extremes where the sea meets the land. In 2025 we:

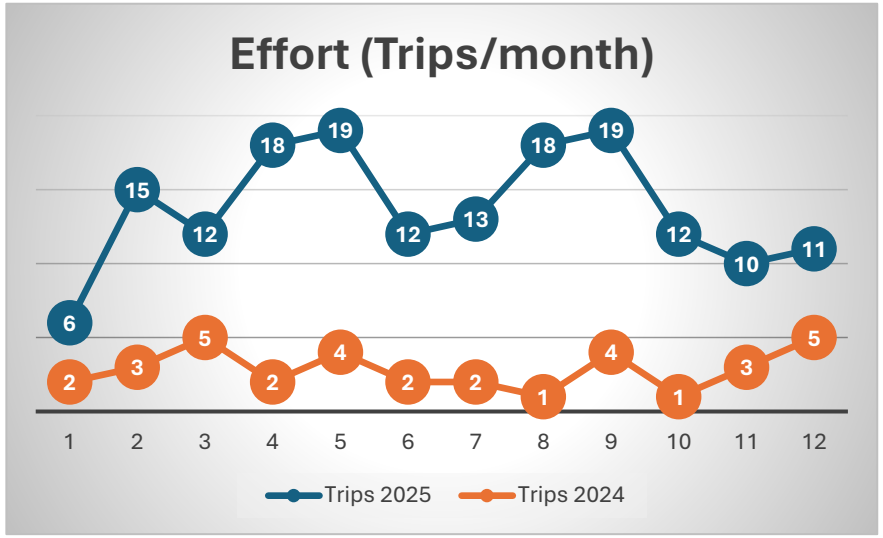
- Carried out **12** shoresearch surveys
- Recorded at **4** Yorkshire sites
- Recorded **195** species in total
- Found what we believe is a **first record** of a sea slug for Yorkshire (see image)
- Recorded **invasive species** like slipper limpets further up the coastline (see image)

Capellinia fustifera © Caroline Pindar

Crepidula fornicata © Kevin Beattie

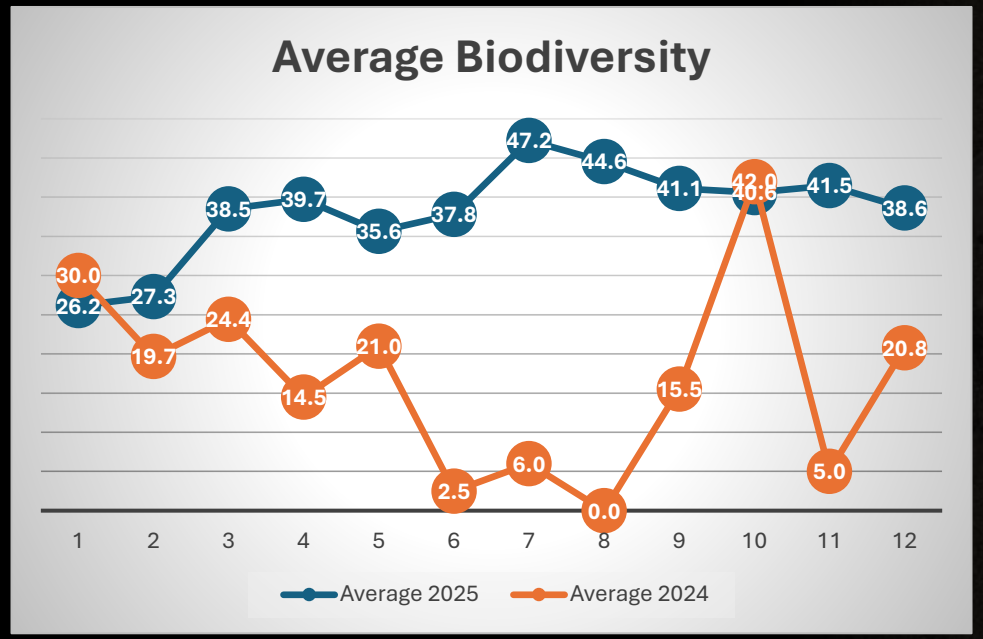
Seashore: Extensive Strandline Surveys and Reporting (Filey)

