

Hattah-Kulkyne Lakes Ramsar Site Boundary Description

Technical Report



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Introduction

Ramsar wetlands are wetlands of international importance listed under the Convention on Wetlands (Ramsar, Iran 1971). Victoria has 11 wetlands listed under this convention including the Hattah-Kulkyne Lakes Ramsar Site.

It is a requirement of the Convention on Wetlands that a suitable map or maps are provided for each Ramsar wetland. The Department of Sustainability, Environment, Water, Population and Communities (SEWPAC), requires that both the written description and the spatial data of the Ramsar site boundaries are accurate. This information is used to gazette the boundary of the declared Ramsar wetland in accordance with Section 327 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Under the EPBC Act there are requirements for approval of activities which have, or are likely to have a significant impact on the ecological character of a declared Ramsar wetland. Precise identification of site boundaries helps to ensure that the exact boundaries of the Ramsar site can be easily identified, which can facilitate compliance with the EPBC Act as well as its effective enforcement.

The RAMSAR100 spatial dataset is a polygon layer that identifies each Victorian Ramsar area individually. RAMSAR100 was produced in conjunction with a report describing each Ramsar site (DCNR 1995). The Department of Environment and Primary Industries (DEPI) is the custodian of RAMSAR100. Most of the line work in RAMSAR100 was initially derived from 1:100,000 reference data. Because of its broader scale, this data was not always consistent with the cadastre and other more accurate features that have now been used to better define the majority of the Hattah-Kulkyne Lakes Ramsar Site. The updated spatial definition of Hattah-Kulkyne Lakes Ramsar Site is identified in a new RAMSAR25 spatial dataset.

This report details the written description of the Hattah-Kulkyne Lakes Ramsar Site to explicitly define the Ramsar boundaries, along with accompanying maps.

Methodology of RAMSAR 100 GIS layer boundary realignment

An expert panel was convened to provide advice on the original intent of the Ramsar site boundaries based on the description in DCNR (1995) and the RAMSAR100 spatial dataset.

Certificates of Title were obtained as required from the Office of the Surveyor-General, Victoria, to further clarify the intent of the Ramsar boundary.

DEPI manages the RAMSAR 100 spatial dataset. The current RAMSAR100 boundary of the Ramsar area was used as a guide to select appropriate features from the following 1:25,000 datasets:

- Vicmap Hydro (1 January 2011)
- Public Land Management (PLM25) (8 December 2010).

High quality digital aerial photography was used where it was necessary to further clarify the original intent of the Ramsar boundary. The following image held by Land Victoria, DSE was used:

- mallee_2009jan14_air_vis_50cm_mga54.ecw.

These datasets are represented in spatial products available through Vicmap¹ - <http://www.land.vic.gov.au>. Alternatively the Ramsar site boundaries can be viewed through the Department of Sustainability and Environments website, at Interactive Maps - <http://www.dse.vic.gov.au/about-dse/interactive-maps>.

The geographical coordinates (latitude, longitude) used in this report are based on Geographic Datum of Australia 1994 (GDA94) and the areas are calculated using Albers Equal Area projection. The hectares of the site presented in the body of the report have been calculated using Albers Equal Area projection and rounded to the nearest whole number (see Appendix 1 the site's area calculated to two decimal places).

¹ Terms and conditions do apply.

Location

The Hattah-Kulkyne Lakes Ramsar Site is located in the Hattah-Kulkyne National Park between Ouyen and Mildura, approximately 480 kilometres north-west of Melbourne.

