Australian Ramsar Sites - Site 43
Currawinya Lakes South-Western Queensland
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1. Country Australia

2. Date of Compilation 25 September 1995

3. Reference 5AU043

4. Contact

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5. Name **Currawinya Lakes (Currawinya National Park)**

6. Date of Ramsar Designation 11 March 1996

7. Coordinates 28°45’ South, 144°19’ East (major lakes)

8. Location

Queensland. Wetlands within the area approximately bounded by latitude 28 40' and 29 and longitude 144 and 145 , the southern most boundary being the Queensland/New South Wales border. Nearest town is Hungerford, 36 kilometres to the south east.

9. Area About 151 300 hectares

10. Wetland Type

Inland Wetlands: 2, 4, 6, 7, 9 (as listed in T.J. Davis (ed.) (1994), Ramsar Convention Manual, p. 159).
Dominant types: 2,5,7

11. Elevation Major lakes: 119-132 m.

12. Overview

The Currawinya National Park consists of a mosaic of low dunefields, lakes, claypans and saltpans. These occupy a central strip between rugged hills and scarps to the north and west which rise 50 m or more above the surrounding sand plains. Although the numerous lakes and swamps are scattered across alluvial areas of uniform relief and similar geological age, some are freshwater and others, often quite close and divided by only low levees, are salt or strongly brackish.

13. Physical Features

The rugged hills and scarps on the north of the Park represent the southern extension of the Hoods Range. This range mostly consists of deeply weathered sediments of the Cretaceous Winton Formation which, in some places, are overlain by remnants of the Tertiary Glendower Formation quartz sandstones. Associated with these are fresh sediments of the Winton Formation with a thin silcrete cover (Dawson and Boyland, 1974). A small area of granite, of Middle Devonian age, is present at the foot of the Range.

Dissected tablelands and low hills occur to the east, south and west of Lakes Wyara and Numalla, rising 50 m or more above the surrounding sand plains. An extensive dissected tableland, with steep escarpments, rubble slopes and occasional isolated mesas, occurs to the west of Lake Wyara, with associated low hills to the west and south of the Lake. The area consists of Tertiary Glendower sediments, frequently silicified, overlying fresh or chemically altered Cretaceous Winton Formation sediments which are often exposed.

The undulating plains and low hills associated with the tablelands consist of the remnants of the Tertiary Glendower Formation sediments, interspersed with superficial Quaternary silcrete gravel deposits (Dawson and Boyland, 1974). Soils associated with the ranges and hills are predominantly lithosols and very shallow red earths which often have a surface cover of silcrete stones and boulders. The soils on the associated plains are predominantly shallow to moderately deep, red earths and loamy red earths, with silcrete frequently present on the surface and through the profile.

A mosaic of low dunefields, lakes, claypans and salt pans occupies a wide central strip of the area between Hoods Range and the western tablelands while extensive sand plains occupy much of the remaining area to the south and east. The sand plains and dunefields are mostly composed of aeolian sands, derived from Tertiary and Cretaceous sandstones, which overlie Quaternary alluvial deposits. The latter mostly consist of clay and are exposed in the pans and lakes, and in the drainage lines which traverse the sand plains.

The soils on the plains are predominantly shallow to moderately deep, sandy red earths in which hard pans are common. The low dunes consist of very deep, red sandy earths, with grey and brown clays in the associated claypans and saltpans.

The two major lakes in the area are separated by only three kilometres of Quarternary sand deposits, but have completely different catchments. The saline Lake Wyara receives water from Werewilka Creek, whose tributaries drain the Willies Range (about 50 km NNE of Lake Wyara) and the western slopes of Walters Range (NNW of Boorara Homestead). The freshwater Lake Numalla in contrast, receives water from Boorara Creek, which drains the eastern slopes of Willies Range and the western slopes of the Hoods Range (N and NE of Boorara homestead respectively) and from Carwarra Creek which drains the southern and eastern slopes of the Hoods Range. The lakes are permanent water bodies except during extreme drought. They are the focus of drainage from the surrounding areas for most of the time, although in extremely wet periods surplus water from Lake Numalla may flow south and into the Paroo River Channels.

Other smaller semi-permanent lakes within this system include Lake Kaponyee (north and south), Lake Yumberarra and Lake Karetta. The first is fresh while the latter two are brackish.

The soils of the lakes are mostly grey clays which frequently have a crusted surface. On the eastern sides of Lake Wyara and larger saltpans, fringing crescentic dunes are present. They are composed of recent sand blown from the exposed lake beds and have soils of deep, gypseous and calcareous sand. The flatter areas fringing the dunes have strongly alkaline grey clay soils.

