

Ramsar Information Sheet

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- 1. Date this sheet was completed:** January 1998
- 2. Country:** Australia
- 3. Name of wetland:** Towra Point Nature Reserve
- 4. Geographical co-ordinates:** Latitude: 34°00'S Longitude: 151°10'E
- 5. Altitude:** Less than 5 metres above sea level
- 6. Area:** 386.5 hectares

7. Overview

Towra Point Nature Reserve TNPR contains approximately half of the mangrove communities remaining in the Sydney region. These wetland communities are important as they provide habitat for over thirty species of migratory birds listed on the Japan-Australia Migratory Bird Agreement. They are also significant for wading and wetland birds in the Sydney region.

- 8. Wetland type:** E F G H
- 9. Ramsar Criteria:** 1a, 2a, 2b, 3b, 3c, dominant reason 2b
- 10. Map of site included:** The Ramsar site is outlined on the appended map.

11. Name and address of compiler:

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12. Justification of criteria selected under point 9:

Towra Point Nature Reserve is botanically diverse, almost 300 plant species have been identified. The Reserve contains approximately 50% of the remaining mangrove communities and 90% of the remaining saltmarsh communities in Sydney. Consequently, these wetlands are particularly good representative example of this wetland type for this biogeographical region.

Areas of Towra Point provide habitat for almost half of the bird species listed under the Japan-Australia Migratory Bird Agreement. Moreover, several species listed under the *NSW Threatened Species Conservation Act 1995* occur within the Reserve.

13. General location:

Approximately 16 km south of Sydney centre, Towra Point adjoins Kurnell Peninsula forming the southern and eastern boundaries of Botany Bay.

14. Physical features:

Towra Point is located on the northern side of Kurnell Peninsula which forms the southern shore of Botany Bay. It is an estuarine complex bounded by Woollooware, Quibray and Weeney Bays. The Nature Reserve comprises three areas: two small sections along the shores of Quibray Bay and the third which covers the majority of Towra Point and the bed of Weeney Bay.

Towra Point is a low lying promontory of Holocene sandy sediments. TPNR consists of sandspits, bars, mudflats, dunes and beaches.

The tidal range for Botany Bay is approximately 0.1 - 2.0 m. Average annual rainfall for Sydney is 1088.3 mm. The mean maximum temperature at Sydney is 20.0°C whilst the mean minimum temperatures is 12.9°C.

A number of small freshwater ponds once existed (1770) on Towra Point, however, seawater contamination has caused them to become brackish.

The surrounding catchment comprises industrial, residential and recreational areas.

15. Hydrological values:

Towra Point is an estuarine landform comprising a mixture of spits, bars, mudflats, dunes and beaches. The shape of Towra Point has been influenced by changes in the topography of Botany Bay which in turn are due to the tidal currents, erosive and transporting forces caused by waves from ocean swells entering through the heads, and movements in the mouth and scour channels of the Georges River.

The flat intertidal areas of muddy sand at Towra Point, Towra Spit and Quibray Bay are of particular importance as they provide roosting and feeding habitat for a number of waterfowl and migratory birds. The muddy sand flats at the eastern end of Towra Point and at the western end of Towra Spit are being damaged by coastal erosion. Towra Spit is actively extending in a south-westerly direction and the beaches on the eastern and western faces of Towra Point are eroding and contributing sand to the growth of the spit. Recent erosion has been partly attributed to dredging and port works within Botany Bay.

In 1991, erosion caused the western portion of Towra Spit to separate from the mainland and to form a highly mobile island west of the spit. However, during 1997 the island rejoined the mainland at the eastern end after a large local storm.

Works are proposed to stabilise Towra Spit island, and to protect shorebirds. Measures to mitigate impacts of coastal erosion elsewhere at Towra Point are being investigated.

16. Ecological features:

TPNR consists of a variety of habitats, including:

- seagrass meadows of strapweed (*Posidonia australis*), eelgrass (*Zostera capricorni*), and paddleweeds (*Halophila ovalis* and *Halophila decipiens*);
- stands of mangroves including the grey mangrove (*Avicennia marina*) and the river mangrove (*Aegiceras corniculatum*);
- saltmarshes
- dune woodlands
- Casuarina forest (*Allocasuarina littoralis* and *Casuarina glauca*)
- small occurrences of littoral rainforest, and
- sand dune grasslands

The terrestrial plant communities comprise a number of recognised associations such as swamp she-oak forest, littoral rainforest, littoral strandline and a complex mosaic of dune sclerophyll scrub/forest.