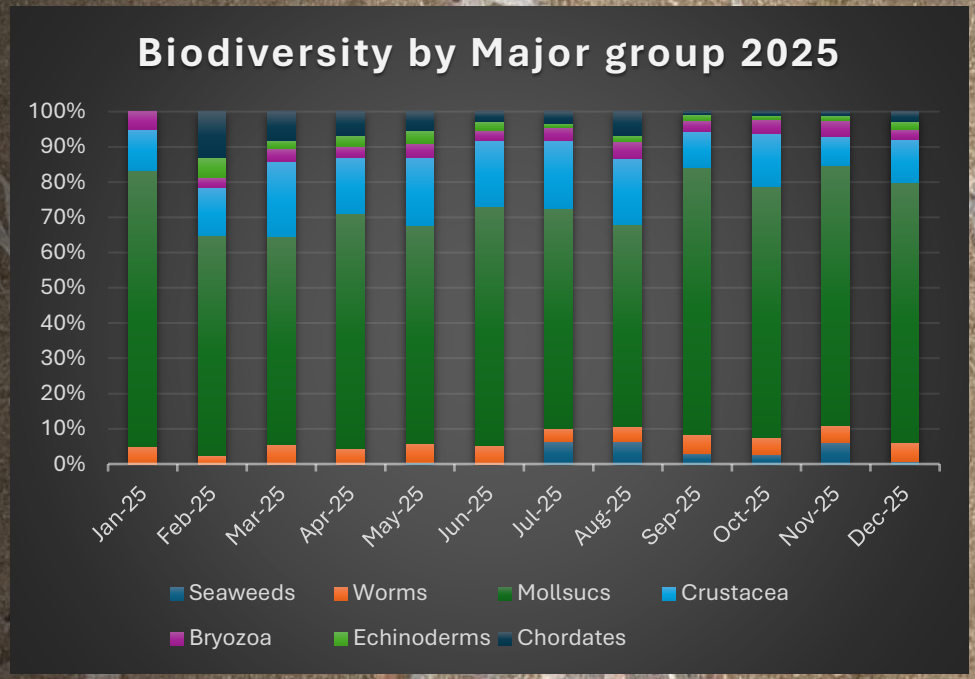
- Keith Clarkson
- Opportunistic since 2024 but effort significantly increased through 2025

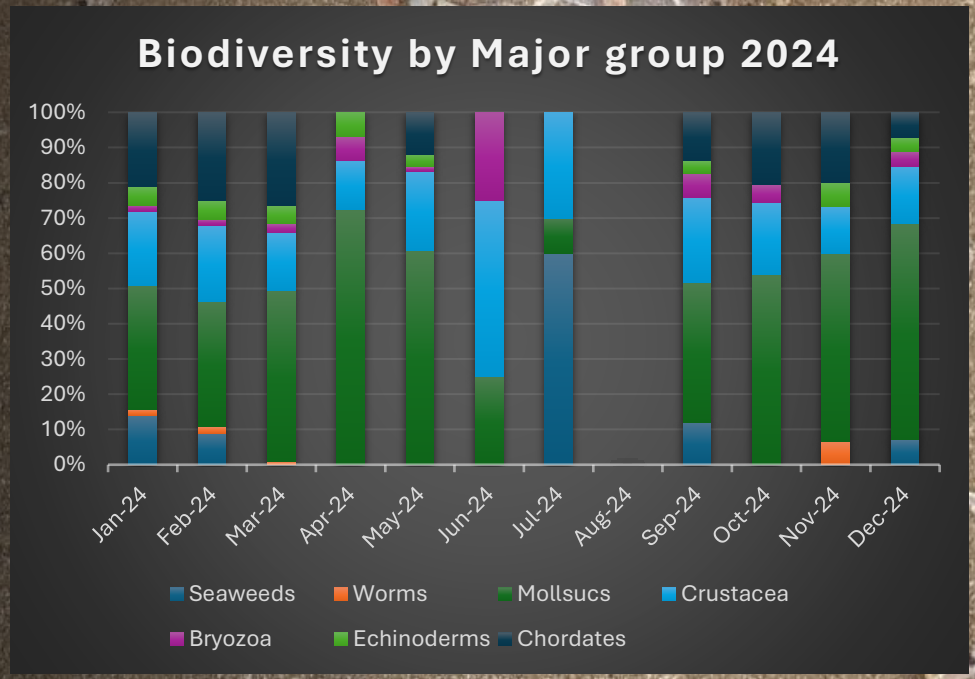


Mass crystal jellyfish stranding (*Aequorea vitrina*) © Keith Clarkson

Strandline Surveys (Filey)

