



Protecting and restoring Coastal saltmarsh



Department of **Environment & Climate Change** NSW



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Introduction

As Sydney has developed, much original native vegetation has been cleared or disturbed. As a result, many native plants and animals have become locally extinct or are living in isolated communities.

The Department of Environment and Climate Change NSW (DECC) and Sydney Metropolitan Catchment Management Authority are working with local governments and the community to protect endangered remnants of native vegetation in Sydney and the threatened species that live in them.

This brochure explains how you can help preserve coastal saltmarsh.

You can obtain other threatened species brochures at www.environment.nsw.gov.au/threatenedspecies or contact Environment Line on 131 555.

What is coastal saltmarsh?

Coastal saltmarsh is a salt-tolerant plant community that lives between high and low tide. It is commonly found just behind mangroves. High tide fills the community with water, and large tides such as king tides completely flood it. Coastal saltmarsh is listed as an endangered ecological community under the *Threatened Species Conservation Act 1995* (NSW) (TSCA).

Many species of fauna use saltmarsh as feeding grounds. Birds, insects, mammals, crabs, molluscs and fish use saltmarsh at different phases of the tide. Fish and crabs feed in saltmarsh during king and spring tides and shorebirds often feed at low tide. Bats have also been known to forage for insects.



Saltmarsh

Photo: Sydney Olympic
Park Authority



Bike tracks in saltmarsh
*Photo: Sydney Olympic
Park Authority*

Why is coastal saltmarsh endangered?

Coastal saltmarsh has not always been a highly regarded an ecological community. In the past, large areas of saltmarsh have been infilled for development. Salt-tolerant weeds also threaten saltmarsh and outcompete native species.

Unrestricted access by walkers, bike riders, vehicles and grazing animals greatly disturb saltmarsh communities. Wheel ruts caused by 4-wheel drive vehicles persist for many years in saltmarsh even after the exclusion of vehicles.

Climate change has the potential to harm coastal saltmarsh which, as it lives between the tides, means that slight rises in sea levels will permanently cover saltmarsh communities with water.

Why is saltmarsh important?

Coastal saltmarsh consists of many unique salt-tolerant plants that are not found in other environments. It plays an important role in ecosystem food webs and provides habitat for a range of terrestrial and aquatic fauna.

During high tides, fish and crabs feed and take refuge in saltmarsh. During low tides, shorebirds, bats, wallabies and kangaroos feed on saltmarsh or on the insects that live there.

Saltmarsh improves breeding in fisheries by providing shelter, and feeding and nursery areas for juvenile fish.

Species of migratory birds protected under federal legislation and international treaties, such as the sharp-tailed sandpiper often roost and feed in saltmarsh during their stay in Australia.

Some saltmarsh species

Beaded glasswort (*Sarcocornia quinqueflora*)

Beaded glasswort, also known as samphire, is a succulent saltmarsh plant with thick fleshy leaves. It occurs in dense colonies and is one of the dominant plant species in saltmarsh in the Sydney region. It tends to occur on low-lying ground with frequent tidal inundation.

Black-winged stilt (*Himantopus himantopus*)

The black-winged stilt is a medium-sized wading bird, up to 38 cm in height. It is a very conspicuous species due to its striking black and white feathers, red legs and 'yapping' call. It can often be seen foraging in saltmarsh.

Austral seablite (*Suaeda australis*)

Along with the beaded glasswort, this species dominates most saltmarsh areas in the Sydney region. It is a low, dense spreading shrub with slender, fleshy leaves. It usually occurs on higher ground towards the upper reach of the tides.

White-fronted chat (*Epthianura albifrons*)

The white-fronted chat is a small, black and white insectivorous bird that inhabits saltmarsh. Although it has a widespread distribution across southern Australia, it has undergone decline over much of its range, and only two populations remain in the Sydney region. One of these occurs at Sydney Olympic Park and the other at Towra Point Nature Reserve in Botany Bay.

Swamp wallaby (*Wallabia bicolor*)

The swamp wallaby is not as common in Sydney as it once was, but it still occurs in the region. Although its preferred habitat is thick forest undergrowth, it also occurs in some saltmarsh areas, where it grazes on the succulent saltmarsh plants.



