

Sub type 1b

Coastal Marsh

Location

This sub type is found around Morecambe Bay, Walney Channel, Duddon Estuary and the Solway Firth.

Key Characteristics

- Salt marshes in sheltered parts of estuaries and bays
- Hedge topped sea dykes
- Closely grazed fine sward
- Creeks and channels form a dendritic pattern
- Higher marshes dissected by streams
- Sporadic scrub and remnant field hedges

Physical character

The geology is a mixture of Triassic mudstone, Carboniferous limestone, with some Silurian slates/siltstones around the Duddon. Extensive areas of saltmarsh occur around the sheltered waters of the County's estuaries and bays. This is a dynamic seascape with the saltmarshes constantly changing size and location. There is accretion by sediment at high tides.

The seaward edge is characterised by a system of dendritic creeks and erosion cliffs up to 3m high. A series of terraces within the marshes can be related to isostatic uplift and creek migrations. Sections of creeks can be cut off leaving isolated sections of water known as pans or fleshes. River channels constantly cut new courses. The area of marsh can be considerably reduced or enlarged by the changing course of a river or inundation of the sea.

Land cover and land use

The marshes lie above the average daily tides. The higher the marsh, the less frequent is tidal inundation. This results in a transitional seascape character.

On the seaward edge, lower saltmarshes are characterised by a closely grazed fine sward etched by an intricate maze of creeks and channels in a dendritic pattern. This gives way to higher, older saltmarshes dissected by streams meandering towards the sea and frequently colonised by gorse scrub. The tide and streams have etched out an intricate and changing pattern of channels across a plain of seawashed turf. In the Solway Firth turf cut grooves add a linear regular pattern across the saltmarshes.

The marshes are essentially open except for patches of scrub and remnant field hedges on the higher marshes. The marshes are usually enclosed by manmade sea dykes. These provide a strong enclosure that contrasts with the open character of the marshes, particularly where they are topped by hedges which are left to grow taller to act as windbreaks.

Common grazing rights occur on some of the marshes where sheep and cattle wandering freely across them have been an essential feature for centuries. Other than the sea dykes, manmade elements are noticeably absent.

Ecological character

All the coastal marsh in Cumbria is of international ecological importance. The saltmarshes support a range of plants including glasswort, sea lavenders, sea aster, sea purslane and thrift. They provide feeding grounds for wildfowl and roosts for waders, including pink-footed geese, Bewick's swan, whooper swan, wigeon, teal, barnacle geese, curlew, knot, bar-tailed godwit, redshank, lapwing and golden plover. Peregrine falcon and merlin hunt over coastal grazing marsh during the winter months. Other birds breed on saltmarshes, including redshank, lapwing, black-headed gull and terns. Saltmarshes support a number of uncommon and rare invertebrates, whilst upper saltmarshes are important for natterjack toads and great-crested newts. The prolific birdlife on the marshes is an integral part of their character.

Historic and cultural character

The highly dynamic nature of the environment has resulted in the remains of former settlements being lost to the sea, as well as former marine features, such as quays, becoming land locked. The coastal marshes also contain the remains of salt pans.

William Wordsworth, amongst other local poets, took inspiration from the Duddon estuary. In 1307 Edward the first anticipated the invasion of Scotland. His strategy was to invade via the Solway Mosses. He died before the invasion took place at Burgh-by-Sands where today there stands a monument in his memory. In May 1568 Mary Queen of Scots fled the rebellion in Scotland and escaped by boat down the Solway Firth.

Perceptual character

The intrinsic beauty of this seascape type lies in its unspoilt simplicity, wildness and remoteness. The remote qualities are reinforced by birdlife and the presence of grazing stock complements the peaceful scene. This landscape makes a valuable contribution to the wider seascape and has striking relationships with neighbouring landscape types. The open marshes and expansive mudflats and long horizons create a strong sense of space and freedom. The inner estuaries become more intimate with the protecting enclosure of land and fells. Here the simple flatness of the marshes contrasts dramatically with the verticality and complexity of the fells. The green colour of the marshes is a distinctive characteristic which contrasts with the grey and sandy colours of the estuary. Gorse scrub provides colourful contrasts on the landward edges of the marshes. The changing weather that can sweep across the adjacent estuaries and bays can switch from a calm and tranquil to an exposed and elemental experience.