The remaining lands of the National Park consist of alluvial plains mostly associated with the Paroo River and its local tributaries. These are derived from Quaternary alluvial deposits, mostly of clay, and consist of steep-sided, braided channels interspersed with flat plains, with minor areas of poorly drained swamps. The gradients of the Paroo flood plain are low, with a drop of about 15 m from the north of old Caiwarra homestead to Hungerford, a distance of about 60 km. The soils associated with the flood plains are predominantly alluvial grey clays frequently subject to scalding, and minor areas of texture contrast soils.

A few springs and numerous permanent waterholes also occur mostly associated with the Paroo River channels. Remnants of mound springs occur in the Hoods Range area to the east of Lake Numalla, on alluvial plains or old alluvial areas now covered with sand. Generally all that remains of the springs are dry circular depressions often with a raised lip.

Climate: The general area has a very dry hot climate with a marked summer maximum rainfall. The average rainfall at Currawinya is 276 mm per annum, rising to 292 mm at Hungerford in the southeast

and 282 mm at Thargomindah in the northwest. Daily average temperatures in January at Thargomindah, the nearest centre where detailed records are available, are 36.4 C (maximum) and 23.3 C minimum). while in July they are 18.9 C (maximum) and 5.6 C (minimum}

14. Ecological features

Currawinya National Park contains excellent examples of the typical vegetation of the south western part of Queensland, such as mulga (*Acacia aneura*) communities on the tablelands, low hills and associated plains, mulga-poplar box (*Eucalyptus populnea*) communities on the sand plains, and gidgee (*Acacia cambagell* communities on the alluvial flood plains (Purdie, 1985). Shrubland and woodland communities dominated by yapunyah (*Eucalyptus ochrophloia*) or turpentine mulga (*Acacia brachystachya*) which are restricted in their distribution in south-western Queensland (though more common further south) also occur, on the alluvial plains and the tablelands and low hills respectively. Other communities contain species that are at the extremes of their natural distribution, such as lancewood (*Acacia petrea*) and black box (*Eucalyptus largiflorens*). A number of plant communities are important because they are uncommon, for example samphire low shrublands and sedgelands dominated by *Cyperus gymnocaulis*. These occur mainly in the area of dunefields and associated lakes and claypans. Rare species such as *Melaleuca densispicata* and *Maireana pyramidata* also occur in the area.

Lake Numalla is variously fringed by black box low woodlands, belalie (*Acacia stenophylla*) open shrublands and sedgelands dominated by *Cyperus gymnocaulis*. Areas of saline flats on the edge of the lake support samphire low open shrublands. Boobialla (*Myoporum acuminatum*) shrubs are commonly associated with all the lake communities, in areas upslope of the most recent water level.

The vegetation surrounding the saline Lake Wyara is a complete contrast to that associated with Lake Numalia. The muddy flats and lower slopes of the fringing dunes support dense samphire low shrublands in which *Lawrencia glomerata* and pig face *Sarcozona praecox* may be common. On the eastern side of the lake, various samphires form distinct bands progressively upslope from and running parallel with the shore. At the northern end of Lake Wyara an open woodland of large river red gum (*Eucalyptus camaldulensis*) trees is present at the foot of the fringing dune on what is probably a very old, exposed shoreline.

The alluvial flats and drainage channels associated with the dunefields and sand plains, and with the Paroo River, generally support yapunyah and/or gidgee woodlands and open woodlands. A low shrub layer of lignum (*Muehlenbeckia cunninghamii*), some swamp canegrass and scattered creek wilga (*Eremophila bignonkiflora*) and belalie shrubs are often present with yapunyah in swampy areas, while lignum fuchsia (*Eremophila polyclada*) may be present in areas flooded less frequently. River red gum woodland or open woodland may fringe the main channels of the Paroo. particularly along permanent water holes.

15. Land Tenure

The site is owned by the Queensland Government. Surrounding areas are occupied by private individuals and pastoral companies under grazing leases.

16. Conservation Measures Taken

The entire area was proclaimed Currawinya National Park in 1991, and is protected under the provisions of the Queensland Nature Conservation Act 1992. This status affords the highest level of protection for conservation of wildlife habitat values that the Queensland Government is able to bestow on an area.

17. Conservation Measures proposed

The site was as offically placed on the List of Wetlands of International Importance on 8 March 1996. A management plan is being prepared for the Park and it is envisaged that Ramsar values will be incorporated.

18. Current Land Use

Current uses on the site are conservation management, recreation, scientific study.
Surrounding areas and the catchment are used for extensive grazing. Human population of the area is low and currently only low level use is made of the Park.

