

## What is Coastal Grazing Marsh?

Coastal grazing marsh is a distinctive maritime habitat derived from the enclosure of saltmarsh. It is relatively flat, low lying, periodically flooded grassland, pasture or meadow drained by a network of ditches. The grassland is often used for grazing livestock and some is cut for hay and silage. The ditches, which maintain the water levels, contain standing water ranging from brackish to fresh. Seasonally flooded hollows or permanent ponds may also occur, sometimes with emergent swamp or lagoonal communities. The marsh may grade into saltmarsh to seaward and, to landward, into other habitats of nature conservation importance, such as lowland wet grassland, reedbeds, freshwater marshes, fen meadows, wet ditches and transitions to mires and ancient woodland. These natural transitions, both within drainage ditches and on the grassland itself, are of particularly high biodiversity value.

Most areas of coastal grazing marsh in the Solent were created by the enclosure of estuarine saltmarshes, mainly between 1600 and 1900. Some are of natural origin. Although much of it has now been converted to intensive agriculture or urban and industrial use, extensive areas of this habitat still remain, representing some of the largest areas (approx 750 hectares) of this habitat on the south coast. They are of national and international nature conservation importance because of their biodiversity, including rare and scarce plant and animal species and populations of wintering and breeding birds.

An important factor that determines the biodiversity of the sites is how they developed. Farlington Marshes was reclaimed on the seaward side of a naturally located coastal grazing marsh so many species could migrate directly onto the new land.

## Species Supported

The Solent's coastal grazing marsh is particularly species rich (compared with other southern sites), with many unusual species present. Farlington Marshes, for example, is a particularly diverse coastal wet grassland created about 230 years ago. It contains a range of types of calcareous grassland, over fifty grass species, and the nationally scarce slender hare's-ear, sea clover and divided sedge. Important invertebrates include short and long-winged grasshoppers, (once among Britain's scarcest invertebrates) horseflies and soldier-flies.

Grazing marshes are often important breeding habitats for birds, particularly waders (e.g. redshank and lapwing, species that are under threat nationally), and the nationally declining yellow wagtail. They also provide important feeding and roosting grounds for a number of coastal bird species. The grasses, sedges and other plants tolerant of high water tables and winter flooding provide ideal feeding for grazing species such as wigeon, teal and brent geese. Ten species of birds are totally dependent on lowland wet grassland habitats.

The grazing marshes' drainage ditches often receive saltwater from seepage through sea walls and embankments, or overtopping during high spring tides. The wide salinity range of ditch habitats from brackish to fresh water enables them to support brackish plants and large numbers of rare and endangered aquatic invertebrates. Some of these are characteristic coastal lagoon species and others, including water beetles, are virtually confined to this habitat.

## The Value of Coastal Grazing Marsh in the Solent

Traditional management typically involves the low intensity grazing of livestock. It is possible to add value to beef cattle by marketing them as 'Conservation Friendly', for example the Three Harbours Beef scheme which is based on Langstone, Chichester and Pagham harbours. Coastal grazing marsh can also provide feed for livestock when the grassland is managed and cut to provide hay or silage.

Grazing marshes are a distinctive coastal landscape and are popular with walkers and cyclists where there is access. Access is often restricted to public rights of way to protect the fragile habitats. Sites such as Farlington Marshes provide a good location for bird watching and seeing wild flowers and butterflies in the summer.

Brading Marshes was acquired in 2001 as an RSPB reserve. Currently, visitor access is restricted to a network of footpaths from Brading Town and Bembridge Harbour, which provide attractive views across the reserve's mix of wetlands. Provision of visitor facilities, including sections of nature trails, viewpoints and car parking began in 2005.

## Where can Coastal Grazing Marsh be found in the Solent?

### Hampshire

Langstone Harbour  
Chichester Harbour  
Beaulieu Estuary  
Keyhaven to Pennington  
Lower Test Valley

### Isle of Wight

Brading Marshes  
Western Yar  
Thorness Bay

### West Sussex

Chichester Harbour

Important areas of habitat on the mainland include the grazing marshes of Langstone and Chichester Harbours, Beaulieu Estuary, Keyhaven to Pennington Marshes and the Lower Test Valley. The Hampshire Wildlife Trust reserve at Farlington Marshes and the marshes on the eastern side of Hayling Island provide some of the more extensive and well-developed examples of this habitat.