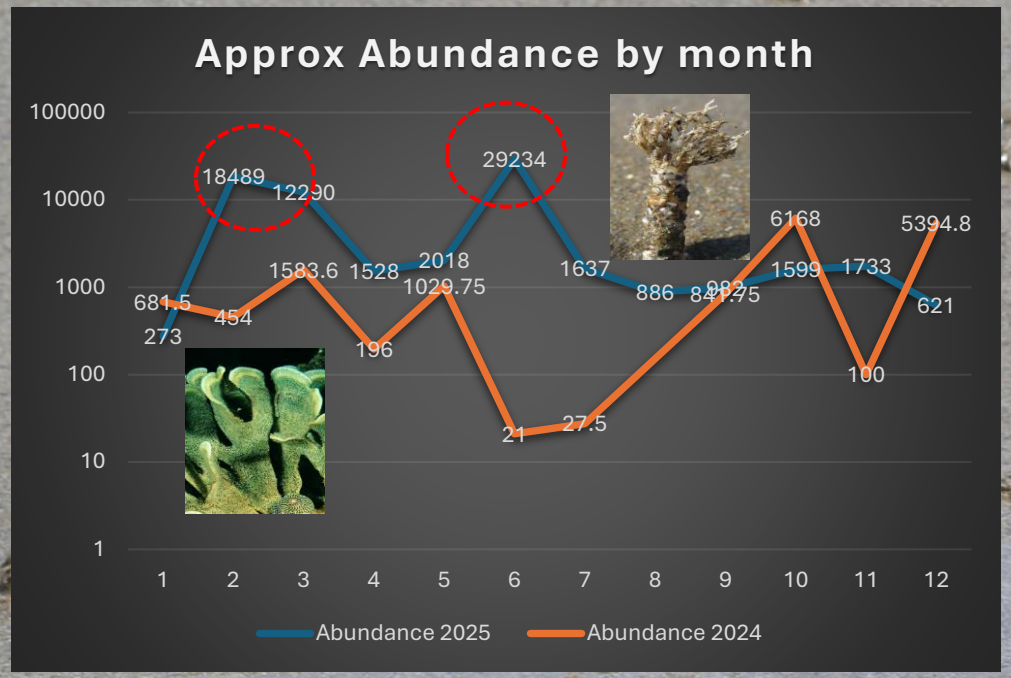




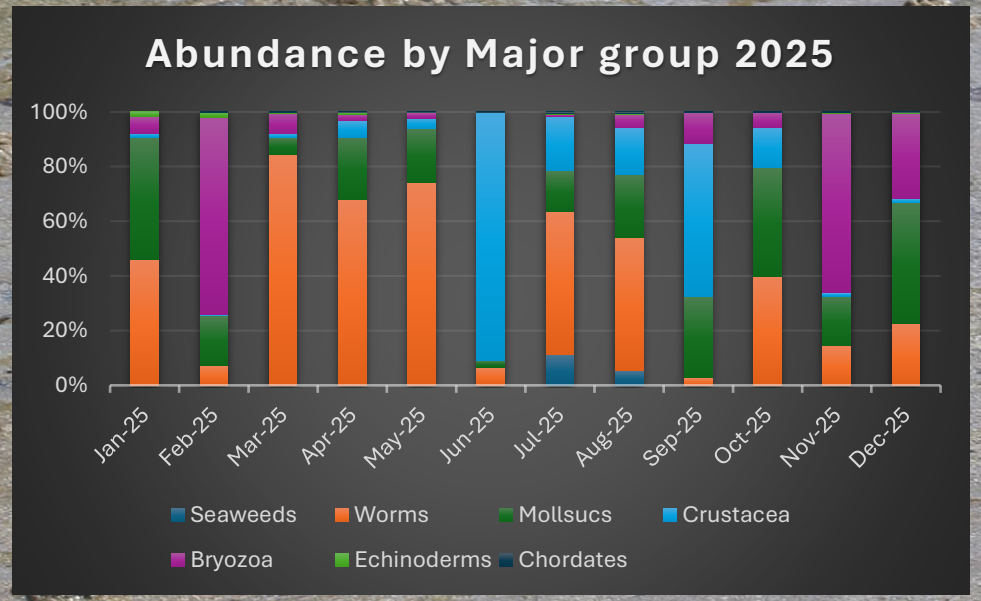


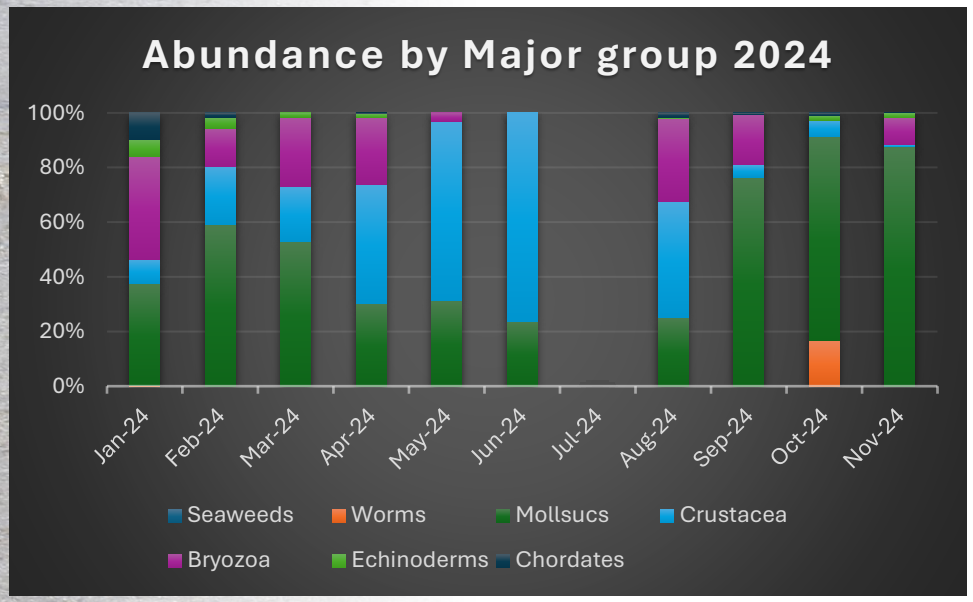
- 2025 more consistent strandings
- Molluscs have greatest diversity (67% up from 50%, 2024), followed by crustacea (16% down from 20.4%, 2024)
- Increasing taxonomy with additional groups

