



# UK Biodiversity Action Plan Priority Habitat Descriptions

## Coastal Saltmarsh

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# Coastal Saltmarsh

This habitat description has been adapted from the 1994 UK BAP Action Plan for [Coastal saltmarsh beds](#) and would benefit from an update.

## Correspondence with existing habitats

Habitats Directive Annex I: Estuaries, *Salicornia* and other annuals colonising mud and sand, *Spartina* salt meadows and Mediterranean and thermo-Atlantic halophilous scrubs

## Description

Coastal saltmarshes in the UK (also known as 'merse' in Scotland) comprise the upper, vegetated portions of intertidal mudflats, lying approximately between mean high water neap tides and mean high water spring tides. For the purposes of this action plan, however, the lower limit of saltmarsh is defined as the lower limit of pioneer saltmarsh vegetation (but excluding seagrass *Zostera* beds) and the upper limit as one metre above the level of highest astronomical tides to take in transitional zones.

Saltmarshes are usually restricted to comparatively sheltered locations in five main physiographic situations: in estuaries, in saline lagoons, behind barrier islands, at the heads of sea lochs, and on beach plains. The development of saltmarsh vegetation is dependent on the presence of intertidal mudflats.

Saltmarsh vegetation consists of a limited number of halophytic (salt tolerant) species adapted to regular immersion by the tides. A natural saltmarsh system shows a clear zonation according to the frequency of inundation. At the lowest level the pioneer glassworts *Salicornia* spp can withstand immersion by as many as 600 tides per year, while transitional species of the upper marsh can only withstand occasional inundation.

The communities of stabilised saltmarsh can be divided into species-poor low-mid marsh, and the more diverse communities of the mid-upper marsh. On traditionally grazed sites, saltmarsh vegetation is shorter and dominated by grasses. At the upper tidal limits, true saltmarsh communities are replaced by driftline, swamp or transitional communities which can only withstand occasional inundation. Saltmarsh communities are additionally affected by differences in climate, the particle size of the sediment and, within estuaries, by decreasing salinity in the upper reaches. Saltmarshes on fine sediments, which are predominant on the east coasts of Britain, tend to differ in species and community composition from those on the more sandy sediments typical of the west. The northern limits of some saltmarsh species also influence plant community variation between the north and south of Britain.

Saltmarshes are an important resource for wading birds and wildfowl. They act as high tide refuges for birds feeding on adjacent mudflats, as breeding sites for waders, gulls and terns and as a source of food for passerine birds particularly in autumn and winter. In winter, grazed saltmarshes are used as feeding grounds by large flocks of wild ducks and geese. Areas with high structural and plant diversity, particularly where freshwater seepages provide a transition from fresh to brackish conditions, are particularly important for invertebrates. Saltmarshes also provide sheltered nursery sites for several species of fish.

Since medieval times, many saltmarshes have been reduced in extent by land claim. This practice continued until very recently; for instance, in the Wash 858ha of saltmarsh were converted to agricultural use between 1970 and 1980. The land enclosed by sea walls was originally converted to grazing marsh with brackish ditches, but since the 1940s large areas of grazing marsh have been agriculturally improved to grow arable crops. As a consequence, many saltmarshes now adjoin arable land, and the upper and transitional

zones of saltmarshes have become comparatively scarce in England. Sites still displaying a full range of zonation are particularly valuable for nature conservation. In Scotland and Wales, transitions (e.g. to freshwater, grassland and dune communities) are still comparatively common. In Northern Ireland most saltmarsh is composed of mid- and upper saltmarsh vegetation with transitions to freshwater or grassland.

The most recent saltmarsh surveys of the UK estimate the total extent of saltmarsh (including transitional communities) to be approximately 45,500ha (England 32,500ha, Scotland 6,747ha, Wales 6,089ha, and Northern Ireland 215ha). This resource is concentrated in the major estuaries of low-lying land in eastern and north-west England and in Wales, with smaller areas in the estuaries of southern England, the firths of eastern and south-west Scotland and the sea loughs of Northern Ireland; north-west Scotland is characterised by a large number of very small saltmarsh sites at the heads of sea lochs, embayments and beaches. It is estimated that, at the mean high water line, 24% of the English coastline, 11% of the Welsh coastline and 3% of the Scottish coastline consists of saltmarsh vegetation.

## Relevant biotope

LS.LMp.Sm – Coastal saltmarsh

## Current and potential threats

- *Land claim*: Large-scale saltmarsh land claim schemes for agriculture are now rare. Piecemeal smaller-scale land claim for industry, port facilities, transport infrastructure and waste disposal is still comparatively common, and marina development on saltmarsh sites occurs occasionally.
- *Erosion and 'coastal squeeze'*: Erosion of the seaward edge of saltmarshes occurs widely in the high energy locations of the larger estuaries as a result of coastal processes. Many saltmarshes are being 'squeezed' between an eroding seaward edge and fixed flood defence walls. The erosional process is exacerbated in some locations by a reduced supply of sediment. 'Coastal squeeze' is most pronounced in south-east England. The best available information suggests that saltmarshes in the UK are being lost to erosion at a rate of 100ha a year.
- *Sediment dynamics*: Local sediment budgets may be affected by coast protection works, or by changes in estuary morphology caused by land claim, dredging of shipping channels and the impacts of flood defence works over the years.
- *Cord grass*: The small cordgrass, *Spartina maritima*, is the only species of cordgrass native to Great Britain. The smooth cordgrass, *S. alterniflora*, is a naturalised alien that was introduced to the UK in the 1820s. This introduction led to its subsequent crossing with *S. maritima* resulting in both a sterile hybrid, Townsend's cordgrass *S. townsendii*, and a fertile hybrid, common cordgrass *S. anglica*. The latter readily colonises mudflats and has spread around the coast.
- *Grazing*: Grazing has a marked effect on the structure and composition of saltmarsh vegetation by reducing the height of the vegetation and the diversity of plant and invertebrate species. Intensive grazing creates a sward attractive to wintering and passage wildfowl and waders, whilst less intense grazing produces a tussocky structure which favours breeding waders.
- *Other human influences*: Saltmarshes are affected by a range of other human influences including waste tipping, pollution, drowning by barrage construction, and military activity. Turf cutting, oil pollution, recreational pressure, agricultural improvement (re-seeding and draining) and eutrophication.

## References

<https://webarchive.nationalarchives.gov.uk/20110303150051/http://www.ukbap.org.uk/UKPlans.aspx?ID=33>