



## CHANGE IN ECOLOGICAL CHARACTER OF THE TOWRA POINT NATURE RESERVE RAMSAR SITE - STATEMENT OF REASONS

I, (Mark Taylor, Acting Administrative Authority for the Ramsar Convention in Australia), provide the following statement of reasons for my decision to notify a change in ecological character of the Towra Point Nature Reserve Ramsar site.

### Requirements

The *National Guidance on Notifying Change in Ecological Character of Australian Ramsar Wetlands* (Article 3.2) notes that a statement of reasons for any notification will be posted on the Department of the Environment and Energy (DoEE) website, together with appropriate reference to any related published supporting evidence that has informed the assessment.

Article 3.2 of the Ramsar Convention requires that:

“Each Contracting Party shall arrange to be informed **at the earliest possible time** if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference. **Information on such changes shall be passed without delay** to the organization or government responsible for the continuing bureau duties [i.e. the Ramsar Secretariat] specified in Article 8”.

### Ecological Character

The ninth Conference of the Contracting Parties to the Ramsar Convention (CoP9, 2005), established the following revised definition of ecological character:

“Ecological character is the combination of the ecosystem components, processes and benefits/services that characterise the wetland at a given point in time.” (Resolution IX.1, Annex A).

The same resolution established the following revised definition of ‘change in ecological character’:

“For the purposes of implementation of Article 3.2, change in ecological character is the human-induced adverse alteration of any ecosystem component, process, and/or ecosystem benefit/service.”

### The Towra Point Nature Reserve Ramsar Site

The 604 hectare Towra Point Nature Reserve Ramsar site is located on the southern shore of Botany Bay, New South Wales. It was designated on the List of Wetlands of International Importance in February 1984 and has been extended several times since listing to incorporate additional acquisitions to the Nature Reserve.

Towra Point Nature Reserve is the largest wetland of its type in the Sydney region and represents vegetation types that are now rare in the area. It is an estuarine complex comprising a mixture of spits, bars, mudflats, dunes and beaches. The site consists of a variety of habitats such as seagrass meadows, mangroves, saltmarshes, dune woodlands, casuarina forest, small occurrences of littoral rainforest and sand dune grasslands. A considerable diversity and abundance of birds, including a number of species listed under international migratory bird conservation agreements are also supported by the site.





## Background

The Towra Point Nature Reserve Ramsar Site Ecological Character Description (ECD) (DECCW 2010) identified that the limits of acceptable change (LAC) for shorebird abundance (decline of no more than 50 per cent from baseline condition in five consecutive years) was close to being exceeded, the LAC for shorebird diversity (no net loss of species since time of Ramsar listing) had been exceeded and highlighted threats to the condition of the site, which is situated within a major port and urban area.

The site was nominated for a World Wetland Network Grey Globe Award in 2012, calling for action to protect the “*wetland from threats and neglect*” including erosion of the shoreline, pollution, invasive weeds and mangrove encroachment into saltmarsh. Subsequently, the Department of the Environment prepared a preliminary assessment of evidence of potential change in ecological character and determined that a formal assessment of change in ecological character was necessary.

The formal assessment constituted a more detailed analysis, using best available data, of the extent and drivers of shorebird decline at the site, sand movement and potential extent of saltmarsh loss. Its purpose was to determine whether the site had, or was likely to change in ecological character.

## Evidence or other material on which findings were based

The evidence or material on which the findings were based consists of the final formal assessment for the Towra Point Nature Reserve Ramsar site (July 2017), prepared by Umwelt. This assessment analysed the evidence of changes presented in the Ecological Character Description for the Towra Point Nature Reserve Ramsar site (DECC, 2010) together with more recent waterbird data provided from the Shorebirds 2020 database (Birdlife Australia) and the NSW Office of Environment and Heritage.

