

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:

1998

FOR OFFICE USE ONLY.

DD MM YY

--	--	--

Designation date

--	--	--	--	--	--

Site Reference Number

2. Country:

Australia

3. Name of wetland:

Forrestdale and Thomsons Lakes, Western
Australia

4. Geographical coordinates:

Forrestdale Lake

- latitude (approx.) - 32° 10'S

- longitude (approx.) - 115° 56'E

Thomsons Lake

- latitude (approx.) - 32° 09'S

- longitude (approx.) - 115° 50'E

5. Altitude:

Forrestdale Lake: 21.7m AHD

Thomsons Lake: 11.7m AHD

6. Area:

Approximately 245 ha at Forrestdale Lake and 509 ha at Thomsons Lake.

7. Overview:

No information

8. Wetland Type:

marine-coastal: A B C D E F G H I J K

inland: L M N O **P** Q R Sp Ss Tp Ts

U Va Vt W Xf Xp Y Zg Zk

man-made: 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

Please specify the most significant criterion applicable to the site:

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

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

Department of Conservation and Land Management
Locked Bag 104
Bentley Delivery Centre WA 6983

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

13. General location:

Southern outskirts of Perth metropolitan area, south-western Australia.

14. Physical features:

Forrestdale and Thomsons Lakes are fresh/brackish, seasonal wetlands: Forrestdale Lake usually dries out by mid-summer although Thomsons Lake retains water longer and in some years does not dry completely. Both are groundwater lakes and surface run-off probably had little effect on their depth when they were in an undisturbed condition. The lakes contain open water but are fringed by rushes and bulrushes, behind which are belts of trees tolerant of water-logging. The higher ground around the lakes supports open woodland.

There is a dense mat of *Chara* sp. and *Ruppia polycarpa* in the water at Lake Forrestdale. Around the edge there is an almost continuous belt of *Typha orientalis*, behind which *Baumea articulata*, *B. juncea*, *Juncus pallidus* and *Cyperus congestus* sometimes grow. Beyond these is a belt of trees, principally *Melaleuca raphiophylla*, but *Acacia saligna* and *Eucalyptus rudis* also occur on the landward side of this zone. The higher sandy ground on the eastern side of Forrestdale Lake supports open woodland dominated by *Banksia attenuata*.

Myriophyllum sp. grows prolifically in the water at Thomson Lake. *Typha orientalis* and *Baumea atriculate* grow around the edge of the lake. As water levels drop, *Bolboschoenus caldwellii* becomes established on the newly exposed mudflats inside the fringing zone. Behind the fringing zone is a belt of *Baumea juncea* and *B. articulata* with emergent *Viminaria juncea* and *Acacia saligna* shrubs. This gives way to a belt of trees, *Eucalyptus rudis* and *Melaleuca preissiana*, and the shrub *Jacksonia furcellata*. As the ground rises these are replaced by open forest or woodland dominated by *Eucalyptus marginata*, *Banksia menziessii* and *B. attenuata*.

15. Hydrological values:

Both lakes are examples of interdunal groundwater wetlands. Forrestdale Lake receives a small amount of drainage from adjacent residential areas. Thomsons Lake will be part of a drainage scheme draining proposed residential subdivisions to the east of the lake. Strict criteria have been imposed for water level management, however, which should reduce the impact on the lake.

16. Ecological features:

The lakes provide important habitat for waterbirds on the Swan coastal plain with a maximum of 17 484 birds having been counted in Forrestdale Lake in January 1983 and 14 675 in Thomsons Lake in March 1985. Forrestdale supports more than 10 000 ducks every year with the following species being particularly abundant:

Australian Shelduck	<i>Tadorna tadornoides</i>	1 650	Jan 1985
Pacific Black Duck	<i>Anas superciliosa</i>	3 500	Dec 1982
Grey Teal	<i>A. gibberifrons</i>	4 500	Jul 1982
Australasian Shoveler	<i>A. rhynchotis</i>	2 000	Jan 1984
Hardhead	<i>Aythya australis</i>	1 053	Oct 1982

Thomson Lake often supports 10 000 ducks with particularly abundant species being:

Australian Shelduck	<i>Tadorna tadornoides</i>	1 600	Nov 1982
Pacific Black Duck	<i>Anas superciliosa</i>	3 500	Apr 1985
Grey Teal	<i>A. gibberifrons</i>	4 000	Jan 1983
Australasian Shoveler	<i>A. rhynchotis</i>	2 000	Mar 1982

Other species occurring in significant numbers at Forrestdale Lake are:

Eurasian Coot	<i>Fulica atra</i>	4 200	Mar 1982
Red-capped Plover	<i>Charadrius ruficapillus</i>	1 283	Apr 1982
Black-winged Stilt	<i>Himantopus himantopus</i>	2 621	Feb 1985
Red-necked Stint	<i>Calidris ruficollis</i>	3 000	Mar 1982
Long-toed Stint	<i>C. subminuta</i>	80	Summer 1982
Curlew Sandpiper	<i>C. ferruginea</i>	2 000	Jan 1983
Clamorous Reed warbler	<i>Acrocephalus stentoreus</i>	77	Nov 1982

Other species occurring in significant numbers at Thomsons Lake are:

Hoary-headed Grebe	<i>Poliiocephalus poliocephalus</i>	1 500	Nov 1982
Australian Crake	<i>Porzana fluminea</i>	20	Jan 1983
Eurasian Coot	<i>Fulica atra</i>	5 200	Mar 1985
Purple Swamphen	<i>Porphyrio porphyrio</i>	100	Feb 1985
Red-necked Avocet	<i>Recurvirostra novaehollandiae</i>	2 000	Mar 1983
Curlew Sandpiper	<i>Calidris ferruginea</i>	2 500	Mar 1983

Seventy species of waterbird occur at the two lakes with 21 of them breeding. Forrestdale is an important area for the Long-toed Stint in south-western Australia and supports well over 1% of the regional population; the total Australian population is only a few hundred.

