

Marine Mineral Extraction: Impacts and Mitigation – an Overview from the UK

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Cefas

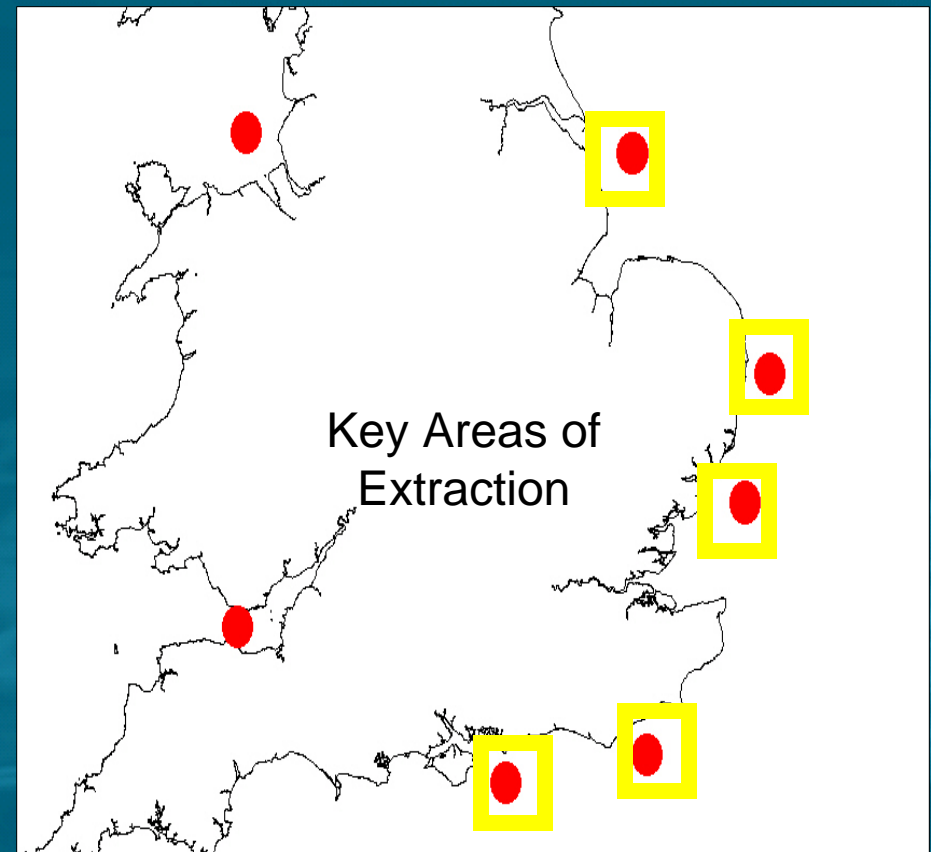


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- Background
 - UK perspective
 - Cefas role
- Common Impacts
- Mitigation: Restoration of the seabed
- Ongoing work in UK

UK Perspective

- The Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging) (England and Northern Ireland) Regulations 2007
- Applications subject to EIA
- Industry / sector not subject to SEA
- 14m m³ per year from 7 main areas
- Mainly gravel / coarser grained deposits targeted



Cefas Role:

