Northern Ireland Priority Habitat Guide: Coastal saltmarsh

What is Coastal saltmarsh?

Coastal saltmarshes are highly productive habitats dominated by species that are tolerant of inundation by saline water. There are five main physiographic situations in which saltmarshes can occur: in estuaries, saline lagoons, behind barrier islands, at the heads of sea loughs and on beach plains. Estuarine saltmarshes are the most common type and are found where rivers gradually merge into the open sea. There is usually a degree of influence by fresh water, which often leads to transitions to other habitats such as reed beds or fen.

Table 1: Linking Habitat types with Annex 1 features, ASSI features and NI Priority Species

Northern Ireland Priority Habitat type: Coastal saltmarsh		
Habitat Directive Annex 1 habitats (SAC feature)	**ASSI features**	**NI priority species**
H1310 Salicornia and other annuals colonising mud and sand H1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	Coastal saltmarsh	Dwarf Spike-rush, Linnet, Twite, Skylark, Wigeon, Light Bellied Brent Geese, Lapwing, Redshank, Golden Plover, Curlew

Definition

Coastal saltmarsh in Northern Ireland is defined as:

- Dominated by flowering plants that are tolerant of inundation by saline water.
- The upper, vegetated portions of intertidal mudflats, lying approximately between mean high water neap tides (MHWN) and mean high water spring tides (MHWS).
- They primarily occur in sea loughs and estuaries and on more open coasts are mostly confined to more sheltered beaches.

Where are they found?

Saltmarsh is a relatively rare habitat in Northern Ireland with an estimate of the total extent of saltmarsh being approximately 250 ha. The saltmarsh in NI equates to only around 0.5% of the total UK saltmarsh (45,500 ha). There are two main types of saltmarsh in the region. The first and more extensive, is the estuarine type with conspicuous natural transitions from low to upper marsh communities. The largest of the estuarine saltmarshes are found in the Roe Estuary in Lough Foyle, around Strangford Lough, at Ballycarry in Larne Lough, in the Bann Estuary and at Mill Bay in Carlingford Lough. The second main type is the smaller beach-head type which tends to occur as small pockets on rocky shores and often consists of only one or two middle-marsh communities, with transitions to lower and upper communities truncated.

DAERA hold priority habitat and species data on the NIEA Natural Environment Map Viewer. See https://appsd.daera-ni.gov.uk/nedmapviewer/ (and link to video tutorial). Note that the Map Viewer indicates areas which hold NIEA records of habitat / species data, but does not infer the complete coverage of these environmental assets in Northern Ireland.

Why are they important to wildlife?

Saltmarshes are important habitats for a range of organisms, in particular specialist plant communities and associated animals; and have a high conservation interest. They provide a valuable resource for large numbers of wading birds and wildfowl as they act as high tide refuges for birds feeding on adjacent mudflats. They also support Breeding Waders, Gulls and Terns, and are a source of food for passerine birds particularly in autumn and winter.

Species such as Linnet and Twite feed on the seeds of saltmarsh plants during the winter months. Also in winter, Wigeon and Light-bellied Brent Geese feed on a number of saltmarsh plant species. A number of waders use saltmarshes for roosting and feeding such as Oystercatchers, Lapwing, Redshank, Golden Plover and Curlew. A number of specialist invertebrate species are associated with saltmarshes in Northern Ireland including a number of beetle species which are not found elsewhere.

The rare Narrow Mouthed Whorl Snail is confined in Northern Ireland to the upper edge of saltmarsh at the Giant's Causeway and it is a selection feature of the North Antrim Coast Special Area of Conservation (SAC).

In addition to the many plant and animal species that are directly associated with the saltmarsh itself, there are other species that benefit indirectly from saltmarshes. Tidal saltmarshes have been identified as areas of high productivity providing a source of organic matter and nutrients for fish and a variety of invertebrates in adjacent marine habitats.

The variety and abundance of flowering plants within semi-natural habitats provide good sources of pollen and nectar for many of our pollinating insects such as bumblebees, hoverflies, butterflies and moths. For further information on habitat management for pollinators, refer to the All-Ireland Pollinator Plan resources: www.pollinators.ie.

Pressures & Threats

- Introduced species – the naturalised alien species, Common Cord-grass *Spartina anglica*, readily colonises mudflats and has spread around the coast and is causing loss in condition in many of our more extensive saltmarshes.
- Climate change – predicted rising sea-levels and increased storminess are likely to squeeze saltmarsh between an eroding seaward edge and fixed flood defence walls.
- Reclamation – for agricultural use, harbours, ports and other infrastructures have reduced saltmarshes to a narrow fringe along estuary shores.
- Sediment dynamics – local sediment budgets may be affected by coastal 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.
- Agricultural improvement – including re-seeding and draining has affected the upper transitional zones of some saltmarshes in the past and may still occur on a small scale.
- Grazing – has a significant effect on the structure and composition of saltmarsh vegetation and biodiversity by reducing the height of the vegetation and the diversity of the species and potentially increasing erosion.
- Cutting – cutting of the saltmarsh for turf can affect saltmarsh survival, in particular on smaller sites.
- Recreation – which includes access for sport, bird watching, walking, etc is not well understood but may be locally significant. Boats create wash onto shore which adds to erosion.
- Pollution – from oil, chemicals and litter can potentially destroy saltmarsh vegetation and whilst it usually recovers, sediment may be lost during the period of die-back. Eutrophication due to sewage effluent and agricultural fertiliser run-off has caused local problems of algal growth on saltmarshes.
- Accretion and / or erosion – accretion and development of saltmarsh is occurring on parts of the British coastline. However, this accretion is not sufficient to offset the national loss of saltmarsh and in many cases the newly created saltmarsh differs from those being lost.