Strandline Surveys (Filey)



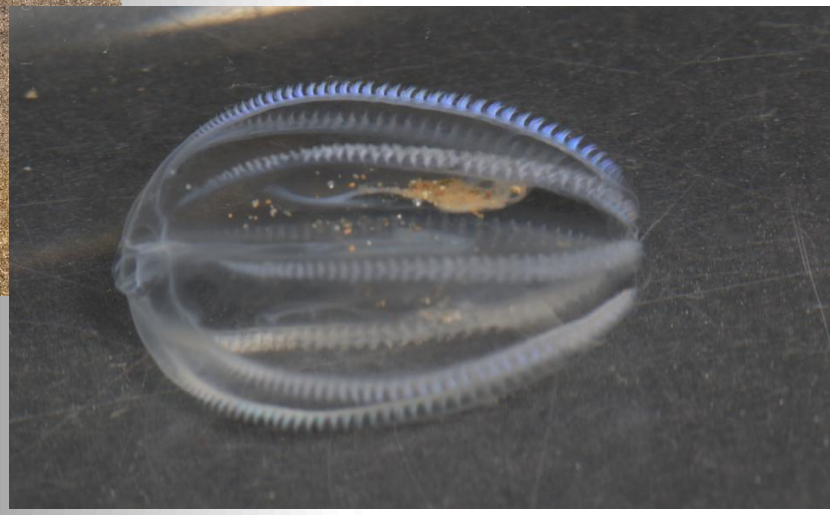
- Higher abundances in 2025 (due Bryozoan in February, Jellyfish in June)
- Largest groups Worms *Lanice conchilega* (33%) and Bryozoan *Flustra foliacea* (33%)
- Data is verified and submitted to the regional ecological database – the North and East Yorkshire Ecological Data Centre (NEYEDC),and submitted to the National Biodiversity Network (NBN) for an annual report.





Other Observations (Jelly fish)

- Unlike 2024, the blue and lion's-mane jellyfish, failed to materialise in 2025
- Crystal jellyfish had thousands stranded in October, along with hydro medusa in both June and October 2025
- Ctenophore Sea gooseberry seen most months but large stranding June 2025