Technical Advisor to the Regulator

KEY ISSUES

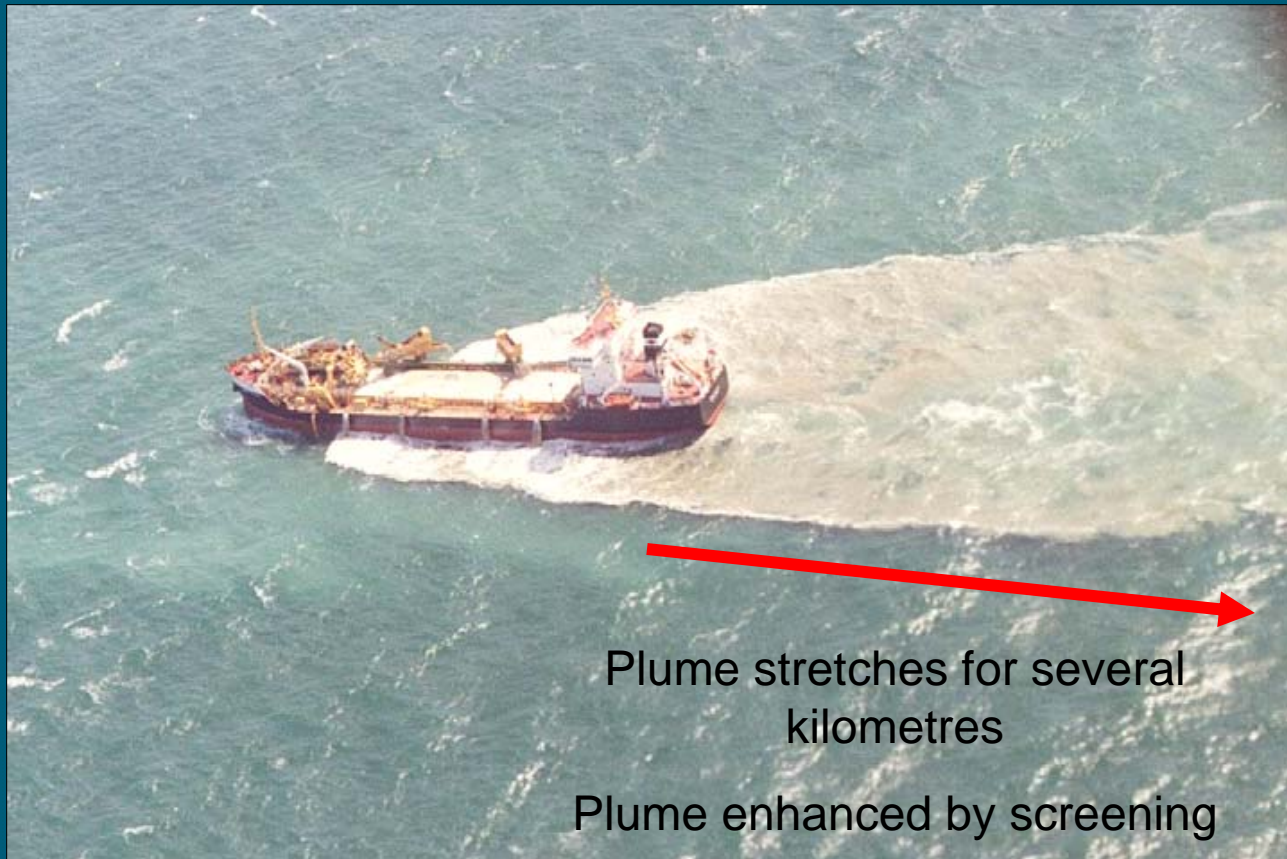
- Does EIA provide evidence to back up assessment of impact
- Is there enough robust information upon which to make a decision

Major Impacts / Concerns

- **Impacts on local shell and fin fisheries**
- Immediate loss and damage of benthic fauna which may be a valuable food source for fish
- Changes in the sediment habitat and its stability
- Cumulative impacts on benthic habitats
- Sediment plumes
- **Changes in coastal processes**
- **Effects on resources of historic or archaeological significance**

Summary report -Marine Aggregate Extraction ‘Helping to determine good practice’

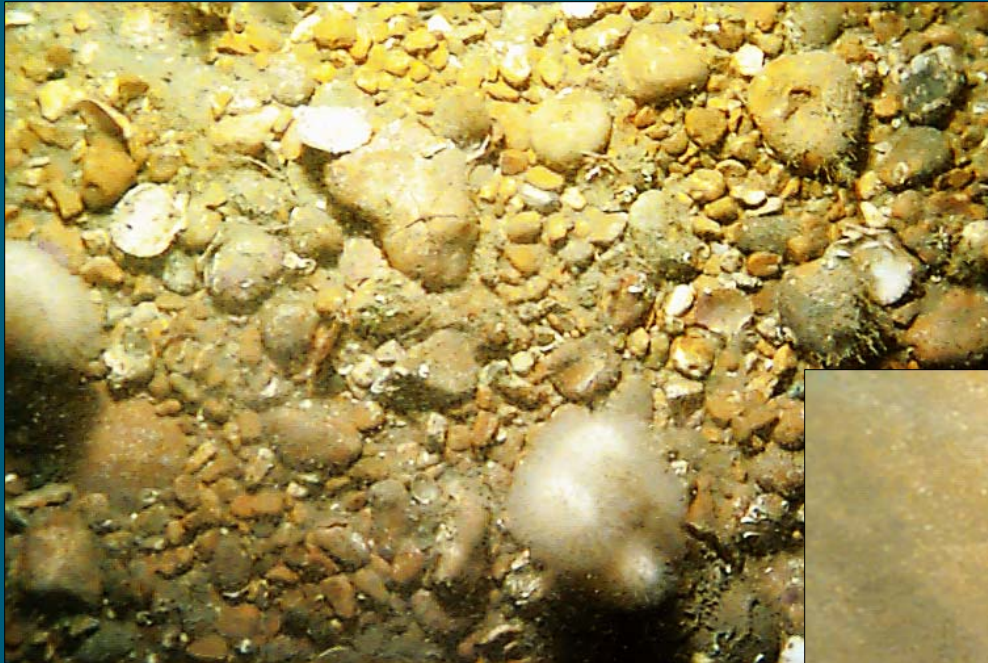
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Plume stretches for several kilometres

