ALTERNATIVE USES OF DREDGED MATERIAL: PROCESSES, CASE STUDIES AND LESSONS LEARNED

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Cefas

ABOUT CEFAS

- CEFAS: Centre for Environment, Fisheries and Aquaculture Science
- DEFRA: Department of Environment, Food and Rural Affairs
- First established in 1997
- UK government’s marine and freshwater science experts.
- We help keep our seas, oceans and rivers healthy and productive and our seafood safe and sustainable by providing data and advice to the UK government and our overseas partners.

ALTERNATIVE USE

UK Government dedicated to sustainable development to protect and enhance the environment

Alternative Use Type	Definition
Sustainable Deposit	Retaining sediment within the natural sediment system to support sediment-based habitats, shorelines, and infrastructure
Beach Nourishment/Sediment Recharge	Beach Nourishment using dredged material (primarily sandy material) to restore and maintain beaches.
Construction	Engineering uses (e.g. as capping material or for land reclamation).
Coastal Protection (other than beach nourishment)	Deposit of dredged material with the intent of maintaining or creating erosion protection, dike field maintenance, berm or levee construction, and erosion control.
Habitat Generation	Habitat Restoration and Development using direct deposit of dredged material for enhancement or restoration of natural habitat associated with wetlands, other near-shore habitats, coastal features, offshore reefs, fisheries enhancement, etc.
Other	Any that do not fall into the above categories and full details should be provided as part of the returns process

BENEFITS OF ALTERNATIVE DISPOSAL

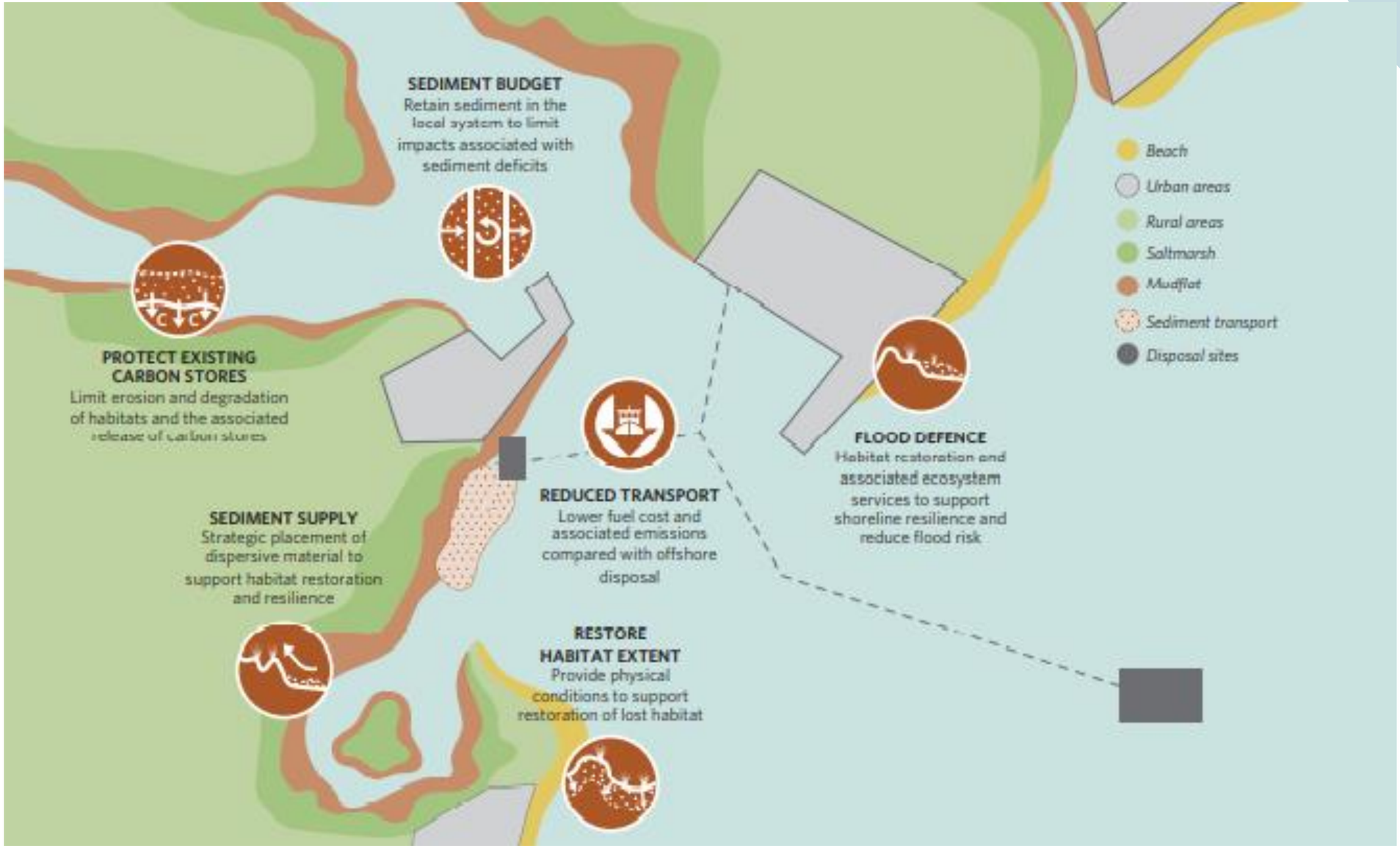

Figure from Manning, W.D., Scott, C.R and Leegwater. E. (eds) (2021).
Examples of potential benefits specifically associated with using dredged sediment to support habitat restoration

