

Abstract Title: **Marine aggregate dredging: a new monitoring approach to meet the needs of the Marine Strategy Framework Directive**

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Abstract: A common challenge for managers of marine aggregate dredging is recognising when impacts on the seabed are likely to be problematic. To address this issue, the UK has recently switched to a new monitoring approach. The new approach aims to ensure that seabed conditions, within the footprint of dredging effect, are left in state that will allow for the return of the original faunal community after dredging. This is achieved through reference to the range of environmental conditions that are naturally found in association with different faunal communities in the wider region. Underpinning the approach is a dataset comprising 34,000 grab samples, compiled from both industry and government sources.

This new 'similar sediments' approach to monitoring is central to the Regional Seabed Monitoring Plans (RSMPs) being adopted across the UK by the marine aggregates industry. The RSMPs includes 3 elements: (i) the monitoring of sediment composition within the footprint of potential dredging effect, (ii) a network of long-term benthic monitoring stations, designed to keep a check on the health of faunal communities in the wider region, and (iii) dedicated regional research sites, allowing available resources to be focused on a single site to help provide more robust answers to questions.

RSMPs are expected to offer better environmental protection, by making it clear when unacceptable changes are occurring, whilst at the same time significantly reducing the costs of monitoring. In addition, they are expected to make a contribution to assessment of Good Environmental Status (GES) under the Marine Strategy Framework Directive.

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