19. Disturbance and threats

Since the area was only declared a National Park five years ago, there is still a legacy of disturbance from its previous use as a pastoral lease. However it was in relatively good condition when it was purchased. Management as a National Park will gradually allow the area to revert to its natural state.

Feral pigs and other feral animals cause minor disturbance, but control measures are taken to mitigate this. Excess numbers of natural wildlife are expected to be lowered by reducing the number of artificial watering points that are a historical relict of the time when the area was a pastoral holding.

The major threat in the catchment is overgrazing and soil erosion which may lead to sedimentation of the lakes.

20. Hydrological and Biophysical Values

The area has a combination of terminal lakes and flowthrough areas (Paroo River channels). It acts as a flood control mechanism for the area and a drought refuge for wildlife. The area contains one of the richest and most diverse samples of wetlands in inland Australia.

21. Social/Cultural Values

Principal social values are tourism and outdoor recreation. These values are consistent with maintenance of natural wetland processes.

An important series of aboriginal sites occur in the area. Two sites have been dated, one at 400 years Before Present and the other at 1600 years Before Present. Stone arrangements, native wells and dams, trees with areas of bark removed (for canoes, shields etc.), evidence of huts, stone artifacts, quarries and burial grounds are evident. Artifact scatters are ubiquitous, and around streams and springs their density dramatically increases. Around Lake Numalla and to the east artifact scatters appear clumped around claypans and some mound springs.

22. Noteworthy Fauna

Lakes Wyara and Numalla are very important sites for waterbirds in Australia. No other wetlands in arid or southern Australia are thought to consistently support such high numbers of waterbirds, while only the wetlands of the Northern Territory in the dry season, Lake Eyre North (South Australia), Lake Galilee (Queensland) and Lake Gregory (Western Australia) have comparable numbers. Estimates of over 100,000 waterbirds from 41 species have been recorded at particular times (Kingsford and Porter, 1994).

Though more species have been recorded at Lake Numalla (39) than Lake Wyara (31), numbers on Lake Wyara greatly exceed those on Lake Numalla.

The lakes are thought to be the most important dry refuge habitat in Australia for the freckled duck, (*Stictonetta naevosa*). Of an estimated total population of 19,000, mean estimates of 2,400 + /- 1,000 (0-9,700) and 1,200 + /- 500 (05,500) have been recorded for Lakes Numalla and Wyara respectively (Kingsford and Porter, 1994).

In common with Lake Bindegolly to the north, these lakes are significant breeding sites for some waterbird species. Australian pelicans (*Pelicanus conspicillatus*), black swans (*Cygnus atratus*), red-necked avocets (*Recurvirostris novaehollandiae*), Caspian terns (*Hydroprogne caspia*), cormorants (*Phalacrocorax* spp.) and silver gulls (*Larus novaehollandiae*) have been recorded breeding on islands of Lake Wyara, while pied cormorants (*Phalacrocorax varius*), Pacific herons (*Ardea*

pacifica), Australian white ibis (*Threskiornis molucca*), royal spoonbills (*Platalea regia*), yellow-billed spoonbills (*Platelea flavipes*) and Pacific black ducks (*Anas superciliosa*) have been recorded breeding around Lake Numalla, where extensive reedbeds in some areas provide excellent protected sites (Gasteen. 1985}

The area is comparatively rich in wildlife due to the wide variety of habitats present and generally permanent waterbodies. The periodically inundated alluvial flats and drainage channels which support lignum, swamp canegrass and *Cyperus gymnocaulos*, provide suitable habitat for Australian crakes (*Porzana fluminea*) and other fauna. Over 180 species of birds have been recorded (Purdie, 1985; Geeves and Thomas, 1992), as well as 15 species of frogs, five species of fish (Leggett, 1992), Kreffts river tortoise (*Emydura krefftil*) and other mammals and reptiles

The Currawinya lakes system, in conjunction with other permanent and semi- permanent waters in south-western Queensland such as Lakes Bullawarra, Bindegolly and Toomaroo, also form part of an inland route to southern Australia for migratory waders. At least ten species, Great egret (*Ardea alba*), Glossy ibis (*Plegadis falcinellus*), Black-tailed godwit (*Limosa limosa*), Common greenshank (*Tringa nebularia*), Red-necked stint (*Calidris ruficollis*), Sharp-tailed sandpiper (*Calidris acuminata*), Curlew sandpiper (*Calidris ferruginea*), Caspian tern (*Hydroprogne caspia*), White-winged black tern (*Chlidonias leucopterus*) and rainbow bee-eater (*Merops ornatus*), listed in the Japanese/Australia and Chinese/Australia Migratory Bird Agreements have been recorded from the area (Ley and Davie 1995).