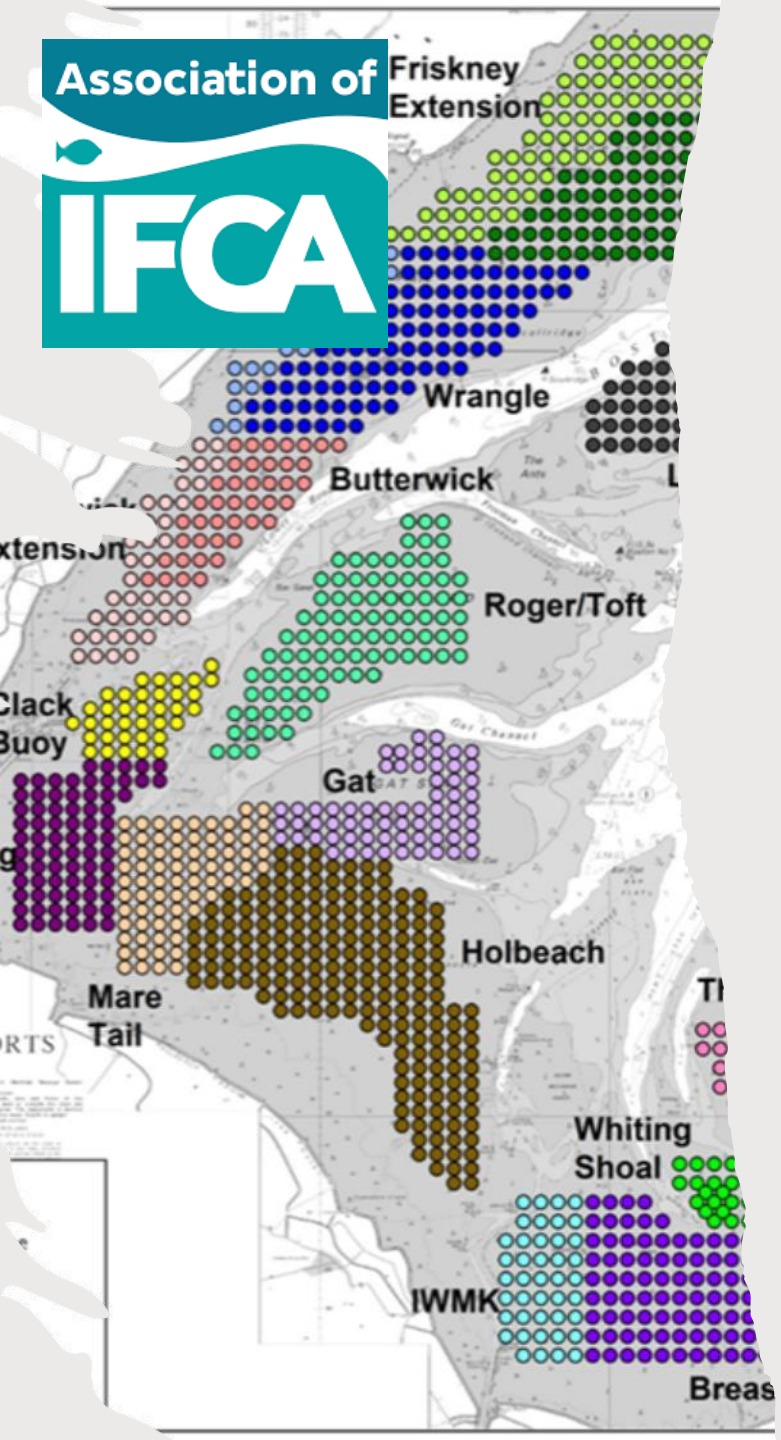
All images © Keith Clarkson

Other Observations

- In recent years, mass strandings of ‘bones’, of all ages, have been an annual event at Hunmanby Gap and other sites along the Yorkshire coast following strong south-easterly winds during January-March

Invasive Species

- January 2026 gave first records of two invasive species
- Wireweed *Sargassum muticum* from several sites along the Yorkshire Coast, between Scarborough to Flamborough
- Atlantic Jack-knife Clam *Ensis leeii* were also reported from Hunmanby Gap, Filey Bay, on several dates

