

Coastal Saltmarsh



The effects of vehicle damage can be very long lasting in saltmarsh.

Description

Coastal Saltmarshes on the NSW south coast tend to occupy a narrow strip on flatter parts of coastal lake and estuary margins, and in depressions on the lowest parts of floodplains. They are occasionally more extensive in an infrequently flooded backwater or at the landward end of lakes, such as Coila Lake. While saltmarsh is generally thought of as being vegetation which is subject to tidal influences, it also occurs in other saline or brackish situations subject to fluctuating water levels, such as around the edges of the intermittently opening coastal lakes.

While saltmarsh stands are frequently narrow and linear, they nevertheless often have an internal zonation. The lower areas tend to be dominated by the low-growing perennial herb samphire or glasswort (*Sarcocornia quinqueflora*), or rarely by the threatened species *Wilsonia backhousei* or *Wilsonia rotundifolia*. A succulent shrub to about a metre in height, *Sclerostegia arbuscula*, is sometimes found in this zone. A number of salt tolerant and often succulent herbs may also occur but are seldom dominant. This part of the saltmarsh may include areas of bare mud where hypersaline conditions prevent the survival of any plants. Above this zone there is frequently a strip of taller, dense vegetation dominated by sea rush (*Juncus kraussii*), sometimes with other tussocky plants such as *Gahnia filum*, *Baumea juncea* or *Isolepis nodosa*, coastal speargrass (*Austrostipa stipoides*) or common reed (*Phragmites australis*). The grasses salt-couch (*Sporobolus virginicus*) and couch (*Cynodon dactylon*) usually occupy only the upper part of the marsh. The threatened Australian saltgrass (*Distichlis distichophylla*) occurs in a small number of south coast saltmarshes. Some typical species are illustrated overleaf.

Location in the Landscape

Saltmarsh often forms part of a sequence of wetland communities. In tidal estuaries it is often sandwiched between mangroves and Swamp Oak Floodplain Forest (another EEC). The mangroves are subject to twice-daily tidal inundation, while the slightly higher saltmarsh is inundated only on peak high tides, and the swamp oak or swamp paperbark only in or after floods. The zones are often narrow and these three communities merge where they meet, with saltmarsh sometimes occurring only as an understorey under mangroves or swamp oak.

Coastal Saltmarsh is listed as endangered throughout the NSW coastline and is one of four communities that would have formerly occurred together in a mosaic pattern on floodplains of the South East. Other floodplain EECs are covered in Fact Sheets 5, 6 and 8.

Occurrences of Coastal Saltmarsh may vary over time. As water level varies in intermittently closed lakes, saltmarsh may be completely immersed for lengthy periods and emerge intact when the water level recedes, or it may be damaged by immersion in water of low salinity and take some time to recover. Swamp oak forest or scrub on coastal lake margins may occasionally be killed by fire, or die as a result of prolonged high water levels when lakes close in droughts, causing the vegetation to revert to saltmarsh until trees recolonise the area. Such changes may accelerate in the future as a result of sea level change and increased drought frequency associated with global warming. Newly deposited sediment may be colonised by saltmarsh, mangroves or swamp oak.

(continued overleaf)

Threats

The NSW Scientific Committee lists numerous threats to saltmarsh including in-filling, disruption to tidal flushing, water-borne pollution such as oil and chemical spills, increased runoff of nutrients from the catchment, weed invasion, damage by domestic and feral animals, human disturbance, altered fire regimes and climate change. The most obvious immediate threat to saltmarsh on the south coast is vehicle damage. Because of the harsh growing conditions in saline soils recovery from this can be very slow. Disturbance by vehicles or livestock trampling can facilitate weed invasion (see Fact Sheet 8).

Invasion of saltmarsh by mangroves is a process that has been recorded in numerous sites throughout NSW in recent years. While some mangrove stands consist of widely spaced old trees, extremely high numbers of mangrove seedlings or saplings can be found in some areas, both in the mangrove zone and in saltmarsh. Since the ground on the landward side of saltmarsh sometimes rises relatively steeply in coastal lakes and estuaries, saltmarsh may be gradually squeezed out by mangroves in some locations, being unable to migrate landwards.

Ecology

Saltmarsh often appears devoid of obvious animal life, but it can provide an important high tide roosting area for wading birds which feed on mudflats at low tides. Saltmarshes are also vital components of the estuarine food chain, providing a home for numerous invertebrate animals such as crabs, insects, spiders, worms and small shellfish which are a vital source of food for young fish and other marine life. Saltmarshes, with mangroves, are vital to the maintenance of our lake and ocean fisheries.

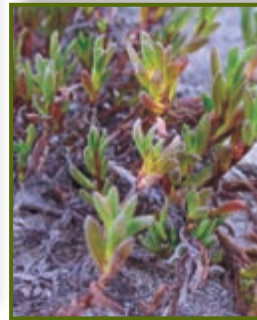
Some typical Coastal Saltmarsh species and one saltmarsh weed



Sarcocornia quinqueflora
Samphire



Wilsonia rotundifolia



Wilsonia backhousei



Mimulus repens and
Leptinella longipes



Atriplex australasica



Selliera radicans



Juncus kraussii
Sea rush



Juncus acutus
Sharp rush (weed)