17. Noteworthy flora:

Towra Point Nature Reserve is botanically diverse, almost 300 vascular plant species have been identified (appendix 1).

The vegetation within TPNR is regionally significant - the reserve contains approximately 50% of the remaining mangrove communities and 90% of the remaining saltmarsh communities in Sydney. Also, most vegetation communities occurring within the Reserve are now regionally uncommon due to urban development and expansion in the area.

Vegetation at Towra Point is also of great scientific importance because it was the site for some of the first botanical collections in Australia, by Joseph Banks and Daniel Solander in 1770. Thus the Reserve is the type locality for some species of indigenous flora.

The Reserve provides habitat for a small population of *Syzygium paniculatum*, which is listed as vulnerable under the *NSW Threatened Species Conservation Act 1995*. The plant *Gahnia filum* reaches its northern limit at Carters Island which is located within the Reserve.

18. Noteworthy fauna:

With the distinction of being one of the few remaining areas of estuarine wetlands in the Sydney region, Towra Point is important for the survival of many species of birds. Approximately 200 bird species have been recorded from the Towra Point area. Of particular significance is the occurrence of 31 of the 66 species presently listed in the Japan-Australia Migratory Birds Agreement (Anon. 1983a).

Anon. (1983a) has shown that Towra Point has a regular occurrence of 2.0% of the Australian population of the Eastern Curlew (*Numenius madagascariensis*), 6.1% of the Lesser Golden Plover (*Pluvialis dominica*) and 1.1% of the Ruddy Turnstone (*Arenaria interpres*) (Anon. 1983a). The sand spit area has also been used for breeding by species such as Little Tern (*Sterna albifrons*) and Pied Oystercatcher (*Haematopus ostralegus*) which are listed as endangered and threatened, respectively, under the *NSW Threatened Species Conservation Act 1995*.

The percentages for the occurrences of species within the area are difficult to assess from existing data due to the limited number of studies. However, the estuarine wetland at Towra point has large populations of migratory waders stopping to feed and rest en route to large summer feeding grounds in the south.

Limited surveys of other fauna (mammals, reptiles, amphibians and invertebrates) have also been undertaken.

Towra Point also supplies rich nutrient grounds for fish nurseries and an array of invertebrate species.

19. Social and cultural values:

The Towra Point area offers a readily accessible variety of wetland plants and animals in close proximity to Australia's largest city, Sydney, for research and teaching. There are no similar wetlands in central coastal New South Wales. In addition, the development of nearby areas for housing and heavy industry offers an interesting example for the study of interactions between the physical, social and biological environments of the area

The Reserve has some historic structures and three known Aboriginal sites.

20. Land tenure/ownership of:

The Ramsar site is a Nature Reserve dedicated under the New South Wales *National Parks and Wildlife Act 1974*. Surrounding lands include an Aquatic Reserve, dedicated under the *NSW Fisheries Management Act 1994*, and freehold lands.

21. Current land use/principal human activities:

The Ramsar site is permanently dedicated as a Nature Reserve and used for nature conservation. Surrounding lands include industrial, sporting and residential areas and Towra point Aquatic Reserve.

22. Factors adversely affecting the site's ecological character, including changes in land use and development projects:

TPNR is primarily surrounded by a highly industrial environment. Oil pollution associated with shipping movements is a moderate threat to the reserve. Also, dredging within Botany Bay and revetment walls construction are possibly altering wave movements within the bay, which may affect the seagrass meadows adjacent to the Reserve.

Shoreline instability and erosion, and invasive weed infestations, are ongoing management problems within the Reserve. Shoreline erosion causes impacts on wader roosting, feeding and nesting habitats. This poses a serious threat to the viability of wading bird populations at Towra Point.

Introduced plant and animals and litter are continuous management problems and are a medium to high threat to the Reserve.

Access to the Reserve by trail bike and horseback riders are a medium to high threat as they facilitate the propagation of weeds. Access by day users from boats are a low threat.

There also may be threats from proposed sandmining, landfill and dredging activities, and from proposed tourist developments in the vicinity of the Reserve.

23. Conservation measures taken:

A Draft Plan of Management for Towra Point Nature Reserve was adopted on 2 May 1989. This Plan addresses numerous conservation and management initiatives to preserve and enhance the area for nature conservation.

Management responsibilities of Towra Point primarily rests with the NPWS and NSW Fisheries. Draft Joint Management Guidelines between the two Departments have been prepared and include management initiatives such as reciprocal law enforcement rights and development of regulative signs.