Black-winged stilt

Photo: Jon Irvine



Austral seablite

Photo: Sydney Olympic Park Authority



White-fronted chat

Photo: Jon Irvine



Wilsonia backhousei
Photo: Sydney Olympic
Park Authority



Sharp-tailed sandpiper
Photo: Sydney Olympic
Park Authority

Wilsonia backhousei

Wilsonia backhousei is a saltmarsh plant that forms a dense, carpet-like groundcover. It has narrow, fleshy leaves and bears small white flowers in late spring and summer. In the Sydney region it is restricted to a few small populations, and is listed as a vulnerable species under the TSCA.

Sharp-tailed sandpiper (*Calidris acuminata*)

The sharp-tailed sandpiper is a medium-sized wading shorebird that migrates every year between the southern and northern hemispheres. It arrives in the Sydney region each spring – it can often be seen foraging for aquatic invertebrates or roosting in saltmarsh, and departs each autumn to its breeding grounds in Siberia.

Saltmarsh at Sydney Olympic Park

Sydney Olympic Park is home to the largest stands of saltmarsh on Parramatta River and the second largest in the Sydney basin. The saltmarsh at Sydney Olympic Park forms part of a rare example of complete zonation from estuarine waters through to mangroves, saltmarsh, casuarina forest and Cumberland Plain woodland.

Sydney Olympic Park's saltmarsh supports one of only two remaining Sydney populations of the white-fronted chat. It also contains the largest Sydney population of *Wilsonia backhousei*, a threatened plant that is listed as vulnerable under the TSCA.

Coastal saltmarsh at the park is managed to ensure its conservation. Large stands of the weed spiny rush have been removed from saltmarsh areas, mangrove seedlings are strategically removed to prevent them out-competing saltmarsh species, and ecological monitoring programs provide regular assessment of saltmarsh condition, threats and management needs.

Weeds and rubbish at the site are regularly removed to keep the saltmarsh community healthy.

Getting there

The main entrance to Sydney Olympic Park is at Australia Avenue. Sydney Buses routes 533 from Chatswood, 450 from Hurstville, 525 from Strathfield and 401 from Lidcombe will take you into the park. Trains also run into Olympic Park station from the city on the Olympic Park line.

Maps and information about the park can be obtained from the visitor centre at 1 Showground Road or www.sydneyolympicpark.com.au.

Once at the park, walk or ride a bike to explore pathways that wind around coastal saltmarsh.

Where to see saltmarsh

Coastal Saltmarsh can be seen at the following locations at Sydney Olympic Park:

Badu Mangroves: A large saltmarsh area can be seen adjacent to the pathway between Badu Mangroves and the Waterbird Refuge in Bicentennial Park.

Waterbird Refuge: Visit the bird hide and see the many birds that feed on the saltmarsh that fringes this large lagoon north of Badu Mangroves in Bicentennial Park.

Fishway: See saltmarsh by the constructed Fishway next to Lake Belvedere at Bicentennial Park. The Fishway allows fish passage between Lake Belvedere and the Parramatta River.

River Walk: Small saltmarsh stands can be seen adjacent to the River Walk that runs along Parramatta River. Large saltmarsh areas within Newington Nature Reserve can also be seen from the River Walk.



Saltmarsh on seawall at Sydney Olympic Park

Photo: Sydney Olympic Park Authority

Map of saltmarsh at Sydney Olympic Park



Conserving saltmarsh

Saltmarsh can be conserved by:

- staying on walking, cycle and vehicle tracks
- short cuts and new tracks cause trampling, soil compaction, and fragmentation of saltmarsh communities
- keeping dogs on leads – ensure your pets are kept under control and out of saltmarsh, and always pick up your dog's faeces
- keeping polluted stormwater out of saltmarsh
- ensure chemicals such as pesticides, herbicides and fertilisers do not escape from your property via surface runoff or down the drain into native vegetation such as saltmarsh
- not dumping rubbish
- never dump garden or other refuse into saltmarsh as, apart from being illegal, it helps weeds to spread; use the green waste service provided by your local council to dispose of garden waste
- joining a Bushcare group
- visit your local council or its website to find out about ways of getting involved in bush regeneration works in saltmarsh areas
- reporting damage to saltmarsh – call Environment Line on 131 555