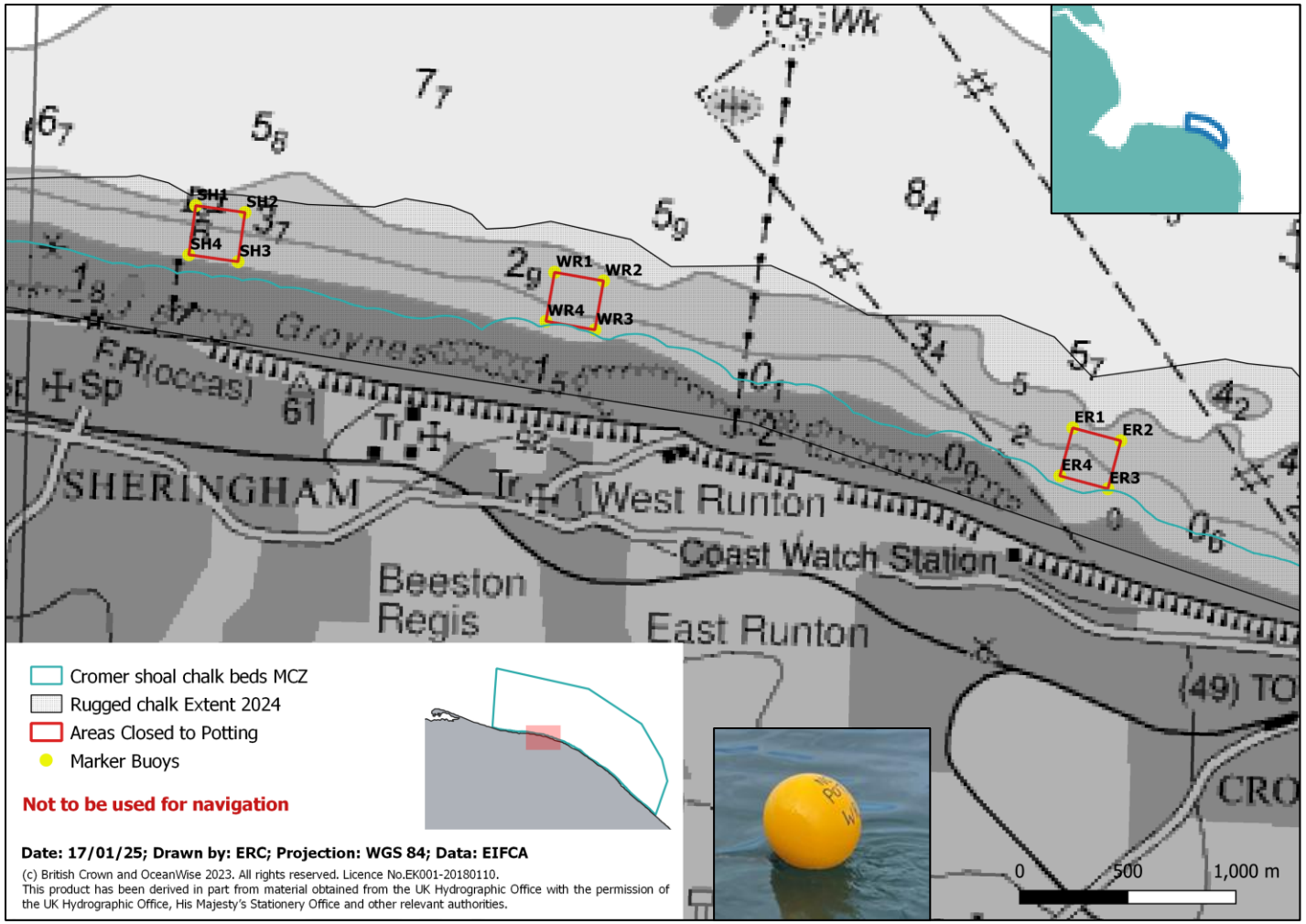


Inshore Fisheries and Conservation Authorities (IFCAs)

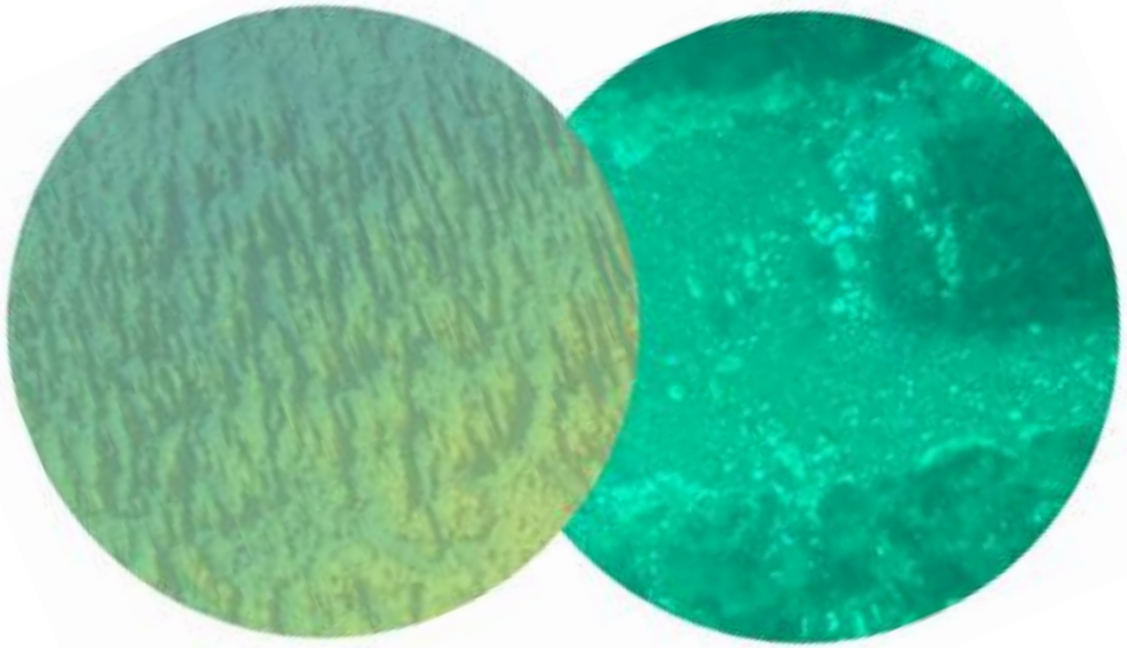
- Wash: Important fishery, 62,000ha half are intertidal flats
- Fisheries target cockles, mussels, brown shrimp, whelk, crab and lobster
- Highly designated marine protected area
- EIFCA monitor Approx 1200 samples/annum
- Good historic database, cockle extent, density, total biomass, size/age classes.
- This will be covered in fisheries presentation.