Sensitive characteristics or features

The sheltered salt flats and intricate pattern of creeks lie adjacent to open flats/sea. The open and undeveloped nature makes them sensitive to development and significant changes to the largely undeveloped horizon. There is a high degree of naturalness and tranquillity and a feeling of wildness and remoteness that is also

sensitive to development. The large number of birds reinforce the naturalness of the area and the habitats are sensitive to changes in sea dynamics, marsh management and fishery activities. The organic form and line along the coastal edge could be sensitive to hard realignment and changes in sea level and coastal dynamics. The large and expansive backdrop of the seas and Lakeland and Scottish fells could be sensitive to significant infrastructure development.

Vision

Conservation will be the main priority in this landscape of distinctive high landscape and ecological value. The restoration of drained agricultural land to saltmarsh will be encouraged, with some enhancement of coastal margins as changes in coastal flood defences come forward. The visitor experience within these landscapes will be enhanced and managed to reduce any impacts.

Changes in the Landscape

Over the next 10 – 20 years this landscape could be subject to the following changes or issues:

Climate Change and Coastal Processes

- The saltmarshes are in a constant cycle of erosion and deposition. They are added to by sediment following high tides and the same forces are continuously eroding them. The dramatic change in the extent and position of the saltmarshes over time is well illustrated in historical maps.
- Predictions of increased storminess and possibly sea level rise could have serious implications for the extent of low-lying saltmarshes, especially if hard sea defences prevent an inland retreat.
- Coordinate coastal protection approaches around the Cumbrian coast through the development of Shoreline Management Plans.
- Consider the scope for managed retreat of flood and coastal defences allowing reversion of farmland to marsh, mudflat or beach.
- The raising of sea dykes as part of the shoreline management process could destroy hedges and marsh habitat.

Development

- Energy infrastructure including tidal, large scale wind and pylons could be considered in the adjacent estuary and bay areas. These could have significant effects on natural coastal processes, habitats and the open seascape character.
- Major and medium scale development in adjacent landscapes including coastal defences, energy infrastructure, communication masts and caravan site extensions could compromise the remote qualities of these areas.

Management Practices

- The balance of saltmarsh grazing, by which sheep modify the vegetation to a close cropped turf, could be upset by changes in the grazing regimes. Turf cutting is a traditional management practice but if excessive can scar and erode the marshes.

Access and Recreation

- Without proper management recreation (and sea fisheries activities) can lead to localised visual intrusion of parked cars, erosion of the turf by vehicles particularly on the narrower more accessible saltmarshes and disturbance to birdlife and livestock from vehicles.
- The planned implementation, over the next decade, of enhanced access to the whole of the English coast could result in some disturbance to wildlife in sensitive locations at certain times of the year.

Guidelines**Climate change and Coastal Processes**

- Any improvement of sea dykes needs to be carefully planned to minimise environmental damage whilst selectively protecting the most valuable farmland and residential areas.
- Economic and social benefits need to be carefully weighed against the likely environmental impacts of flood defence schemes including loss of dyke hedgerows and marshy habitats.
- Consider the re-creation of saltmarsh on land, which in the past has been reclaimed to agriculture, in instances where managed retreat of coastal defences is inevitable.

Coastal Features

- Conserve and enhance the marsh through the continuation of traditional grazing to maintain the open peaceful landscape qualities and maximise botanical and birdlife interest.
- Develop management programmes to provide optimum conditions for birds and to improve the variety of salt tolerant grasses and herbs.
- Resist commercial scale turf cutting or access by vehicles to prevent damage to the saltmarsh.

Development

- Protect the periphery of saltmarshes from the intrusion of large and medium scale development within neighbouring landscape types.
- Ensure large scale development does not cause significant harm to natural coastal processes and habitats.
- Resist the clutter and obstruction of views by minor development such as signs and fencing.
- Ensure that the design and siting of all development is of a high standard which enhances its surroundings and any saltmarsh habitat disturbed by construction is carefully restored.

Access and Recreation

- Improve information for visitors to encourage the protection of sensitive saltmarsh habitats and minimise wildlife disturbance.
- Ensure car parks and lay-bys are sensitively sited and well designed being appropriate in size and form.
- Where appropriate provide well-designed vehicle barriers around car parking areas to prevent erosion of the saltmarsh.
- Ensure that planning decisions support increased recreation provision that is compatible with the remote and wild qualities of these landscapes.
- Support improved coastal access through waymarking, gates, gaps, bridges and appropriate surfacing and encourage wardening around areas of wildlife sensitivity.
- In areas where coastal access will introduce new routes, appropriate access management may be needed in sensitive locations at certain times of the year, to minimise disturbance to wildlife.