## Findings on an assessment of evidence of change in ecological character

### *Geomorphology and sediment processes*

1. There is abundant evidence of dynamic near-shore and foreshore sedimentary processes affecting beaches at multiple locations around Botany Bay. As the shoreline of Towra Point Nature Reserve is the only part of Botany Bay without any form of structural protection it is the most vulnerable to impacts from sedimentary processes.
2. Key habitat for shorebirds is eroding, with Towra Beach recessing and the sand from Towra Point migrating westward towards deep water outside of the Ramsar site boundary. The availability of shorebird habitat in Botany Bay has been, and continues to be, threatened by urban development and changes in hydrodynamic processes.

### *Changes in shorebird abundance and diversity*

3. There has been a consistent decline in shorebird species diversity in Botany Bay since 2002. For example eight species were recorded in January 2016 compared to eleven in January 2002. The Limit of Acceptable Change (LAC) for shorebird diversity was set as “No net loss of species over 5 consecutive years”. Despite the LAC having a low level of confidence due to lack of data at the time the ECD was developed in 2010, there is clear evidence of a sustained decline in shorebird diversity at the site.





4. The abundance of several key species of shorebird have declined since 2002. Declines in these species were compared to changes at a nearby reference site to identify site-specific impacts relative to broader changes in populations. The species occurring in Botany Bay of most concern are the Pacific golden plover and the red-necked stint. At the time of listing, Towra Point Nature Reserve supported two per cent of the Australian population of the Pacific golden plover. This species has declined since 2004 and was not recorded in January 2016. Similarly, numbers of the red-necked stint have reduced from 118 in November 2002 to sporadic records of below 10 records over recent summer months. Abundance of shorebirds is dependent on availability of habitat and resources. Habitat for small shorebirds, such as the red-necked stint and curlew sandpiper has significantly declined since 1984 due to erosion. Of the fifteen roost sites used by key shorebird species that existed in 1984 on the southern shores of Botany Bay, only six still exist or are still being used. Three roost sites are within the Ramsar site, but all sites are used by birds frequenting the site. There continues to be pressure from urban development on roost sites outside of the Ramsar site.
5. The overall abundance of shorebirds at Towra Point Nature Reserve has declined since 2002 and the LAC of 50% decline in abundance over 5 consecutive years has been exceeded.

#### ***Changes in little tern breeding***

6. Overall numbers of little terns nesting/breeding at Towra Point Nature Reserve have declined since 2000. The decline at this site appears to be deeper and more persistent than at other sites in NSW. The breeding success at Towra Point has generally been above the minimum rate required to maintain a sustainable population, however, when total numbers of birds are low, the breeding success ratio has little meaning. Little tern breeding is linked to availability of sand shoal habitat, which is continuing to decline at Towra Point.
7. The LAC for little tern breeding – successful annual breeding in one out of every two years – has been exceeded.

#### ***Saltmarsh***

8. On ground observations since the mid-1980s have reported a substantial increase in the incursion of mangroves into saltmarsh and this appears to be accelerating. This has caused a reduction in available habitat for shorebirds. There is anecdotal evidence that the some migratory shorebirds that frequented saltmarsh at Towra Point Nature Reserve during the mid-1980s have not been observed in this habitat during more recent visits. However, the Towra Point Nature Reserve supports the only remaining breeding population of the NSW listed coastal wetland/saltmarsh specialist white-fronted chats (*Epthianura albifrons*) in the Sydney area. It is expected that further decline of saltmarsh habitat will also contribute to a decline of this key species.



### **Reasons for decision**

On assessment of the available evidence, I was satisfied that human induced changes to the geomorphology of Towra Point Nature Reserve are adverse to the ecological character of this site. In particular, the sustained and continuing decline in the shorebirds for which the site was originally listed as a Wetland of International Importance indicates a change in the ecological character of the site.

**Signed**

A handwritten signature in black ink, appearing to be 'Mark Taylor', written in a cursive style.

**Mark Taylor, A/g Administrative Authority for the Ramsar Convention in Australia**  
**Department of the Environment and Energy**  
**7 August 2017**