REGULATION

MMO / NRW / DAERA /Marine Scotland

Responsible for regulation of all dredge and disposal operations in the UK

Cefas provide advice to MMO / NRW

Pre-application Sampling

Sediment sampling and analysis to assess suitability of material

Compare to national action levels

Marine Licence

Consultation with regulators

Usually contain conditions requiring some form of monitoring

Disposal Site Designation

Alongside licence application, a disposal site is designated for the works

UK PROGRESS

- > 20 million tonnes disposed annually
- ~ 1/3 of all disposal is for beneficial use
- 257 disposal sites
- 74 sites designated for beneficial disposal

UK PROGRESS

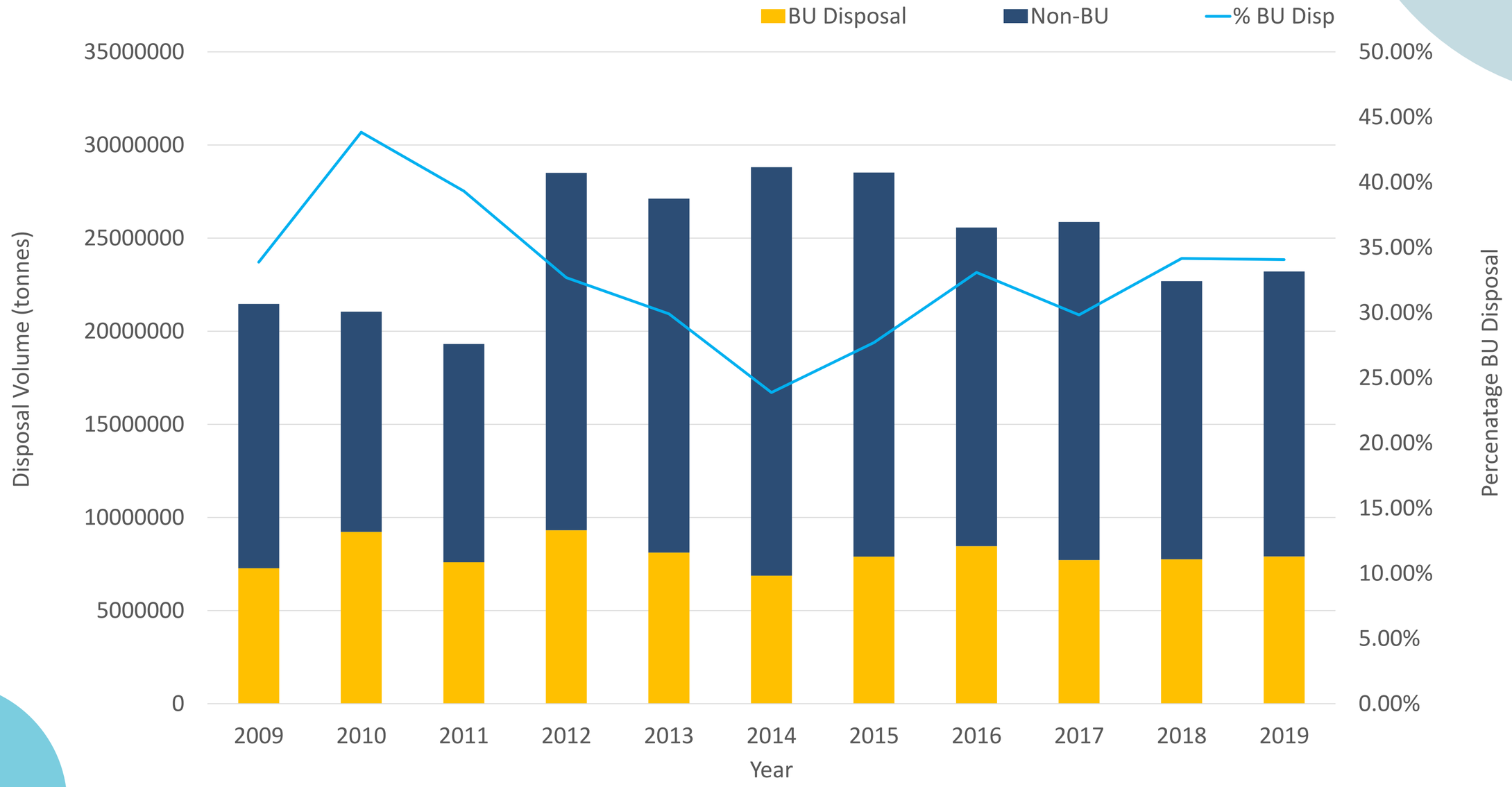

Chart compiled from the UK returns data (held by Cefas) showing the volume of material disposed to BU and non-BU sites between 2009 and 2019, as well as the percentage of material disposed to BU sites.

