

# Information Sheet on Ramsar Wetlands

*Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.*

**1. Date this sheet was completed/updated:**

May 1999

FOR OFFICE USE ONLY.

**2. Country:**

Australia

DD	MM	YY

Designation date

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Site Reference Number

**3. Name of wetland:**

Hattah-Kulkyne Lakes, Victoria

**4. Geographical coordinates:**

Latitude: (approx) 34° 38' to 34° 45'S; Longitude: (approx) 142° 23'E to 142° 29'E

**5. Altitude:**

Approximately 40 metres

**6. Area:**

955 hectares (in 12 lakes)

Note: This is a revised area figure based on GIS Mapping (1995) and does not represent any change to the Ramsar Site boundary.

**7. Overview:**

The Hattah Lakes system is a large floodplain wetland complex consisting mainly of shallow lakes, anabranches and temporary swamps. The floodplain vegetation is open River Red Gum and Black Box Forest. Only the lakes are included in the Ramsar site.

**8. Wetland Type:**

<b>marine-coastal:</b>	A	B	C	D	E	F	G	H	I	J	K
<b>inland:</b>	L	M	N	O	P	Q	R	Sp	Ss	Tp	Ts
	U	Va	Vt	W	Xf	Xp	Y	Zg	Zk		
<b>man-made:</b>	1	2	3	4	5	6	7	8	9		

**9. Ramsar Criteria:**

1a	1b	1c	1d	2a	2b	2c	2d	3a	3b	3c	4a	4b
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Please specify the most significant criterion applicable to the site: see point 12

10. Map of site included? Please tick *yes*  -or- *no*

**11. Name and address of the compiler of this form:**

Parks Victoria  
378 Cotham Road  
Kew VIC 3101 Australia

## **12. Justification of the criteria selected under point 9, on previous page.**

2(b) A wetland is of special value for maintaining the genetic and ecological diversity of a region because of the quality and peculiarities of its flora and fauna.

Hattah-Kulkyne Lakes is of special value for maintaining the genetic and ecological diversity of the region because the wetlands form a large floodplain complex supporting a large variety and number of waterbirds, including breeding habitat for many species. The Lakes are in a relatively natural condition bordered by River Red Gum and Black Box forest.

3(a) Regularly supports 20,000 waterfowl

and

3(b) Regularly supports substantial numbers of waterfowl from particular groups

Hattah Lakes support a large variety and number of waterbirds, including ducks (up to 1,960 Pacific Black Duck, 2,550 Grey Teal, 1,280 Pink-eared Duck, Hoary-headed Grebes and Australian Pelicans (1,000 in 1995). Many species breed, including Great Crested Grebes, cormorants, herons, spoonbills and egrets (ANCA 1996).

3(c) Regularly supports 1% on the individuals in a population of one species or subspecies

Hattah Lakes regularly support more than 1% of the Victorian population of Freckled Duck.

## **13. General location:**

North-western Victoria, approximately 480 km north-west of Melbourne between Ouyen and Mildura.

## **14. Physical features:**

The Hattah Lakes System forms part of the Murray River floodplain. The floodplain is covered by grey heavy clays on Quaternary alluvium. Pervious, non-cohesive red aeolian sand rests on this clay layer, with white aeolian river sand forming low ridges between individual lakes.

The climate of the Hattah Lakes area, and north-western Victoria in general, is semi-arid. The annual rainfall averages about 250mm, with October usually the wettest month.

The main hydro-ecological feature of the Hattah complex is the large variation in permanency of the aquatic habitats ranging from episodically flooded lakes to almost permanent lakes which receive regular inflows.

The Hattah Lakes System is filled via Chalka Creek, an anabranch of the River Murray. The overall sequence of events during floods is complex, with the filling and emptying of each lake depending on its position in the system, its area, and its depth. The first lake to receive flood waters, several days after they first enter Chalka Creek, is Lake Lockie. All the southern lakes are then filled from Lake Lockie, typically taking another three weeks for water to reach the furthest lakes. The northern part of the system, Lakes Mournpall, Yerang, Yelwell and Konardin, receives water both directly from Chalka Creek, and via Lake Lockie. Lake Bitterang is the last of the lakes to fill, with flood waters only reaching it over a month after the beginning of flooding, and then only if the flood level is sufficiently high. When the lakes are full, floodwaters also spread over surrounding floodplains, including an area of sand dunes and Black Box flats to the west and south-west of Lake Lockie.

