Wales Coastal Ecosystem Group Priority Action

Saltmarsh Priority Area

Saltmarshes are tracts of largely terrestrial, halophytic vegetation confined mainly to intertidal land within the range of normal spring tides and shelter from strong wave action. Most of the larger saltmarshes are therefore mainly found in sheltered estuarine situations. By and large the species diversity of saltmarshes is comparatively low but many of the halophytic plant species are found nowhere else, and even some of the apparently non-specialist species (glycophytes) are ecotypes specially adapted to saline conditions. Of the plant species restricted to saltmarsh and saltmarsh transition zones in Wales, 57 (Appendix 1) are regarded as uncommon or scarce (Rhind 1995). Saltmarsh and saltmarsh transition zones are also important for a number of rare invertebrate species.

Saltmarsh is now classed as a relatively rare, highly threatened habitat, and there have been major losses throughout Europe. They are dynamic systems that are governed by four physical factors: sediment supply, tidal regime, wind-wave climate and the movement of relative sea level (JNCC 2004, Lough 2007). In order for a saltmarsh system to develop and grow the following elements need to be in place:

- A relatively stable area of sediment that is covered by the tide for a shorter period than the time it is exposed
- A supply of suitable sediment available within the period of tidal cover
- Water velocities that are sufficiently low for some of the sediment to settle out
- A supply of seeds or other propagules for the establishment of vegetation cover

Major Concerns

- ***Reclamation***

Land reclamation for both agricultural and industrial development has significantly reduced the saltmarsh resource in Wales. In the past this was a common practice with saltmarshes regarded as coastal 'wastelands.' Today this is less of a problem and there are now moves to try and reverse this process (managed realignment) for some sites.

- ***Coastal defence***

Coastal defence works can result in truncation of the of the upper shore communities reducing their biodiversity and causing erosion. This can also have an adverse affect on the natural dynamics of saltmarsh and is one of the main factors causing coastal squeeze (see below)

- ***Sea level rise and coastal squeeze***

This is the reduction of coastal habitat that can arise if the natural landward migration of the habitat under sea level rise is prevented by a fixed construction such as a sea wall. This is known to have accelerated saltmarsh loss in parts of England and Wales (Pye & French 1993). In addition to the ecological damage this also reduces the flood defence and coast protection function of saltmarsh.

- ***Dredging***

The removal of available sediment from the system can lead to sediment starvation.

- ***Inappropriate grazing***

Grazing by domestic livestock will determine the structure and species composition of the habitat and its relative value for plants, invertebrates or for wintering or breeding waterfowl. Over-grazing can lead to loss of rare plants; affect certain ornithological interests and/or increased erosion of the marsh due to heavy poaching damage. Under grazing can lead to a loss of plant diversity by competitive exclusion.

- ***Recreation***

Excessive recreational use such as wildfowling, walking and horseriding etc, can quickly cause erosion damage.

- ***Pollution***

Marine pollution in industrialised estuaries and oil tanker spillages often expose saltmarsh to damaging levels of pollution. Saltmarsh in Milford Havan has still not recovered from previous oil spillages are was badly affected by the 'Sea Empress' spill in 1996 (Bell *et al.* 1999)

- ***Spartina***

Spread of the invasive grass *Spartina anglica* has had a major impact on virtually all saltmarsh in Wales (Rhind 2002). Although it is still regarded as a threat in estuaries of high wildlife interest, both to bird population and to natural saltmarsh succession, there is now growing belief that its days as the number one scourge of saltmarsh and mudflats are over, and if current trends continue it may well become an insignificant component of British estuaries over the coming decades. History shows that our attempts to control this species have met with very limited success and this combined with the fact that the species now appears to be in decline suggests that we would be ill advised to embark upon any large-scale control programmes.

Action Required

- ***Managed realignment***

Managed Realignment is the deliberate process of moving back the line of flood defence to allow flooding of previously defended areas with the aim of restoring the natural communities. In order to stem the continuing loss of saltmarsh as a result of coastal squeeze and other factors this is now recommended for a number of sites in Wales including the Dwyryd, Dyfi, Mawddach estuaries, Afon Alaw, Afon Braint and Morfa Madryn (Traeth Lafan).

- ***Restoring zonation***

One of the main reasons for saltmarsh being classed as unfavourable in Wales is their poor zonation often linked to the adverse impacts of coastal defences. Sites where coastal defences are an issue and where zonation needs restoring include the Burry Inlet, Milford Haven and

the estuaries of the Taf, Tywi, Gwendraeth, Severn, Cefni, Braint, Dee, Dwyryd, Mawddach and Dyfi.

- ***Restoring appropriate grazing regimes***

On overgrazed sites poaching and erosion is often evident. Parts of the Dee Estuary are subject to severe erosion due to overgrazing particularly between Bagillt and Flint Marsh (Dargie 2001). Sites where grazing needs to be improved or radically altered in some cases include the Dee and Dwyryd estuaries.

- ***Reducing recreational impacts***

This mainly relates to damage from vehicles (car parking, motorbike scrambling), but visitor pressure on foot can be locally severe including trampling, litter and dog fouling. Sites where recreational pressure is causing problems include the Dee Estuary.

Species Interest

Key Plant Species

Uncommon plants found in saltmarsh and saltmarsh transition zones in Wales
Section 42 species*

Species	**No 10 km sq. Wales**	**Status**
Alopecurus bulbosus	8	
Althaea officinalis	20	
Apium graveolens	?	
Atriplex glabriuscula	60	
Atriplex laciniata	38	
Atriplex littoralis	32	
Atriplex longipes	1	RDB
Atriplex portulacoides	43	
Blysmus rufus	11	
Bupleurum tenuissimum*	7	
Carex extensa	55	
Carex divisa	4	
Carex punctata	15	
Eleocharis parvula	6	RDB
Eleocharis uniglumis	40	
Elytrigia atherica	42	
Frankenia laevis	2	
Hordium marinum*	7	
Juncus acutus	18	
Juncus ambiguus	15	
Lathyrus palustris	2	
Lepidium latifolium	7	
Limosella australis	3	RDB
Limonium humile	12	
Limonium binervosum	43	
Limonium vulgare	32	
Oenanthe lachenalii	60	
Parapholis incurve	6	
Parapholis strigosa	51	

Potamogetum filiformis	Possibly extinct in Wales	
Potamogetum pectinatus	51	
Puccinellia distans	16	
Puccinellia rupestris	6	
Puccinellia fasciculata	1	
Ranunculus baudotii	32	
Ranunculus sardous	11	
Ruppia cirrhosa	1	
Ruppia maritime	28	
Salicornia dolichostachya	17	
Salicornia europaea	22	
Salicornia fragilis	6	
Salicornia lutescens	10	
Salicornia nitens	2	
Salicornia pusilla	11	
Salicornia ramosissima	21	
Sarcocornia perennis	2	
Schoenus nigricans	27	
Seriphidium maritimum	26	
Spergularia media	57	
Suaeda maritime	57	
Suaeda vera	1	
Trifolium squamosum	6	
Trifolium suffocatum	Possibly extinct in Wales	
Zannichellia palustris	48	
Zostera angustifolium	11	
Zostera marina	9	
Zostera noltii	4	

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