Cromer Shoal Chalk Beds MCZ Natural Disturbance Study

Aim: *to compare chalk degradation in open and closed potting areas*



Acoustic surveys (side scan & multibeam)
Bi-annual (Spring & Summer)
Quantify structural changes: volume & structural complexity



ROV seabed videos
Annual (Summer)
Quantify frequency & severity of impacts
Provide habitat ground truth data

Planning & site selection 2023

2024 Baseline surveys

Year 1 surveys 2025

2026 Year 2 surveys

Year 3 surveys 2027

2028 Final analysis & Reporting

2029

Chalk reef concerns (Seasearch)

- Widespread violations of MCZ 'Closed' 'trial' areas by the fishing industry in 2024
- 2025 Diving in/around two of these areas confirmed corridors of increased damage around the 'closures' impacting the most sensitive areas that are adjacent.
- This demonstrates accelerated fishing impacts around these areas.
- Divers assessed ballast soft marker moorings (rocks in net bags) which appeared stable and working well with limited impact.
- However, as they have been repeatedly been moved this intervention will have caused more damage.
- This suggests that the industry are still at odds with the 'trial'.
- Local conservationists and Nature Conservation Bodies state long-standing concerns that the delay, violations of designated areas and poor design limit the value of this 'trial'.
- Recession study: Seasearch looking for partners to map the reef-front which is being driven back towards the shore. Historically, divers suggest the front has receded many hundreds of metres over the past 50 years and possibly more than 100m in the current decade.

Rob Stray and Dawn Watson

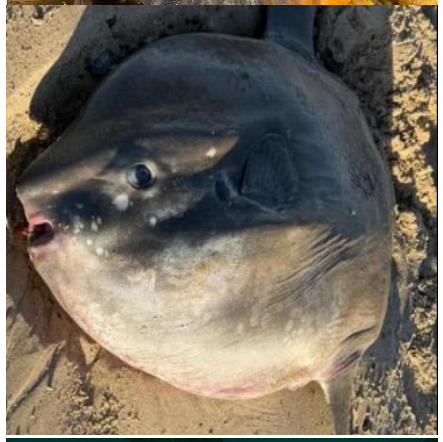
Climate Change Observations (Seasearch)

- Tompot blennies (*Parablennius gattorugine*): Since one was spotted in 2007 these have been a rare highlight. Their numbers have been slowly creeping up with a peak in 2016 and 2025 marked a considerable watershed with more young examples and disputes over territory. They are clearly resident and settled now.

- Sunfish (*Mola mola*) are regular summer visitors but unfortunately visits are normally terminal, with observation is from strandings (e.g. EDP December 2025). In 2025, Seasearch found free swimming example off Weybourne.

- Spider crabs (*Maja bracydactyla*): Following a small boom in recent years they have disappeared 2025. This questions if the previous explosion was a simply organic migration.

- Seasearch are active throughout the UK. Volunteers and collaborations are always welcome. www.seasearch.org.uk.



Commercial Operations (Benthic Solutions)

- Significant drop-off of commercial activity in 2025, particularly in Offshore wind and renewables
- Multiple Interconnectors in 2024, most commercial operations outside EASTME region in 2025
- Wind farm activity on Dogger Bank
- Decommissioning operations in SNS
- Monitoring studies in North Norfolk

- Time lag in release – commercial in confidence

benthic solutions limited

Decommissioning

- Three separate post-decommissioning projects undertaken in the Southern North sea in 2025
- Unlike NNS, SNS has strong currents and mobile sediments so historical cuttings piles are absent, small or buried
- Chemical profiles show only limited enhanced organic impacts sub-surface, if at all
- Many indicate little or no residues at all.

Other marine environmental surveys

- Acoustic surveys modelling and monitoring for construction noise around EA3 wind farm
- Extended baselines for two oyster-restoration projects (North Norfolk) – used eDNA and traditional benthic survey techniques
- Continuous port monitoring of invasive species (East Coast) – using eDNA
- Baseline for sea grass restoration project (Humber) – used eDNA and traditional benthic survey techniques