On the Isle of Wight, reclamation created vast areas of coastal grazing marsh. These still occur in some areas behind sea walls, principally in parts of the Western Yar and the entirety of the formerly tidal Eastern Yar (Brading Marshes). Brading Marshes is the largest site on the Island for this habitat with over four hundred hectares. These marshes are of comparatively recent origin, having being reclaimed from the sea about 150 years ago. They comprise extensive areas of coastal and flood plain grazing marsh, together with smaller areas of marshy grassland and swamp. They display excellent transitions from freshwater to saline wetlands, including saltmarsh and saline lagoons together with associated areas of neutral grassland, acid grassland, botanically rich ditches, reedbed, woodland and scrub on the periphery of the site.

## Conservation Designations

Areas of species rich coastal grazing marsh are designated as Sites of Special Scientific Interest (SSSI). Additionally, those of importance for their migratory bird populations are designated as Special Protection Areas (SPA) and Ramsar sites. The Solent and Southampton Water Ramsar Site has been listed for, amongst other things, its particularly good representation of wetland habitats characteristic of the Atlantic biogeographic region.

Some designated areas have been purchased or are managed under agreement as national or local nature reserves. These include reserves managed by English Nature (North Solent), Hampshire County Council (Lyminster marshes and Titchfield Haven) Chichester Harbour Conservancy (Eames Farm) and the Hampshire Wildlife Trust (Farlington Marshes). Brading Marshes is an RSPB reserve.

## Issues, Threats and Opportunities

**Sea level rise and coastal realignment** - coastal grazing marsh is considered to be one of the most threatened habitats in the Solent, but under present strategic coastal defence policies the majority of it would continue to be protected. This approach is resulting in the rapid loss of intertidal habitats around the Solent as result of coastal squeeze due to sea level rise. Consequently, it is necessary to look for opportunities for managed, future realignment of coastal defences to recreate these habitats and offset these losses. However this will result in the loss of existing grazing marsh and associated habitats and species. The Eastern Yar valley provides the greatest opportunity within the Solent, but rapid realignment would extinguish the important habitats and species that have colonised the floodplain since reclamation.

**Agricultural intensification** - agricultural improvement includes the increased use of fertilisers, herbicides and pesticides, reseeding, ploughing, improved drainage, and even spray drift from nearby agricultural land onto traditionally managed grassland. These influences lead to a reduction in the biodiversity of both the plant species and the associated fauna of both the grazing marsh and its adjacent ditches. It is important to recognise that the nature conservation interest co-exists with traditional agricultural use and is to a large extent dependent on it.

**Development** - there are considerable pressures for development on coastal grazing marsh, for recreational use, industrial or urban development, transport infrastructure (mainly new roads), waste disposal, or excavation and development for port and marina use.

**Changes in water levels and salinity** - water abstraction and changes in the management of tidal sluices and other control structures can lead to a drop in groundwater levels. This can

lead to the drying out of both the grassland and ditches and potentially saltwater incursion. Sea level rise has the potential to raise salinity levels due to overtopping. Conversely on marsh that is reclaimed and drained through passive tidal flaps, rises in sea levels will mean that these flaps open less often resulting in more fresh water remaining on the land and an incremental drop in salinity. If both overtopping and fresh water stagnation occur, we may get the worst of all worlds with a fresh water marsh that is occasionally inundated with sea water and so never develops any stable regime or transitions.

**Pollution and eutrophication** - pollution may arise as a result of agricultural intensification, by incursion of water-borne pollutants (e.g. oil) from the sea, or through point source pollution of ground or surface water. Eutrophication causes deterioration of habitat quality in both the grassland and adjacent drainage ditches. It principally occurs as a result of runoff from fertilised agricultural land as well as point source discharges, or when sewage discharged to nearshore waters penetrates drainage ditches from the sea. It can be exacerbated by low flows in rivers during the summer period.

**Decline in traditional management** - agricultural neglect, in the form of a decline in traditional management (particularly grazing) results in the growth of coarser grasses and scrub, and loss of biodiversity. Neglected grazing marsh also tends to be used for dumping, storage of various agricultural and industrial materials, and general mismanagement.