23. Noteworthy Flora

The area contains excellent examples of plant communities which, although dominated by species widespread throughout the Mulga Biogeographic Region, are most typical of, and common in, the south-western part of the region. These include mulga, bastard mulga, and western dead finish communities on the tablelands, low hills and associated plains, mulga-poplar box communities on the sand plains, and gidgee communities on the alluvial flood plains.

Two species which have a more restricted distribution within the Mulga Region, but which are widespread outside it in other States, reach the peak of their development in the Currawinya area. These are yapunyah and turpentine mulga. In Currawinya, excellent examples of scrubland and woodland communities dominated by yapunyah or turpentine mulga occur on the alluvial plains and the tablelands respectively.

The area also contains representatives of a number of vegetation types which are of special biogeographical value because their dominant species are at the extremes of the natural ranges of distribution. Thus poplar box and leopardwood are at the western and south-western limits of their ranges respectively. Lancewood which is restricted to the Mulga Biogeographic Region is at the southwestern limits of its range on Currawinya. Communities dominated by black box represent the northern inland limits of its range in Australia.

A number of communities in the key area are important because they are uncommon in the mulga region and Queensland due to their habitat requirements.

They mostly occur in the area of dunefields and associated lakes and claypans and include the samphire low shrublands to low open or sparse shrublands, the budda shrublands and the sedgelands dominated by *Cyperus gymnocaulos*.

Rare species and communities include the shrub *Melaleuca densispicata*, which forms groves which are locally common on the lower slopes of dunes near saltpans and claypans. Black bluebush (*Maireana pyramidata*) is a low shrub which is extremely rare in Queensland, and the low shrublands which occur on the western side of Lake Numalla are far to the north-east of its main range, and are the most easterly populations in Queensland. Inland belah (*Casuarina pauper*) also just extends into Queensland where it is relatively rare. The tall shrublands and low open woodlands on the western slopes of the Hoods Range represent the most eastern occurrence of the species in Queensland. In contrast the scattered wilga (*Geijera parviflora*) plants which are associated with the inland belah, are at the western extremes of the species' range in Queensland. The black bluebush and inland belah in

the Currawinya National Park may represent relict populations, or a rare occurrence in Queensland of suitable habitats.

24. Current research/facilities

The Royal Australasian Ornithologists Union are conducting bird surveys, of species numbers and abundance in the area. There are no special facilities for research.

25. Conservation Education

Nothing known.

26. Recreation and Tourism

A low level of recreational and tourist activity is currently undertaken on the Park, due to the previous lack of tourist infrastructure. Because there is good road access to the Park, nature based tourism could become significant as the area is ideal for water-based activities such as camping, swimming and canoeing; semi wilderness activities such as walking, birdwatching, observing other wildlife, and natural history photography.

27. Management Authority

The Director-General
Queensland Department of Environment and Heritage
PO Box 155
BRISBANE ALBERT STREET QLD 4002
AUSTRALIA

28. Jurisdiction

Territorial jurisdiction: Queensland Government.
Functional jurisdiction: Queensland Department of Environment and Heritage.

29. References

Gasteen, W.J. (1985) . The Currawinya Lakes National Parks Proposal. Unpublished Report to the Queensland National Parks and Wildlife Service.

Geeves, J. and Thomas, M. (1992). Bird Observations for Lake Numalla and Lake Wyara - Currawinya National Park, south-west Queensland. The Queensland Naturalist 31 (5-6): 114-118.

Kingsford, R.T. and Porter, J.L. (1994). Waterbirds on an adjacent freshwater lake and salt lake in arid Australia. Biological Conservation 69: 219- 228.

Leggett, R. (1992). A report of freshwater fish and water quality at Eulo and other sites in south-west Queensland. The Queensland Naturalist 31 (5-6): 119-122.

Ley, A.J. and Davie P. (1995). Birds of Currawinya National Park, South- west Queensland. Sunbird 25(2): 31-43.

Purdie, R.W. (1985). Currawinya Key Area, Mulga Lands Biogeographic Region. Unpublished Report, Queensland National Parks and Wildlife Service.

30. Criteria for Inclusion

Of the recommended criteria to be used in identifying wetlands of international importance, the Currawinya Lakes complex meets criteria 1(a), 1(b), 2 (a), 2(b), 2(c), 3(a), 3(b) and 3(c).

31. Map of Site

Attached.