Saltmarsh

Biodiversity Action Plan

Glasswort

Habitat Description

Coastal saltmarshes are crucial to the environmental health of the region, filtering nutrients and pollution from the water, protecting communities from rising sea level and harsh storms, supporting nearby breeding grounds for commercially valuable fish.

They occur in sheltered coastal areas; they are formed due to the colonisation of mud flats by pioneer vegetation such as glassworts *Salicornia spp*. common saltmarsh grass *Puccinellia maritima* and alga. These plants trap silt around their roots and stems which begins to stabilise the sediment allowing further layers to be deposited. As the sediment deepens it can support a greater diversity of specialised plants, which are able to withstand tidal inundations (halophytes). As the sediment builds and elevation increases the occurrence of flooding tides is reduced and the vegetation diversity increases leading to the colonisation of less specialised, terrestrial plants along the upper marsh.

A system of narrow creeks and salt pans cross the marsh, fed by regular tidal inundations. Aquatic life such as grey mullet *Mugil cephalus*, sand gobbies *Pomatoschistus minutus* and common shrimps *Crangon crangon* are able to utilise the saline waters of the creeks.

Saltmarshes are poorly represented on Mann, covering only 6.72 ha, 0.01% of the land (Sayle *et al.* 1995)[1]. Small fringes have developed along the inner harbour at Ramsey, Poyll vaaish and Strandhall but the larger areas can be found at Langness, Cornaa and the Sulby River. Saltmarshes are often described by the features which facilitate their formation;

- **Langness** is a **beach plain marsh** having formed behind an outcrop of limestone and Manx slate. Tidal energy is reduced by the presence of the rocks which facilitates the deposition of sediment on the landward side where the marsh forms. Langness is the larger of the Manx saltmarshes with a topography and geological formation which is uncommon within the British Isles (Milson et al. 2002)[2]. The variety of moisture levels, vegetation structure and plant density provide refuge for a number of invertebrate including moths such as the dew *Setina irrorella* and pod lover *Hadena perplexa*. The well vegetated upper marsh supports a number of passerine assemblages which are locally significant including whitethroats *Curruca communis*, reed buntings *Emberiza schoeniclus* and twite *Linaria flavirostris*. A

[1] Sayle, T., Lamb, J., Colvin, A. & Harris, B. (May 1995) Isle of Man Ecological Habitat Survey – Phase 1 1991 – 1994 Final Report, Isle of Man Government

[2] Milsom, T.P.,*et al* (2002). Management of Coastal Grazing Marshes for Breeding Waders; the Importance of Surface Topography and Wetness., *Biological Conservation* 73, 199-207.

number of creeks and pools support significant species of migrant and wintering birds such as redshanks *Tinga totanus,* wigeon *Anas penelope* and golden plovers *Pluvialis apricaria*.

- **Sulby River Saltmarsh** is an **estuarine marsh** which has formed on the sheltered, inner curve of the Sulby River. The extent of this marsh is dictated by the morpho-dynamics of the estuary; it has been truncated by landfill on the upper boundary. The predominant vegetation community is the red fescue grass *Festuca rubra*, with common scurvy grass *Cochlearia officinalis,* represented along the margins of the walled, upper marsh and pockets of thrift *Armeria maritima,* along the drier upper marsh. Although a number of birds of conservation concern have been recorded at the Sulby River saltmarsh the accessibility of the area, for human recreation, has made it less attractive to roosting birds compared to similar areas such as Langness.

- **Cornaa saltmarsh** is a **lagoonal marsh** which has formed behind a shingle spit which partially encloses a body of tidal water with a narrow connection to the sea; this markedly reduces both tidal amplitude and wave energy. Cornaa is dissected by a number of deep creeks which support large numbers of juvenile mullet and common shrimps. Although relatively species poor the marsh supports a small number of locally significant plant species such as common scurvy grass *Cochlearia officinalis* and sea kale *Beta vulgaris*.

Habitat Area[3]

Total area ha	Largest area ha	Smallest area ha	Mean size ha	% of IoM	% Semi-Nat. Habitat
6.72	2.721	0.696	n/a	0.01	0.04

Threats

Lack of management
Langness, Cornaa and the Sulby River saltmarshes were traditionally grazed by cattle up to the 1950's. This would have likely created a vegetation structure that became dependent upon browsing pressure to maintain both the species and structural diversity. Lack of grazing has allowed ruderal species, which would be more frequently associated with improved grassland, to dominate in areas where tidal inundation is less frequent, resulting in a loss of saltmarsh specific species.

