

## Botany of the Nicabay Flats Wetland

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### Introduction

The Nicabay Flats wetland are part of the area known as the Gascoyne Marshes, which includes all the recent alluvial and quaternary sands of the Gascoyne floodplain and Lake MacLeod. This area contains alluvial plains with extensive clay pan formations separated by sandy ridges; levees and plains flanking the lower river channels; saline flats and calcareous dunes along the coastal marsh and tidal flats and the bed of Lake MacLeod with extensive saline flats.

### Vegetation

The flats are a combination of the first two topography types, flanked by the Brown Range which is the largest and most inland example of a calcareous dune. Beard (1976) in his studies of the area noted that the "range" in reality a large red sand dune is dominated with large shrubs of *Acacia ramulosa*, *A. sclerosperma*, *A. tetragonophylla*, *Eremophila maitlandii*, *Alectryon oleifolium*, *Pimelea microcephala*, *Scaevola tomentosa* and *Pityrodia paniculata* over low shrubs of *Senna glutinosa*, *Crotalaria cunninghamii*, *Tephrosia gardneri*, *Indigofera georgei*, *Scholtzia leptantha*, *Brachycome latisquamea* and *Solanum lasiophyllum*. Under these shrubs were bunch grasses such as *Aristida holeranthera* and herbs such as *Glycine tabacina*, *Erodium cygnorum*, *Trichodesma zeylanica*, *Waitzia aurea* and *Podolepis canescens*. Interestingly Beard does not mention *Cenchrus ciliaris* (Buffel Grass) which is now abundant on the range!

The range is very similar in floristics to dunes we have sampled in the Bush Bay and Boolathana area, which appear to also be relatively calcareous and lack *Banksia ashbyi*, *Pileanthus peduncularis*, *Grevillea stenobotrya*, *Hakea stenophylla*, *Verticordia forrestii* and *Baeckea* and *Calothamnus* species present on more inland dunes, north and east of Lake MacLeod and around the Kennedy Range. Currently there are no examples of these coastal red dunes in a conservation area.

The wetland itself is a large clay pan with sparse cover of Lignum (*Muehlenbeckia cunninghamii*) and scattered clumps of Cane Grass (*Eragrostis australasica*) with a few trees of *Eucalyptus coolabah*, but this is mainly present as a fringing woodland.

### Flora

The pan was full at the time of sampling limiting comments to the herfield present under the fringing trees. This was composed of a few Shrubs (*Atriplex ?bunburyana*) and Lignum. over a diverse assemblage of 27 species of herbs (*Marsilea drummondii*, *Rumex crystallinus*, \**Emex australis*, *Trianthema ? pilosa*, *Portulacca ?oleracea*, \**Polycarpon tetraphyllum*, *Amaranthus mitchellii*, *Alternanthera nodiflora*, *Hypericum gramineum*, *Crassula colorata*, *Euphorbia drummondii*, *Euphorbia boophona*, *Ammania multiflora*, \**Anagallis arvensis*, *Centaureum spicatum*, *Synaptantha tiillaeacea*, *Stemodia ? viscosa*, *Mimulus gracilis*, *Peplidium* sp nov, *Plantago drummondii*, *Wahlenbergia tumidifructa*, *Isoetopsis graminifolia*, *Flaveria australasica*, *Centipedia cunninghamii*, *Centipedia minima*, *Senecio glossanthus* and

\**Sonchus oleraceus*) and 3 species of grasses (*Cynodon dactylon*, *Sporobolus ? mitchellii* and *Paspalidium basicladum*).

The record of *Rumex crystallinus* is the second record for the State, since a collection held in Melbourne herbarium from the Lyndon River in 1871!

This is as diverse an assemblage as we recorded anywhere in the Carnarvon Basin, it is very similar to some of the claypans and associated drainage lines on Boolathana Station north of the homestead, but differs from those closer to the coast on this station and at Bush Bay in lacking any saline influences (eg: Shrubby Samphire species or saline tolerant herbs).

There are of course differences in species composition between these wetlands, but this may be resolved if this very large wetland could be resampled as more of the bed is exposed as it dries.

This wetland type is currently unreserved and the Nicabay Flats are an excellent example of a large freshwater claypan in excellent condition that is typical of the Gascoyne Marshes.

#### References

Beard, J.S. (1976) Vegetation Survey of Western Australia, Murchison. University of Western Australia Press.

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