

# Marine Mud

The seas around the UK have the potential to be among the most productive and wildlife-rich on Earth. However they are severely threatened by human disregard for these fragile habitats. Our seas have a remarkable ability to recover from damage but only if we give them a chance. We hope to raise awareness of the damage that pollution causes marine habitats and reduce human impact. In this way we can create living seas where marine wildlife thrives.

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Mud will settle only where there is limited water movement, as well as in depressions in the seabed. A good sediment supply is also required, for example in or near estuaries.

### Mudflats

Mudflats are sedimentary intertidal habitats created by deposition in low energy coastal environments. They occur on low-level ground subject to regular tidal inundation, where fine coastal and river borne sediment accumulates. This sediment consists mainly of silts and clays with a high organic content. Mudflats range from soft mud in the sheltered inner reaches of harbours and estuaries to firm sands in areas more exposed to wave actions.



Rye Harbour aerial / B Yates

Intertidal flats cover about 270,000 ha in the UK. In Sussex there are around 1130 ha of mudflat, which amounts to 0.4% of the UK total. The largest expanse in Sussex occurs at Chichester Harbour.

The long-term sustainability of estuarine habitats such as mudflats will depend upon ensuring that the natural coastal processes that create these features are allowed to continue. The Cuckmere Estuary Restoration Project aims to re-create both mudflats and saltmarsh habitats.



Cuckmere haven / Sussex Wildlife Trust

Mudflats are highly productive areas, supporting large numbers of predatory birds and fish. They provide feeding and resting areas for internationally important populations of migrant and wintering waterfowl and are significant nursery areas for flatfish.

Several important species and benthic communities (species attached to sea or lake beds or buried in mud) are found associated with the mudflats of marine inlets and bays; some are specialist to this habitat. It is these benthic communities that provide a valuable food source for birds.

Some marine areas where mudflats occur are protected under local, national or international law. In some cases this designation may be mainly due to the highly significant bird populations that over winter and nest in these areas. Designations include Local Nature Reserves (LNR), Marine Special Area of Conservation (Marine SAC) and European Marine Sites (EMs).



spoonbill / Sophie May Lewis

### Factors affecting this habitat include:

- Maintenance dredging in shipping lanes altering the sediment budget.
- Managed realignment schemes and other works that alter the channel morphology may result in loss, although they can also provide opportunities for re-creation.
- Bait digging and oyster fisheries can have an adverse effect on the structure of the sediment. The Solent European Marine Sites project, with the support of other organisations have developed a voluntary code of conduct to encourage sustainable bait collection.
- Mudflats and their associated species are particularly vulnerable to pollution incidents, which adversely affect benthic invertebrate communities and subsequently the species that feed on them.
- Nutrient enrichment (chiefly nitrate and phosphate) is also a problem with a blanket of algae over the mud resulting in anaerobic conditions which in turn affects the benthic species.



spider crabs / Dave Peake