Beaded glasswort

Photo: Sydney Olympic Park Authority

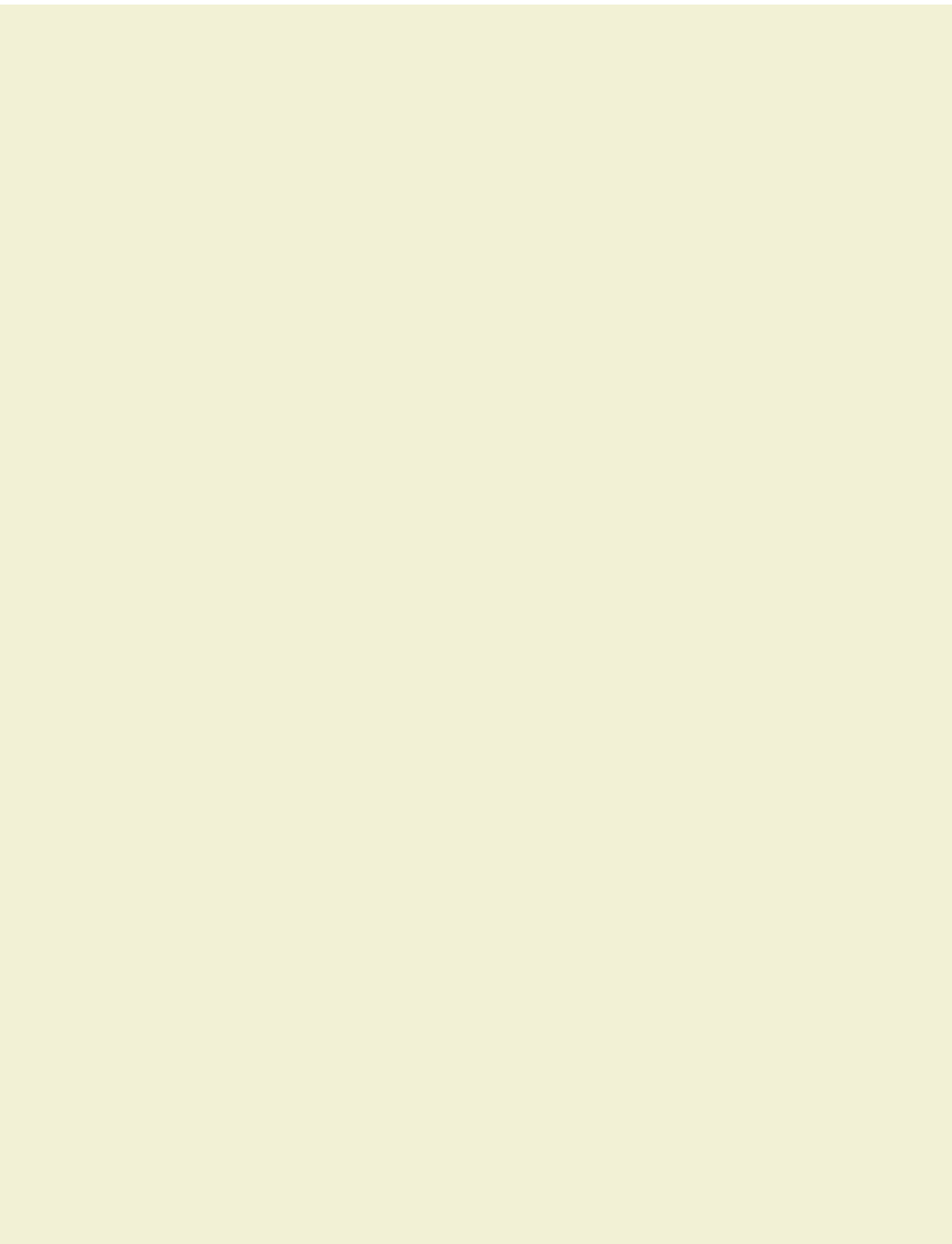
Further reading

DECC 2005, 'Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner Bioregions – profile', Department of Environment and Climate Change, Sydney, www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10866

DECC 2008, 'Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions – endangered ecological community listing', Department of Environment and Climate Change, Sydney, www.environment.nsw.gov.au/determinations/CoastalSaltmarshEndSpListing.htm

DEC 2008, *Best practice guidelines: Coastal saltmarsh*, Department of Environment and Climate Change, Sydney

Sydney Olympic Park, 'Coastal saltmarsh', www.sydneyolympicpark.com.au/education_and_learning/environment/biodiversity/plants/coastal_saltmarsh



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