Although waterbirds are the main feature of both lakes, they also represent some of the best surviving examples of the once numerous wetlands on the Swan Coastal Plain and as such are geologically and botanically interesting. In addition, the margins of the lakes support a large number of terrestrial bird, and other vertebrate, species including the rare skink *Lerista lineata*.

17. Noteworthy flora:

See species listed under PHYSICAL FEATURES.

18. Noteworthy fauna:

See species listed under ECOLOGICAL FEATURES.

19. Social and cultural values:

None.

20. Land tenure/ownership:

The wetland area at Forrestdale Lake is in Nature Reserves 24781 and 37016 vested in the National Parks and Nature Conservation Authority of Western Australia and managed by the Department of Conservation and Land Management. The area at Thomson Lake is in Nature Reserve 15556, which has the same vesting and management.

21. Current land use:

The area to the north-east of Forrestdale Lake is urban and, in fact, houses occur within 50 m of the lake. the whole western side of the lake has been developed for agricultural or housing proposes to within about 100 m of the water. There is a substantial area of natural open woodland on the eastern side of the lake, which is used for horse-riding and general recreation by nearby residents.

Thomsons Lake Nature Reserve is fenced so that access is limited and it is used principally for bird-watching and nature walks. There is a much larger area of bush around Thomsons than Forrestdale Lake. However, both lakes are islands of natural vegetation in a sea of agricultural and urban or semi-urban land.

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

Nutrient levels are high in both Forrestdale and Thomsons Lakes and their biological value may decline if high levels of nutrient input continue. The need to use pesticides to control chironomids in Forrestdale Lake (emerging adults are a severe nuisance to nearby residents) is a potential threat to aquatic invertebrate and bird life. Over the past 20 years the population of *Typha* spp. in the fringing vegetation of both lakes has increased substantially and poses a threat to their ecological character by changing floristics and reducing the amount of open water.

23. Conservation measures taken:

Management plans for Thomsons Lake and Forrestdale Lake were published in 1981 and 1987, respectively. The major management problems are:

(a) maintenance of water quality. Nutrient levels in the lakes are fairly high, especially in Forrestdale (presumably because of fertilisers and sewage leaching into them), and water levels may change because of groundwater extraction for domestic and agricultural purposes or increased drainage discharge from nearby urban areas.

(b) preventing the spread of *Typha orientalis* through the lakes.

(c) the need to control chironomid numbers in Forrestdale because they are an extreme nuisance to nearby residents.

(d) the deterioration of the wetland and woodland vegetation at Forrestdale because of over-use by residents.

Management of these problems is part of normal wetland management by the Department of Conservation and Land Management.

24. Conservation measures proposed but not yet implemented:

None.

25. Current scientific research and facilities:

Murdoch University has recently undertaken studies of the water chemistry and aquatic invertebrate fauna of both lakes and trees in Forrestdale Lake. Department of Conservation and Land Management has undertaken studies to determine the factors influencing waterbird usage of both lakes, including water chemistry, extent of vegetation and water levels.

26. Current conservation education:

None.

27. Current recreation and tourism:

Murdoch University has recently undertaken studies of the water chemistry and aquatic invertebrate fauna of both lakes and trees in Forrestdale Lake. Department of Conservation and Land Management has undertaken studies to determine the factors influencing waterbird usage of both lakes, including water chemistry, extent of vegetation and water levels.

28. Jurisdiction:

Government of Western Australia

29. Management authority:

Department of Conservation and Land Management
PO Box 104
COMO WA 6152

30. Bibliographical references:

Bartle, J, Graham, G, Lane, J and Moore, S (1987). Forrestdale Lake Nature Reserve Management Plan. Department of Conservation and Land Management, Perth.

Crook, I G and Evans, T (1981). Thomsons Lake Nature Reserve. Department of Fisheries and Wildlife, Perth.

Davis, J and Rolls, S W (1987). A baseline biological monitoring programme for the urban wetlands of the Swan Coastal Plain, Western Australia. Bulletin 265, Environmental Protection Authority, Perth.

Jaensch, R P , Vervest, R M and Heurish, M J (1988). Waterbirds in nature reserves of south-western Australia 1981-1985. Royal Australasian Ornithologists Union Report 30: 1-290.

Pinder, A M, Traylor, K M and Davis, J A (1991). Chironomid control in Perth wetlands. Report to Midge Research Steering Committee. School of Biological and Environmental Sciences, Murdoch University, Perth.