Development
Direct loss of habitat. The Sulby River Saltmarsh has been greatly affected by the development of Ramsey amenity site on the upper reaches of the marsh in the 1930's. Langness has been truncated by a road along its upper fringes and Cornaa, arguably the least reduced of the three larger areas of marsh, has lost much of its upper marsh to improved pasture. Plans to turn Ramsey Harbour into a boat marina would likely result in the erosion and possible loss of the mudflats and saltmarsh in this area.

Change of Land Use
The reintroduction of grazing, using cattle or horses, would likely be beneficial to all three marshes and their wildlife as it would slow down the colonisation of ruderal species such as common dock *Rumex obtusifolious* and thistles but would need to be carefully monitored.

[3] Sayle, T., Lamb, J., Colvin, A. & Harris, B. (May 1995) Isle of Man Ecological Habitat Survey – Phase 1 1991 – 1994 Final Report, Isle of Man Government

Threats continued …

Invasive Non-Native Species (INNS)
Marine invasive such as wireweed *Sargassum muticum* could reduce biodiversity in saltmarsh creeks, it is present in rock pools around Scarlett.

Sea Level Rise[4]
Global mean sea level (GMSL) has risen about 19cm since 1900, at an accelerating rate and was at its highest value ever in 2019. Climate models project a GMSL rise over the next 100 years ranging between 0.29 to 0.59m for low emissions scenario and 0.61 to 1.10 for high emissions scenario. Models that include a faster disintegration of the polar ice sheets predict a rise of up to 2.4m in 21—and up to 15m in 2300 (European sea level rise assessment). Saltmarshes act as natural flood plains and reduce the energy of flood waters as they flow onto the land. Prolonged tidal submergence through sea level rise or flooding would likely result in localised erosion of the soft, marsh sediment.

Access and recreation
Vegetation of the Sulby River saltmarsh is becoming eroded through public access and recreation. Birds roosting on saltmarsh are displaced if people get too close, loose dogs can exacerbate the situation.

Pollution incidents
Poor water quality, including elevated nutrient levels, can lead to short and longer term damage to species.

Debris
Discarded rubbish along with plastics are presenting problems along the upper reaches of Langness saltmarsh.

Reason for BAP

Restricted habitat just 0.01% of IoM, associated rare fauna and flora, threats listed, provides natural flood defence.

Linked BAPS

Habitats

- Mudflats
- Estuaries
- Coastal vegetated shingle

Species

Birds (BOCC IOM Red List)[5]

- Common Starling *Sturnus vulgaris*
- Northern lapwing *Vanellus vanellus*
- Curlew *Numenius arquata*
- Black-tailed *godwit Limosa limosa*
- Skylark *Alauda arvensis*
- Twite *Carduelis flavirostris*

Aims

- Maintain the extent of saltmarsh and associated animal and plant communities
- Maintain the condition of saltmarsh and associated plant and animal communities
- Enhance and extend the areas of saltmarsh and associated plant and animal communities
- Set up scheme to routinely survey and monitor condition of the habitat and establish a base line for conservation of associated flora and fauna.

[4] https://www.eea.europa.eu/data-and-maps/indicators/sea-level-rise-7/assessment
[5] Neil G. Morris and Christopher M. Sharpe / September 2021 British Birds – vol. 114, issue 9, pp 526–540

Delivery Options	Active	Challenges
○ Undertake 5 yearly Common Standards monitoring on all ASSI's (including extent of habitat and condition).	No	Resources
○ Designate the Sulby River and Cornaa Saltmarshes as ASSI	No	Resources Political willingness
○ Monitor and submit representations for planning applications	Yes	
○ Legislation to further the conservation of the living organisms and types of habitat of principle importance for the purpose of conserving biodiversity similar to NERC 2006 Section 40 &42.	No	Political willingness Resources
○ Trial grazing at Langness and Cornaa saltmarshes	No	Landowner agreement Public support Political willingness Resources
○ Where specific areas of erosion are identified, such as at the Sulby River marsh, consider closing off area to the public.	No	Landowner agreement Public support Political willingness
○ Monitor extent of INNS	No	Resources
○ Control of INNS	Ad hoc	Resources
○ Removal of large plastic items	Yes	
○ Monitor extent of scrub	No	Resources
○ Control of scrub	No	Resources
○ Review of ecological needs of nesting birds	No	Resources
○ Education/Awareness raising	No	Resources
○ Annual review and update of this document	Dec 2024	