UK PROGRESS

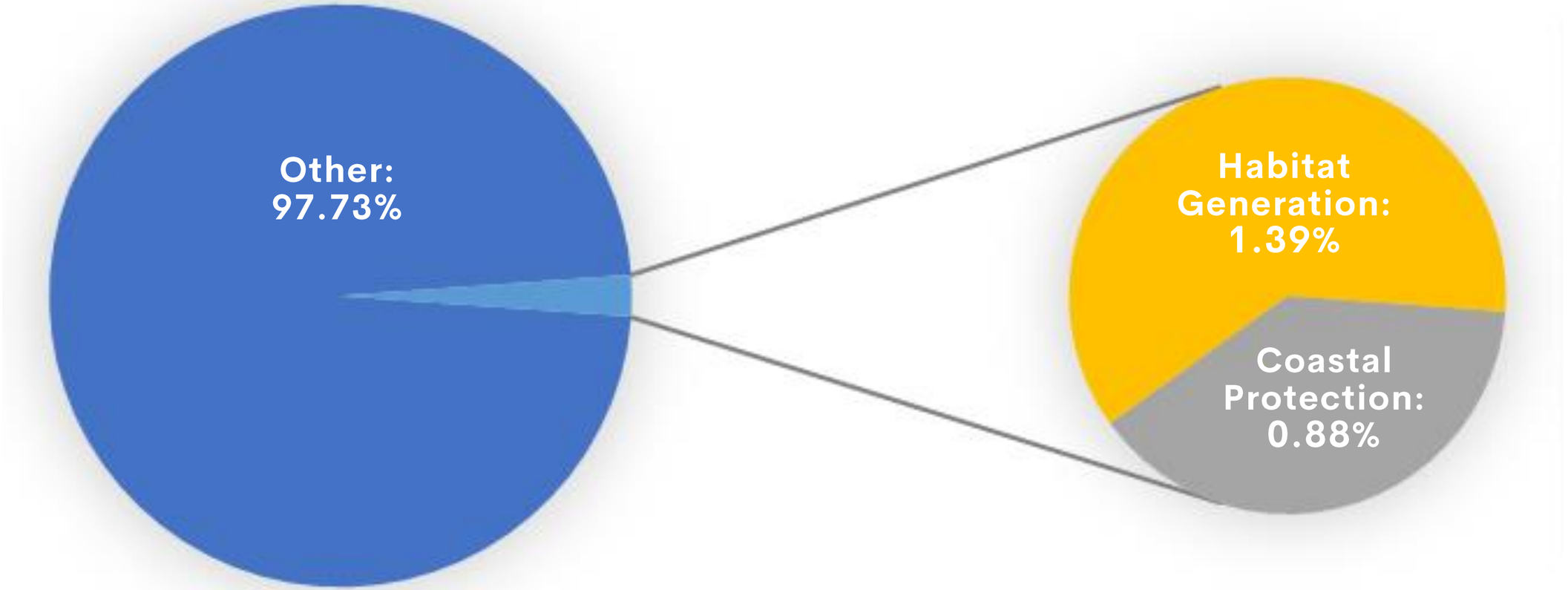

Chart compiled from the UK returns data (held by Cefas) showing the proportions of material disposed different types of BU sites between 2009 and 2019

BOILER MARSH CASE STUDY

Work began 2012/13

Material dredged via backhoe dredger and transported to a working platform

Placement via pipeline

Deposited on a deteriorating area in the heart of the marsh

Fences used to retain sediment

Targeted a known erosion point at the end of a large channel fragmenting the marsh

Monitoring of site completed 2020

Proved successful with the majority of sediment still present, providing an improved and diverse habitat

BOILER MARSH CASE STUDY

BARRIERS TO BENEFICAL USE

Manning, W.D., Scott, C.R and Leegwater. E. (eds) (2021).

Leadership and Co-ordination

Lack of strategic integration between stakeholders

No central data store

Technical and Logistical Challenges

New ways of working

Complex / technically challenging

Improve collaboration, communication, and planning

Finiancial Concerns

BU projects can be subject to additional costs

Difficult to value the societal cost / impact of BU projects

Legislation and Consenting

Process can be long, confusing and expensive

Improve understanding of legislative process amongst developers

Uncertainty

Lack of confidence in the process

Concerns over effectiveness

Improved collaboration and communication of lessons learned

SUPPORTING BUDS

BU WORKING GROUP

Representatives from UK scientific and regulatory bodies

Restoring Estuarine and Coastal Habitats With Dredged Sediment, 2021

SOLENT BUDS FORUM

Strategic partnership for BU within the Solent area

REACH

Restoring Estuarine and Coastal Habitats

international experts from the UK, Overseas Territories, the North Sea, and Irish Sea border countries working in academia, government, NGOs and industry

ReMeMaRe

Restoring Meadows, Marsh, and Reef

Restore at least 15% of our priority habitats along the English coast by 2043.

THANK YOU

FOR YOUR ATTENTION

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