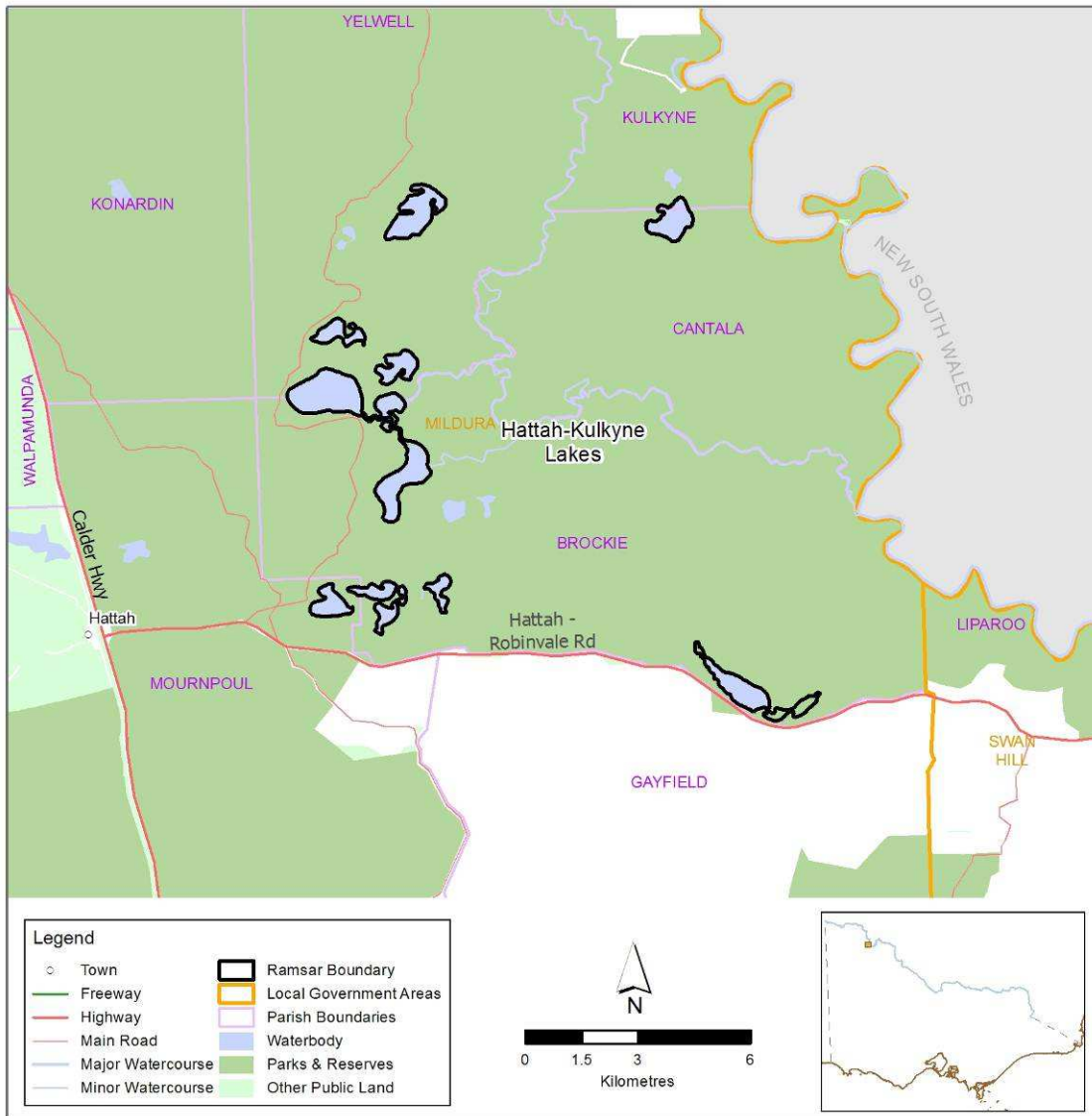


Figure 1: Hattah-Kulkyne Lakes Ramsar Site location.

Written description of the Hattah-Kulkyne Lakes Ramsar Site boundary

The Hattah-Kulkyne Lakes system form part of the Murray River floodplain and consists mainly of shallow lakes, anabranches and temporary swamps. Twelve of the lakes are included in the Ramsar site and cover an area of approximately 977 ha (Map 1).

The twelve lakes included in the Ramsar site are:

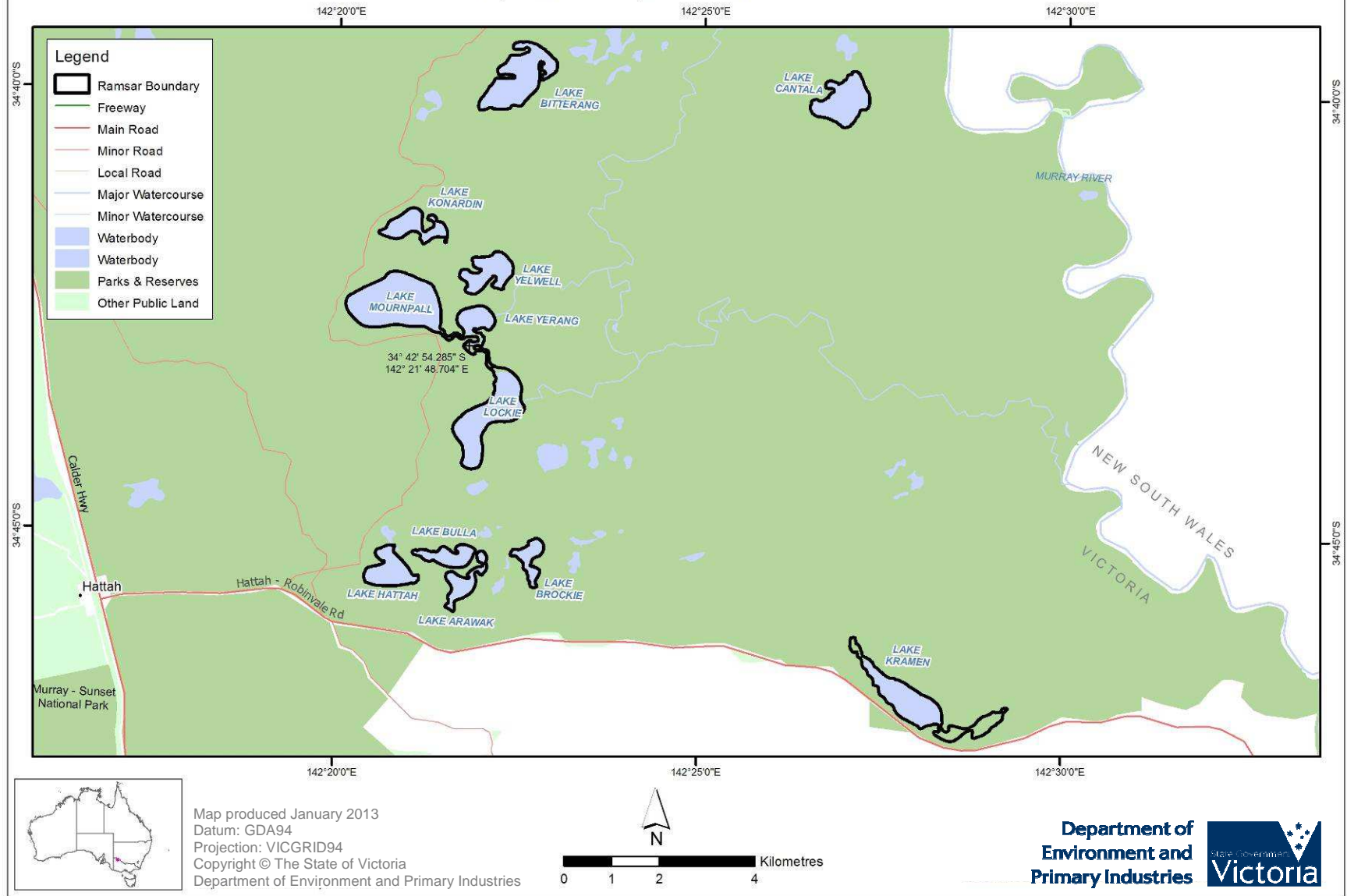
Lake Name	Hectares (ha)
Arawak	38
Bitterang	122
Brockie	30
Bulla	37
Cantala	84
Hattah	57
Konardin	53
Kramen	133
Lockie	131
Mournpall	181
Yelwell	60
Yerang	51

The boundaries for each of the twelve lakes included in the Ramsar site are defined by the high water mark of the lake extent as interpreted from the ortho-rectified aerial photography flown in January 2009 (image: mallee_2009jan14_air_vis_50cm_mga54.ecw). This interpretation of the boundary is represented by the spatial data in RAMSAR25 held in the DEPI Corporate Spatial Data Library. The datum used is Geographic Datum of Australia 1994(GDA94).

The aerial photography was captured as part of the 2008-2009 Coordinated Imagery Project, for State and Local Government partners with a common interest in low resolution orthophotography over the Shire of Buloke and the Mallee CMA. The photography was digitally acquired using a Digital Mapping Camera system, between 14 Jan 2009 – 06 Mar 2009 by AAMHatch Pty Ltd.

Processing Lineage: Original frames were digitally acquired by the aerial survey contractor and georeferenced by aero-triangulation using a combination of airborne GPS, Inertial Measurement Unit (IMU) and ground control points. The georeferenced images are then re-projected onto a suitable DTM to remove distortions from camera obliquity and terrain relief.

Map 1 Hattah-Kulkyne Lakes Ramsar Site



References

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DCNR (1995). *Victorian Ramsar Sites: Definition and Boundary Clarification Project Report*. National Parks Service, Department of Conservation and Natural Resources. Victoria.

DSE (2003). *Hattah-Kulkyne Lakes Ramsar Site: Strategic Management Plan*. Department of Sustainability and Environment. Victoria.

Appendix 1

Area in hectares

Lake Name	Albers equal area
Arawak	38.12
Bitterang	122.08
Brockie	30.21
Bulla	37.10
Cantala	83.72
Hattah	57.46
Konardin	52.74
Kramen	133.35
Lockie	131.27
Mournpall	180.52
Yelwell	59.45
Yerang	51.06
Total	977.09

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