Favourable Management of Coastal saltmarsh

These important grasslands should be protected and maintained where they occur, and should be restored where their condition has declined. Some of our most important grassland sites are protected through National and International legislation. In the wider countryside, grasslands are protected from development and increased agricultural productivity through planning policies and legislation such as the Environmental Impact Assessment Regulations.

Land reclamation techniques such as use of fertilisers, drainage and reseeding, can result in habitat loss or damage and should be prevented.

Application of organic and inorganic fertilisers is damaging as it reduces species-richness and diversity with a loss of nature conservation value.

Coastal saltmarsh has been traditionally managed by light, extensive grazing, with a low stocking rate, and it is advised to have a period without grazing between April and October. Overgrazing should be avoided and the poaching should be minimised. In many cases, where potential damage or animal welfare dictates, saltmarsh is best left ungrazed.

No nutrient inputs should be applied as it would reduce species-richness and diversity with a loss of nature conservation value.

Encroaching invasive species, namely Common Cord-grass *Spartina anglica,* should be controlled.

How do we determine the "health" or condition of Coastal saltmarsh?

The conservation status can be determined by the condition of the habitat. Favourable condition is defined by setting targets or target ranges for a series of different attributes. These are components or characteristics of the vegetation that are relatively easy to measure, but which are reliable indicators of the "health" of the habitat.

NIEA has developed Rapid Condition Assessments for several broad habitat types (grassland, moorland, woodland, coastal and wetlands). These will be made available online in the future. In the interim copies can be requested by contacting NIEA by E-mail: NIEA.EFSHigher@daera-ni.gov.uk.

Appendix 1: Coastal saltmarsh Indicator species

Positive Indicators:

Armeria maritima	Thrift
Festuca rubra	Red Fescue
Plantago maritima	Sea Plantain
Agrostis stolonifera	Creeping Bent
Aster tripolium	Sea Aster
Atriplex prostrata	Spear-leaved Orache
Carex flacca	Glaucous Sedge
Carex extensa	Long-bracted Sedge
Carex distans	Distant Sedge
Cochlearia officinalis	Common Scurvygrass
Elymus repens	Couch Grass
Glaux maritima	Sea-milkwort
Juncus gerardii	Saltmarsh Rush
Juncus maritimus	Sea Rush
Leontodon autumnalis	Autumnal Hawkbit
Limonium humile	Lax-flowered Sea-lavender
Phragmites australis	Common Reed
Potentilla anserina	Silverweed
Puccinellia maritima	Common Saltmarsh-grass
Salicornia agg	Glasswort
Scirpus maritmus	Sea Clubrush
Suaeda maritima	Annual Sea-blite
Triglochin maritima	Sea Arrowgrass

Negative Indicators:

Arrhenatherum elatius	False oat-grass
Cirsium arvense	Creeping Thistle
Cirsium palustre	Marsh Thistle
Cirsium vulgare	Spear Thistle
Hippophae rhamnoides	Sea-buckthorn
Lolium perenne	Perennial Rye-grass
Prunus spinosa	Blackthorn
Pteridium aquilinum	Bracken
Rubus fruticosus	Bramble
Senecio jacobaea	Common Ragwort
Spartina anglica	Common Cord-grass
Urtica dioica	Stinging Nettle

Appendix 2: National Vegetation Classification codes

Coastal salt marsh in Northern Ireland encompass a range of plant communities that broadly reflect a number of those communities described in the National Vegetation Classification (NVC) of Great Britain (Rodwell, 1991a) where descriptions and codes are given to associations of plants that are characteristic of particular environmental and management conditions.

In Northern Ireland, the main NVC communities which make up Coastal saltmarsh are species-rich variants of:

Main communities:

SM16 - *Festuca rubra* salt-marsh community

SM13 - *Puccinellia maritima* salt-marsh community

Others:

S21 - *Scirpus maritimus* swamp

SM8 - Annual *Salicornia* salt-marsh community

SM9 - *Suaeda maritima* salt-marsh community

SM10 - Transitional low-marsh vegetation with *Puccinellia maritima*, annual *Salicornia* species and *Suaeda maritima*

SM14 - *Halimione portulacoides* salt-marsh community

SM15 - *Juncus maritimus-Triglochin maritima* salt-marsh community

SM18 - *Juncus maritimus* salt-marsh community

SM19- *Blysmus rufus* salt-marsh community

SM20 - *Eleocharis uniglumis* salt-marsh community

SM28 - *Elymus repens* salt-marsh community

A wide range of other NVC types associated with other lowland priority habitats e.g. Coastal and floodplain grassland, Fen, Lowland meadow, Coastal sand dune, Maritime cliff and slope, Purple moor-grass and rush pasture, Lowland acid grassland and Lowland heathland and more species-poor communities often form transitions with Coastal saltmarsh.