Courtesy Rob Spray

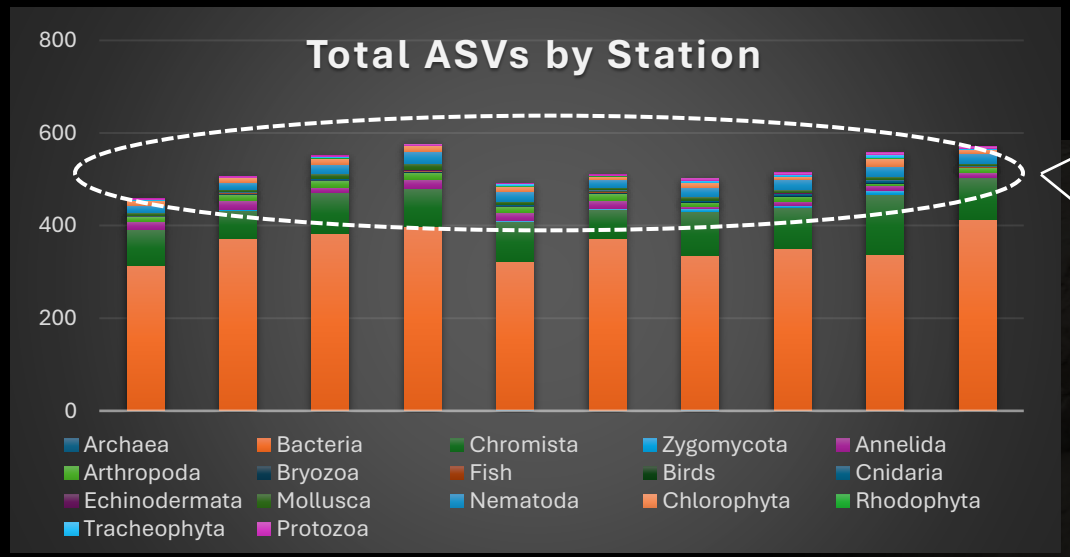
Applied Genomics

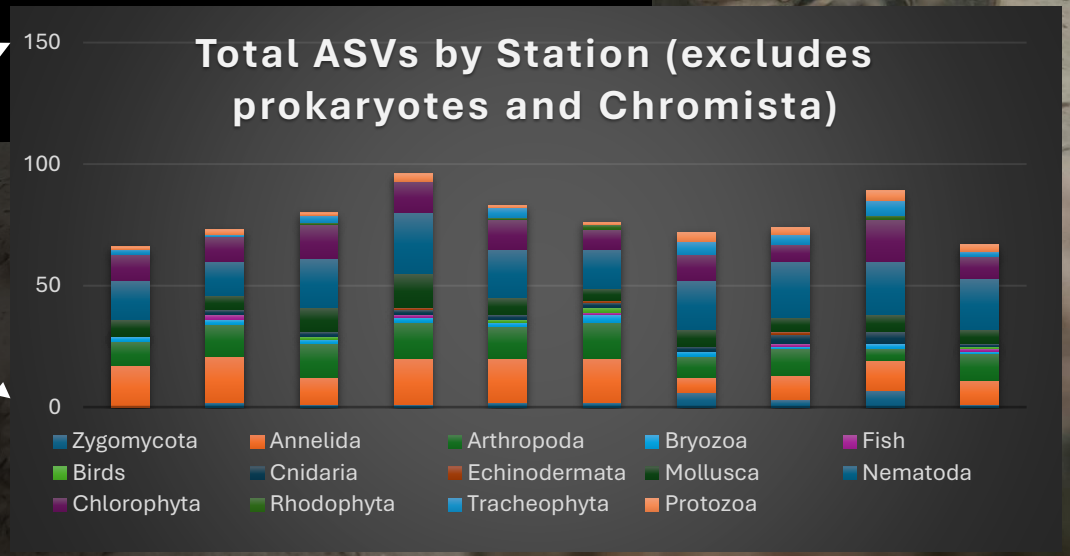
benthic solutions limited

subacoustech environmental

Monitoring sites (North Norfolk)

- Benthic Solutions has North Norfolk Monitoring site at a Oyster Reef restoration project as well as port monitoring (East Coast)
- Taxonomy recorded poor macrofaunal community in coarse sandy gravels (13 taxa/sample) but benthic eDNA (2 markers) recorded up to 80 ASVs (taxa) and 199 haplotype (genetic abundance) per sample for just metazoan groups
- Species richness increased further to 576 ASVs (taxa) and 5,895 haplotype (genetic abundance) per sample including bacteria, chromista, plants, algaes and fungi (third marker).
- A large volume seabed eDNA water sample recorded a large array of commercially and ecologically important fish species, along with seals and interestingly a blue shark (*Prionace glauca*).





- There is growing interest to establish monitoring sites to support NGO's and some conservation groups (e.g. Seasearch, Shoresearch etc) with robust annual data sampling.

Problems with Seabed and Seashore Reporting

- This is third year of EASTME reporting. Previous issues have not changed.
- Unlike other EASTME subjects, most data on Seabed and Seashore are sporadic both spatially and temporally
- *Data reporting often has a large time-lag*. Regulator monitoring (Poseidon and ONEBenthic dates back to 2023)
- Repeat surveys are limited and often widely spaced.
- Regulators need to encourage commercial reports to isolate key observations – and communicate these
    - New discoveries
    - Changes from previous years
    - Longer term patterns
- Elephant in the room: very limited engagement from the regulators who monitor the environment. Almost all data supplied was by volunteers and NGO's.

Future Multi-user eDNA Monitoring Proposal

- Routine monitoring in Teesport but adhoc offshore and elsewhere.
  - Operating since 2021
  - Can delineate patterns
  - Winter maximums
  - Summer minimums
  - Monitors for NNS

- Marine require large & prolonged samples to remove bias.
- Multiple gene analysis can provide multi use datasets
- Success in previous studies in benthos, marine mammals, fish, invertebrates, water quality and invasive species etc.
- Regional / National Monitoring Project (NMP) has already been proposed to DEFRA
- NMP framework would seed integration by private operators
- All data must be QC'd to meet UK DNA metadata reporting Guidelines