Plume enhanced by screening

Long Term Effects on Benthos / habitats



Coarse substrate –
diverse species / habitats



Less Coarse substrate –
reduction in species /
habitats diversity

Restoration

- Do we need to consider what happens when dredging ends?
- Is it feasible to restore?
- Does restoration work?

- Cefas led study with industry involvement to address specific policy concerns
- Links with work Cefas and others have undertaken on quantifying natural recovery of benthic organisms post dredging

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Experimental Restoration of the Seabed

a) conveyor



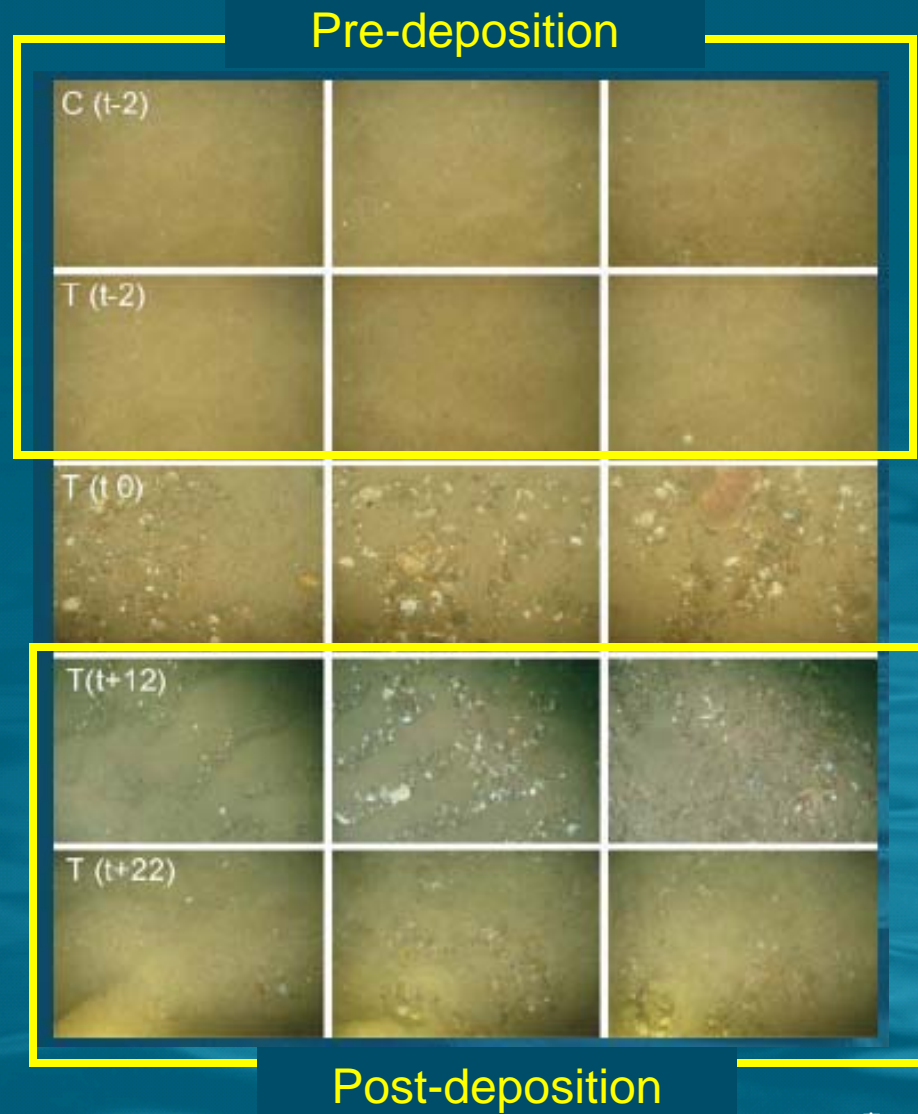
b) through hull



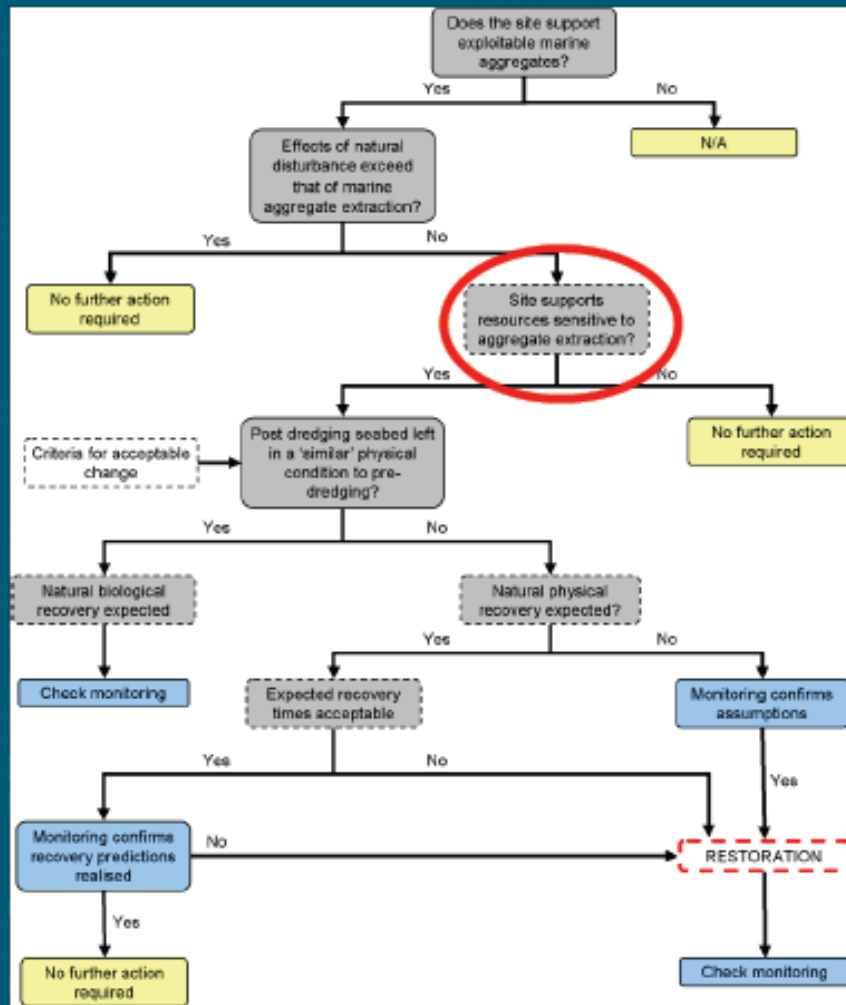
Cooper et al. 2007

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- Gravel returned to previously but no longer dredged area
- Pre-deposit surveys and systematic post deposition surveys



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- Application of the science to policy and decision making
- Development of decision tree to aid decision making
- Next steps:
 - cost / benefits
 - Industry buy in

UK Investment in Marine Aggregate Knowledge

- Marine Aggregate Levy Sustainability Fund (ALSF)
- Currently £4.5m per annum for 3 years
- Environment and Heritage

Key areas of research

- Noise
- Ecosystem goods and services
- Socio-economic impact
- Nature conservation
- Public outreach
- Heritage studies

MALSF Science Review 2008

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Further Information

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<http://www.cefas.co.uk/products-and-services/environment/marine-minerals.aspx>

<http://www.alsf-mepf.org.uk>