Water retained in lake basins once floodwaters recede is gradually lost through evaporation. Most lakes are shallow, and dry up within two years if not refilled, but Lake Hattah may retain water for three years, and Lake Mournpall for up to seven years.

## **15. Hydrological values:**

Two of the lakes, Mournpall and Hattah, are semi-permanent, retaining water for periods of seven and three years respectively. Lake Hattah is used as a water supply for the residents of Hattah.

There are three structures which can be managed to achieve minor effects on the hydrology of the Hattah Lakes system:

- a concrete causeway with a culvert and screw-gate near the offtake of the southern arm of Chalka Creek from the Murray. This is opened to allow the entry of high flows from the river and can be closed to pool water in the creek channel;
- a regulator consisting of a concrete structure into which drop bars can be placed, situated at the entry of Chalka Creek into Lake Lockie; and
- a drop bar regulator between Lake Hattah and Little Lake Hattah.

## 16. Ecological features:

Hattah-Kulkyne National Park supports an open woodland dominated by Red Gum and Black Box which extends into the lake margins. Tangled Lignum forms shrubby stands around some lakes.

After flood periods this system of lakes becomes a large breeding area for waterfowl, including herons, egrets, cormorants and spoonbills.

## 17. Noteworthy flora:

Of considerable significance at a Victorian level are remnant stands of Slender Cypress Pine, Belar, and Buloke.

### Threatened Species

#### Endangered in Victoria

*Cullen pallidum* (Woolly Scurf-pea)  
*Cyperus nervulosus* (Annual Flat-sedge)  
*Cyperus rigidellus* (Dwarf Flat-sedge)  
*Glycine canescens* (Silky Glycine)  
*Lepidium monolocoides* (Winged Pepper-cress) [Endangered Australia-wide]  
*Psoralea cinerea* (Hoary Psoralea)  
*Psoralea tenax* (Tough Psoralea)  
*Scaevola depauperata* (Skeleton Fan-flower)  
*Swainsona phacoides* (Dwarf Swainson-pea)

#### Vulnerable in Victoria

*Comesperma scoparium* (Broom Milkwort)  
*Cyperus squamosus* (Bearded Flat-sedge)  
*Drosera indica* (Indian Sundew)  
*Olearia subspicata* (Spiked Daisy-bush)  
*Phyllanthus lacunarius* (Lagoon Spurge)  
*Radyera farragei* (Desert Rose Mallow)  
*Sida ammophila* (Sand Sida)  
*Swainsona laxa* (Yellow Swainson-pea) [Vulnerable Australia-wide]

#### Rare in Victoria

*Callistemon brachyandrus* (Prickly Bottlebrush)  
*Calstemma purpureum* (Garland Lily)  
*Cymbonotus lawsonianus* (Bear's Ears)  
*Frankenia crispa* (Hoary Sea-heath)  
*Sclerostegia moniliformis* (Ruby Glasswort)  
*Velleia arguta* (Grassland Velleia)  
*Vittadinia condyloides* (Club-hair New Holland Daisy)

#### Depleted in Victoria

*Alectryon oleifolius* (Cattle Bush)

## 18. Noteworthy fauna:

12 species of waterbird - the following lists cover species found in the National Park are covered by the Japan-Australia Migratory Birds Agreement, the China-Australia Migratory Birds Agreement or both. These include:

Great Egret ( <i>Egretta alba</i> )	JAMBA, CAMBA
Red-necked Stint ( <i>Calidris ruficollis</i> )	JAMBA, CAMBA
Sharp-tailed Sandpiper ( <i>Calidris acuminata</i> )	JAMBA, CAMBA
Greenshank ( <i>Tringa nebularia</i> )	JAMBA, CAMBA
Latham's Snipe ( <i>Gallinago hardwickii</i> )	JAMBA, CAMBA
Glossy Ibis ( <i>Plegadis falcinellus</i> )	CAMBA
White-bellied Sea-Eagle ( <i>Haliaeetus leucogaster</i> )	CAMBA
Painted Snipe ( <i>Rostratula benghalensis</i> )	CAMBA
White-throated Needletail ( <i>Hirundapus caudatus</i> )	CAMBA
Fork-tailed Swift ( <i>Apus pacificus</i> )	CAMBA
Caspian Tern ( <i>Hydroprogne caspia</i> )	CAMBA

Threatened Birds

Vulnerable in Victoria

Grey Falcon (*Falco hypoleucos*)  
Major Mitchell's Cockatoo (*Cacatua leadbeateri*)  
Regent Parrot (*Polytelis anthopeplus*)  
Malle Emu-wren (*Stipiturus mallee*)

Rare in Victoria

Little Bittern (*Ixobrychus minutus*)  
Freckled Duck (*Stictonetta naevosa*)  
    Lake Arawak - 14 (1983)  
    Lake Bitterang - 101 (1983)  
    Lake Bulla - 27 (1983)  
    Lake Hattah - 26 (1983)  
    Lake Konardin - 65 (1983)  
    Lake Kramen - 82 (1983)  
    Lake Mournpall - 16 (1983), 2 (6/2/88 - 88 counted for the whole of Victoria)  
    Lake Yelwell - 8 (1987 - 261 counted for the whole of Victoria)  
Blue-billed Duck (*Oxyura australis*)  
White-bellied Sea-Eagle (*Haliaeetus leucogaster*)  
Brolga (*Grus rubundicus*)  
Apostlebird (*Struthidea cinerea*)

Indeterminate (known to be Rare, Vulnerable or Endangered) in Victoria

Painted Snipe (*Rostratula benghalensis*)  
Painted Honeyeater (*Grantiella picta*)

Insufficiently Known (suspected Rare, Vulnerable or Endangered) in Victoria

Australasian Bittern (*Botaurus poiciloptilus*)

Restricted colonial breeding sites in Victoria

Darter (*Anhinga melanogaster*)  
Great Egret (*Ardea alba*)  
Australian Pelican (*Pelecanus conspicillatus*) - bred on Lakes Mournpall and Lockie in 1977-78 (11 nests)

Threatened Mammals

Rare in Victoria

Common Dunnart (*Sminthopsis murina*)  
Mitchell's Hopping Mouse (*Notomys mitchelli*)  
Greater Long-eared Bat (*Nyctophilus timoriensis*)

Threatened Amphibians

Insufficiently Known (suspected Rare, Vulnerable or Endangered) in Victoria

Barking Marsh Frog (*Limnodynastes fletcheri*)

Threatened Reptiles

Endangered in Victoria

Beaked Gecko (*Rhynchoedura ornata*)

Vulnerable in Victoria

Carpet Python (*Morelia spilota variegata*)

Insufficiently Known (suspected Rare, Vulnerable or Endangered) in Victoria

Tree Goanna (*Varanus varius*)  
Broad-shelled River Tortoise (*Chelodina expansa*)

Threatened Fish

Vulnerable in Victoria

Silver Perch (*Bidyanus bidyanus*)  
Murray Cod (*Maccullochella peelii*)  
Catfish (*Tandanus tandanus*)

Rare in Victoria

Golden Perch (*Macquaria ambigua*)

Bony Bream (*Nematolosa erebi*)

Murray Hardyhead (*Craterocephalus fluviatilis*)

Indeterminate (known to be Rare, Vulnerable or Endangered) in Victoria

Flat-headed Galaxias (*Galaxius rostratus*)

Freshwater Hardyhead (*Craterocephalus stercusmuscarum*)

**19. Social and cultural values:**

A recent survey by the Victorian Archaeological Society covered less than 3% of the Hattah-Kulkyne and Murray-Kulkyne National Parks, yet located over 900 archaeological sites, almost all of which date to the prehistoric Aboriginal occupation of the area.