Approximately 90 to 95% of Blackberry (*Rubus vulgaris*), Pampas Grass (*Cortaderia selloana*) and Prickly Pear (*Opuntia stricta*) has been removed by local volunteers and contractors. 95% of Bitou bush (*Chrysanthemoides monilifera*) has been removed and the removal of Lantana (*Lantana camara*) and Buffalo Grass (*Stenotaphrum secundatum*) has begun.

The NPWS has purchased an "oiled bird rehabilitation facility" which can be used in the event of a major oil spill in the area.

Management of Little Terns and waders continues each breeding season. Activities such as removal of vegetation, sandbagging, signposting, wardening and law enforcement are undertaken.

Access to the majority of the Reserve is by permit only. Regulatory signs have been erected within and surrounding the Reserve to deter inappropriate activities being undertaken.

Removal of pest animal species is undertaken regularly. Fox baiting is undertaken prior to the Little Tern breeding season. Pig eradication was undertaken in 1993 and has not been necessary again.

A sand bag wall has been installed as a temporary measure to control erosion at Towra Lagoon. This is a community initiative which has been funded by the State Government.

Activities, designated under the *NSW Environmental Planning and Assessment Act 1979*, that are undertaken within the Reserve are regulated through By-laws under *the NSW National Parks and Wildlife Act 1974*.

Since dedication of the TPNR, land acquisitions have increased the area of the Reserve by 105 ha

Strategies for controlling or eradicating pest plants and animals within the Reserve are being implemented according to the pest management plan for the Reserve. Management to eliminate inappropriate activities such as camping, and the use of horses and dogs within the Reserve, which may compromise the conservation values of the Reserve, is being carried out in accordance with the plan of management with the Reserve.

24. Conservation measures proposed but not yet implemented:

The NSW National Parks and Wildlife Service is currently revising the Draft Plan of Management for TPNR. The revised Plan of Management will take a holistic approach and consider TPNR in the context of Botany Bay as a whole. Areas that will be addressed within the review include the management of shoreline erosion, management of flora and fauna within the Reserve and visitor access.

A consultancy has been let to review the erosion mitigation measures for the reserve. The review will recommend a preferred option to address the significant erosion threats to the Reserve. Engineering works to protect shorebird habitats are proposed.

Additions to the Reserve of approximately 70 ha are proposed.

The current plan of management for TPNR is being reviewed and updated.

25. Current scientific and research facilities:

A number of universities, government departments and non-government organisations are undertaking research at Towra Point. Areas researched include terrestrial and aquatic flora, intertidal waders and biological control of Bitou Bush

NPWS has undertaken research into the breeding success of Little Terns at Towra Point since 1991.

26. Current conservation education:

A number of schools and universities carry out fields studies within TPNR. A NSW Department of School Education Field Studies Centre is located nearby at Botany Bay National Park (BBNP). The centre conducts educational programs on wetlands. NPWS also operates a visitors centre in BBNP which includes an interpretative exhibition on wetlands.

27. Current recreation and tourism:

Current recreational usage of parts of the reserve is high. In summer months in excess of 500 people and 120 boats have been recorded from the western face of Towra Point. This area is used for picnicking and swimming and access is generally by boat. Bush walking, under permit, usually associated with bird watching, occurs within the Reserve. Access for this activity is usually by land.

Activities such as horse riding, trail-bike riding and camping were once popular in the Reserve, but management practices have virtually eliminated these uses because they are incompatible with the management objectives for the Reserve.

28. Jurisdiction:

Territorial: Government of New South Wales

Functional: NSW National Parks and Wildlife Service

29. Management authority:

New South Wales National Parks and Wildlife Service (Metropolitan Region, Sydney Zone, District)
District Manager, PO Box 44, Sutherland NSW 2232, Australia
Phone 02 9542 0666; Fax 02 9542 1420

30. Bibliographical references:

Anon (1977). *An investigation of Management Options for Towra Point, Botany Bay*. Australian Littoral Society for Australian National Parks and Wildlife Service.

Anon (1983a). *Results from the 1983 Summer National Wader Counts*. Internal Report. National Parks and Wildlife Service.

Anon (1983b). *Wetlands*. Journal of the Coast and Wetland Society. Vol 3, No. 1

National Parks and Wildlife Service (1987). *Towra Point Nature Reserve Draft Plan of Management*. NSW National Parks and Wildlife Service.

Appendix

Appendix 1: Plant and Animal species recorded at Towra Point.