

# Saltmarsh in the Hunter Estuary

A highly productive habitat that needs our care

Coastal saltmarsh is a distinctive plant community found in estuaries on the coast of NSW. Saltmarsh vegetation is salt tolerant and thrive with occasional inundation from king tides. It is found at the upper limit of the intertidal zone, often on the landward side of mangroves.

Saltmarsh vegetation is a low-growing mosaic of succulents, grasses and rushes. The main plants are Samphire (*Sarcocornia quinqueflora*), Saltwater Couch (*Sporobolus virginicus*), Sea rush (*Juncus kraussii*) and Streaked Arrowgrass (*Triglochin striata*).

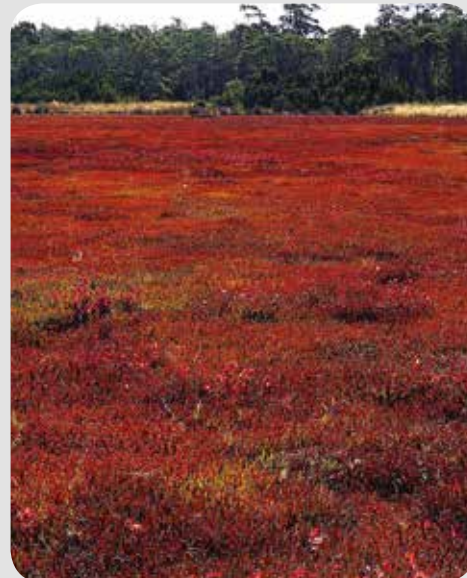
Saltmarsh is a perfect habitat for crabs, molluscs and worms. It provides a rich food source and high tide roosting area for migratory shorebirds, which fly here from as far afield as Alaska to spend summer in the estuary. Fish use saltmarsh for feeding, breeding and shelter at high tide. Saltmarsh captures and filters sediments and nutrients from nearby urban areas, helping keep waterways clean for swimming and boating.

Saltmarsh was once widespread, but today it is listed as an endangered ecological community under the Threatened Species Conservation Act 1995 (NSW). Filling for development, changes to tidal flows by man-made structures, discharge of stormwater and the spread of weeds have all taken a toll.

Saltmarsh is a precious habitat and needs careful management to protect it now and for the future.



This map shows the distribution of saltmarsh in the Hunter estuary. The area of saltmarsh has reduced significantly – bad news for the fish and migratory birds that depend on it for survival.



Saltmarsh on Ash Island teems with life. Crabs, molluscs, fish and shorebirds feed here in the multitudes.

## Did you know?

41 fish species use saltmarsh areas, including yellowfin bream, sand whiting and mullet.



### FIND OUT MORE:

City of Newcastle Noxious Weeds & Pest Management Officer T: (02) 4974 6000  
Hunter Local Land Services: [www.hunter.lls.nsw.gov.au](http://www.hunter.lls.nsw.gov.au)  
National Parks and Wildlife Service: [www.nationalparks.nsw.gov.au](http://www.nationalparks.nsw.gov.au)  
Department of Primary Industries: [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

# Saltmarsh Weeds

Help us control weeds to protect precious saltmarsh



## Spiny rush (*Juncus acutus*)

Spiny rush is the most serious weed threatening the coastal saltmarsh endangered ecological community in NSW. It is an aggressive weed spreading rapidly throughout the estuary. It is an erect, perennial rush that grows in dense stands up to 2m in height. Spiny rush is often confused with the native Sea rush (*Juncus kraussii*). Spiny rush has thicker, much sharper and more pointed leaves, and bigger bracts than Sea rush. Spiny rush has a form that splays outwards, while Sea rush is more upright and vertical. Stands of Spiny rush are generally taller and more robust in appearance.



## Bitou bush (*Chrysanthemoides monilifera*)

Bitou bush was first recorded in Australia at Stockton in 1908. It was planted widely on the NSW coast to reduce dune erosion, but spread rapidly, now covering almost 50% of the state's coastline. Bitou bush is an evergreen shrub with yellow daisy flowers. It is salt tolerant and can be found on brackish saltmarsh margins. It grows quickly and forms dense stands, replacing native plants and destroying the habitat of native animals. Bitou bush is listed as a Key Threatening Process to Biodiversity in NSW and as a Weed of National Significance. It is a Class 4 weed under the Noxious Weeds Act 1993 and must be managed in a manner that continuously inhibits the ability of the plant to spread.



## Groundsel (*Baccharis halimifolia*)

Groundsel bush is both an environmental weed that readily invades saltmarsh and coastal wetlands. It is a densely-branched shrub, usually 1.5–3 m high. The leaves are wedge-shaped and prominently-toothed, particularly near the tip. Female plants have prolific, white tufted seeds, giving them a fluffy appearance.

Groundsel bush is a Class 3 weed under the Noxious Weeds Act 1993 and must be continuously controlled and suppressed.



## Pampas grass (*Cortaderia selloana*)

Pampas grass is a tall grass, growing in dense tussocks with attractive, plumed flower heads on tall stems that can reach 3m high. Individual plants have the ability to produce vast quantities of windborne seed which can infest areas within a 25 km radius. Pampas grass is found in a wide range of ecosystems including saltmarsh and mangrove areas along rivers and inlets.

Pampas grass is a Class 3 weed under the Noxious Weeds Act 1993 and must be continuously controlled and suppressed.

### WORKING TOGETHER TO CONTROL *JUNCUS ACUTUS*

Hunter Local Land Services and the NSW National Parks and Wildlife Service are working together to eradicate *Juncus acutus* from the valuable saltmarsh habitat on Ash Island in the Hunter Wetlands national park. The most effective methods were found to be spraying, physical removal in severe infestations and hand removal of isolated plants. Follow up hand weeding and or spraying of regenerating plants is necessary. Treated areas were quickly recolonised by native saltmarsh species following inundation of the high tide.

### HOW CAN YOU HELP

- Research and use the best mix of physical removal and herbicides for your infestation.
- Always use chemicals registered for the species being treated.
- Avoid creating changes in soil elevation and hydrology.
- Work from areas of low to high infestation.
- In tidal areas, work at low tide.
- Minimise trampling and damage to saltmarsh.
- Do your homework and use the best mix of physical removal and herbicides suitable for your site and degree of infestation.

Safety Notes: The spikes of spiny rush are hard and sharp and can be dangerous to the eyes; wear protective eyewear.



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