Cromer Shoal Chalk Beds MCZ Adaptive Risk Management

Natural Disturbance Study: Interim analysis - MBES volumetric comparison and predictive classification (Cefas, 2026)

Eastern IFCA summary of report

May 2026

Non-technical summary

Purpose

The Natural Disturbance Study aims to quantify the cumulative damage caused by crab and lobster potting to rugged chalk within the Cromer Shoal Chalk Beds Marine Conservation Zone (MCZ) in the context of damage caused by natural processes. To assess this, areas of rugged chalk that are open and closed to potting are being surveyed annually to measure and compare changes in the structure and complexity of chalk features.

This interim analysis examines the initial datasets (2024 & 2025) to understand their limitations, assess how far they can support the study aim, identify any changes needed to the data collection methods and analysis and provide early indications of change.

Key findings

- Technical positioning errors between datasets reduced confidence in the analysis. As a result, a novel method was developed which compared seabed profiles between time points and utilised the ROV footage.
- Whilst small differences over time were observed (from centimetres to decimetres), as these were not statistically significant at the measured scale

and duration, no clear evidence of widespread physical degradation was detected.

- Where small, localised changes were detected these were considered more likely to reflect natural processes, such as sediment movement, rather than potting impacts.
- A high-resolution habitat map of the six experimental areas has been produced identifying:
    - Spurs (chalk ridges);
    - Grooves (gullies);
    - Mounds;
    - Areas of gravel/rubble.

  The analysis suggests that the 'spur' and 'groove' classes could be combined into a single 'rugged chalk' management category which can be used to identify features for future monitoring.

- Backscatter data indicates that rugged chalk is generally associated with lower backscatter intensity, possibly linked to faunal cover. Through the identification of small patches of increased backscatter, impacts where faunal cover has been removed could be identified.
- Further work is required to refine the analysis of the datasets to provide outputs which will contribute to achieving the aim of the study. In particular, in relation to providing metrics which provide information on changes to structural complexity in particular.

Key recommendations

- Investigate and address positional alignment issues to enable inclusion of the surface difference approach with greater confidence.
- Determine if and how backscatter datasets and ground-truth observations can be used to identify and map impacts.
- Incorporate comparisons of structural complexity metrics between treatments in the analysis.
- Continue repeat surveys over longer time periods to assess cumulative or longer-term effects.

Summary

Overall, whilst some small-scale variability was detected between time points, the initial datasets do not provide strong evidence that potting has significantly altered the structure of rugged chalk features, within the limited time period assessed. However, dataset limitations mean these findings should be treated as indicative rather than conclusive and it is important to note that the current analysis was intended to serve to further develop the most appropriate analytical approach rather than provide an outcome. Continued monitoring in accordance with the project plan (which will ultimately consider changes over the course of three years)

with improved positional alignment, the novel use of backscatter data and structural complexity metrics, and targeted monitoring of individual features will enable stronger conclusions in the future and support evidence-based fisheries and conservation management.