Mudflats at Snape (Emma Aldous), Reed bunting (Neil Rolph), Black-tailed godwit (Edwyn Anderton).

Coastal Saltmarsh and Intertidal Mudflats

Saltmarshes are areas of intertidal land colonised by plants adapted to high salinities and able to withstand immersion in seawater. They extend from the mean high water of neap tides to the mean high water of spring tides.

Mudflats are sedimentary intertidal habitats found in estuaries, often between saltmarshes and the low water mark. They dissipate wave energy and reduce the risk of damage by coastal erosion and tidal flooding

IMPORTANCE FOR WILDLIFE

Saltmarshes are highly productive habitats that are home to many invertebrates. They have high plant diversity due to the variety of tidal zones and are important habitats for wintering and passage birds and breeding waders.

Mudflats have high biological productivity with abundant invertebrates that provides food for internationally important populations of migrant and wintering birds and are important fish nurseries for species such as plaice.

IMPORTANT ASSOCIATED SPECIES

Birds
Black-tailed Godwit *Limosa limosa*
Herrring Gull *Larus argentatus subsp. argenteus*
Northern Lapwing *Vanellus vanellus*
Eurasian Curlew *Numenius arquata*
Linnet *Carduelis cannabina*
Skylark *Alauda arvensis*
Twite *Carduelis flavirostris* (wintering)
Reed Bunting *Emberiza schoeniclus*
Redshank *Tringa totanus*
Oystercatcher *Haematopus ostralegus*
Wigeon *Anas penelope*
Eurasian teal *Anas crecca*
Dark-bellied Brent Geese *Branta bernicla*

Bees and Wasps
Sea-aster Colletes Bee *Colletes halophilus*
Moss Carder Bee *Bombus muscorum*

Beetles
Saltmarsh Short-spur *Anisodactylus poeciloides*

Bugs
A Mirid Bug *Orthotylus rubidus**

Spiders
Yellow-striped Bear-spider *Arctosa fulvolineata*
Duffey's Bell-headed spider *Baryphyma duffeyi*

Sea Anemones
Starlet Sea-anemone *Nematostella vectensis*

Molluscs
Native Oyster *Ostrea edulis*
Narrow-mouth Whorl Snail *Vertigo angustior*

Plants
Slender Hare's-ear *Bupleurum tenuissimum*
Sea Barley *Hordeum marinum*
Borrer's Saltmarsh-grass *Puccinellia fasciculata*
Small Cord-grass *Spartina maritima*
Dittander *Lepidium latifolium*
Shrubby Seablite *Suaeda fruiticosa*
Common Glasswort (Samphire) *Salicornia europaea*
Sea Aster *Tripolium pannonicum*
Sea Purslane *Atriplex portulacoides*
Eelgrass Zostera marina

*Suffolk Priority species
**Priority - Research Only. Common and widespread, but rapidly declining.

Images: Top – Curlew (Charles Cuthbert). Bottom, left to right – Starlet Sea-Anemone (Smithsonian Environmental Research Center), Sea-Aster Colletes Bee (Paul Kitchener), Lapwing (Neil Rolph), Saltmarsh Short-Spur (Mark Gurney).

FACTORS AFFECTING HABITAT IN SUFFOLK

- Land reclamation and barrage schemes destroy mudflats and the associated wildlife interest
- Sea level rise: Sea defences prevent landward migration of high water marks, squeezing out intertidal mudflats. Either insufficient mobile sediment or erosion of mud flats may reduce their extent and quality
- Pollution: Can create abiotic areas or encourage the growth of algal mats that adversely affect wildlife
- Coastal defence works, port development and dredging of shipping lanes may be affecting sediment cycles vital to the build up of mudflats.
- Fishing and bait digging can have an adverse impact on community structure and substratum.
- Human (and dog) disturbance affects bird populations' roosting and feeding areas.
- Invasion by non-native plants (such as cord-grass *Spartina anglica*) and the ecological consequences.

HABITAT MANAGEMENT ADVICE

- Avoid disturbance: The best management technique for an undisturbed saltmarsh is to allow it to undergo the natural processes of erosion, deposition and plant growth without intervention.
- Maintain a natural hydrological regime: The natural zones of vegetation on a saltmarsh result from the degree of inundation by incoming tides. Plants with a higher tolerance to salt and inundation are found on the lower reaches of the marsh, whereas those with a more limited tolerance will be found in the upper marsh. Tidal water flows in and out of the areas of saltmarsh through creeks and runnels that add to the structural diversity and provide a range of microhabitats for invertebrates. It is therefore important to ensure unimpeded tidal patterns on sites and that creeks are not canalised or infilled.
- Retain all successional stages: A full transition of vegetation types on saltmarsh should be retained.
- Retain biodegradable tidal debris: Biodegradable tidal debris such as wood and seaweed supports many invertebrates and should not be removed. Management should aim to reduce public disturbance of the strandline and avoid any attempts to "tidy up" the material. Barbecue fires using driftwood and other material should be discouraged.
- Consider managed retreat: allowing the deliberate ingress of tidal waters to encourage saltmarsh establishment may be a viable option at some sites. Prevent excessive scrub encroachment on the high transition zone
- Avoid introduction of grazing on unmanaged sites
- Continue light grazing on previously grazed sites: a cessation of grazing would result in a dense growth of grasses that would out-compete other saltmarsh plants and shade out pools and areas of bare mud that provide invertebrate habitat.
- Coastal defences should not interfere with existing patterns of movement of sediments and it should be appreciated that extensive defence work on soft maritime cliffs and slopes some distance up-current from mudflats may have an adverse effect.

Dittander (Martin Sanford).

VISION FOR SUFFOLK

1. Improve knowledge of extent and quality of coastal saltmarsh and intertidal mudflats.
2. Maintain the existing extent of coastal saltmarsh and intertidal mudflats to ensure no net loss.
3. Re-create coastal saltmarsh and intertidal mudflats as opportunities arise.
4. Encourage the restoration and improvement of degraded coastal saltmarsh and intertidal mudflats.

WHERE TO FIND FURTHER INFORMATION

Buglife – advice on managing BAP habitats
- https://www.buglife.org.uk/resources/habitat-management/coastal-saltmarsh/
- https://www.buglife.org.uk/resources/habitat-management/mudflats/

Buglife – Notable invertebrates associated with coastal saltmarsh (pdf)
- https://cdn.buglife.org.uk/2019/07/07-Notable-invertebrates-associated-with-coastal-saltmarsh.pdf

JNCC Habitat Descriptions (pdf)
- https://data.jncc.gov.uk/data/6e4e3ed1-117d-423c-a57d-785c8855f28c/UKBAP-BAPHabitats-08-CoastSaltmarsh.pdf
- https://data.jncc.gov.uk/data/6e4e3ed1-117d-423c-a57d-785c8855f28c/UKBAP-BAPHabitats-22-IntertidalMudflats.pdf

MAGIC website – interactive mapping information including designations • https://magic.defra.gov.uk/

Making Space for Nature, a Review of England's Wildlife Sites and Ecological Network 16 Sep 2010. Chaired by Professor Sir John Lawton CBE FRS. Defra website (pdf) • https://webarchive.nationalarchives.gov.uk/ukgwa/20130402151656/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf

Natural Environment White Paper June 2011 – *The Natural Choice: securing the value of nature* (pdf)
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf

Suffolk Wildlife Trust Habitats Explorer • https://www.suffolkwildlifetrust.org/habitats/coastal/saltmarsh-and-mudflats

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Images: Butley river from Boyton (Emma Aldous), Common Glasswort (samphire) (Peter Roworth/Natural England).