**20. Land tenure/ownership:**

The lakes are within the Hattah-Kulkyne National Park, managed by Department of Conservation and Environment.

**21. Current land use:**

- Conservation
- Recreation

**22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:**

There has been no significant change in ecological character since the Ramsar information sheet was last updated in 1992.

A channel between Lake Lockie and Lake Hattah was constructed in 1908 for the purpose of increasing flows between the two lakes. However it had the effect of reducing the retention level of Lake Hattah by 0.38m. Consequently, the lake may now dry sooner to the detriment of aquatic organisms and may have induced Red Gums to have regenerated at the lower retention level.

The flooding frequency in this system of lakes has been reduced by regulation on the Murray River for irrigation supplies. The impacts of reduced flooding frequency include some death and loss of vigour of riparian Red Gums, alteration of tree distributions, and reduced flooding with consequent loss of breeding opportunity for waterbirds and fish.

Toxic algal blooms also occur in the lakes, apparently after they are recharged with water from the Murray River.

**23. Conservation measures taken:**

- Reservation of the lakes as part of the Hattah-Kulkyne National Park under the *National Parks Act 1975 (Vic)* provides a legislative basis for the protection of their natural values.
- The values of the Hattah-Kulkyne Lakes have been recognised by listing on the Register of the National Estate.
- The Mallee Parks Management Plan 1996 sets out strategies for management of the lakes, including restoring a more natural water regime and managing algal blooms.
- The Integrated Strategy for Murray Wetlands (1991) sets out initiatives to restore a more natural flood regime to the Hattah Lakes.
- A Timeshare Flooding Project has been completed to test the robustness of the wetland ecosystems under different water regimes. The project findings will be used as the basis for developing models to supply environmental water.
- Work on the impacts of grazing by kangaroos is being undertaken with kangaroo counts and vegetation monitoring around the lakes.
- The kangaroo population is being managed to ensure the return of vegetative cover and floristic diversity.
- Action Statements under the Flora and Fauna Guarantee Act 1988 have been produced for the following fauna species that occur in the Ramsar site. The statements outline conservation measures for the species.
  - White-bellied Sea-eagle (1994)
  - Grey Falcon (1997)

**24. Conservation measures proposed but not yet implemented:**

In an integrated approach to planning at Ramsar sites, management strategies are being prepared for all Ramsar sites in Victoria, including Hattah-Kulkyne Lakes, to provide general strategic direction and site specific strategies. The strategies will be completed by June 1999.

**25. Current scientific research and facilities:**

Research on Kangaroo populations is being conducted within the Hattah Kulkyne National Park to minimise the impact of kangaroos on the natural values of the park, particularly on vegetation cover and diversity.

**26. Current conservation education:**

A mudbrick Information Centre houses a wide range of educational material.

**27. Current recreation and tourism:**

Two camping grounds are located at Lake Hattah and Lake Mournpall. Recreational activities include walking, driving, fishing, canoeing, swimming, nature study/appreciation and photography.

**28. Jurisdiction:**

Government of Victoria.

**29. Management authority:**

Managed under the Department of Natural Resources and Environment Parks Program by Parks Victoria - 955 Ha (100%)

**30. Bibliographical references:**

Beaglehole, A. C. (1979). *The Distribution and Conservation of Native Vascular Plants in the Victorian Mallee*. Western Victorian Field Naturalists Clubs Association, Portland.

Cumming, P. (1991). *Hydro-ecological Management of the Hattah Lakes System (Draft)*. Mildura Region, Department of Conservation and Environment.

Pressey, R. L. (1986). *Wetlands of the River Murray below Lake Hume*. Prepared for the River Murray Commission. R.M.C. Environmental Report 86/1.

Stockton, J. (1983). *Chalka Creek and Lake Bitterang Survey - Hattah Kulkyne National Park*. Victorian Archaeological Survey.

Wildlife Management Branch Wetlands Database. DCE, Heidelberg.