12. Western Australia

Introduction

Jim Lane[1], Roger Jaensch[2], Romeny Lynch[1] and Sue Elscot[1]
1. Department of Conservation and Land Management, 2. Wetlands International—Oceania

The nature of Western Australia and its wetlands

The mainland part of Western Australia (WA) lies between latitudes 14° and 35° South and longitudes 113° and 129° East and has an area of 2,525,500 km^2. The highest point in the State is 1,245 m ASL, most land is below 500 m ASL. The coastline is 12,500 km; notable features are escarpment-edged coast in the far north, mangrove in the north and north-west, long sandy beaches and granite headlands in the south-west and precipitous cliff in the south-east and central west. A major ocean current of tropical origin (the Leeuwin Current) influences marine environments along the west coast, south of 22° S. There are several thousand islands around the coast but few support other than marine wetlands.

There are three main climatic regimes. A monsoonal regime, with hot wet summer and warm dry winter, affects the north of the State and a Mediterranean regime, with warm to hot dry summer and cool wet winter, affects the south-west. The remainder experiences hot dry summers and cool to warm dry winters. Rainfall ranges from less than 250 mm (with high variability) over most of the interior, to more than 1,000 mm (with low variability) in extreme south-western and northern parts.

Most of the 40 wetland types recognised in this Directory occur in WA. Notable in the far north are the State's only substantial riverine floodplains and several major estuarine mudflat and mangrove systems. The south-west is notable for its many estuaries with intermittent (sand-barred) connections to the sea and for its thousands of freshwater (and many salinised) lakes, swamps and damplands. The arid interior is notable for its palaeodrainage systems, now occupied by salt lakes, its many rockholes and for the karst drainage of the Nullarbor Plain.

Maximum depths of natural wetlands are generally less than a few metres but in some wetlands of higher rainfall areas may be up to 10 m; artificial Lake Argyle is up to 45 m deep. While most of the coast experiences a tidal range of a few metres or less, parts of the north-west and north experience tides more than 9 m.

Some of the longest river systems are, from north to south, the Ord, Fitzroy, Fortescue, Gascoyne, Murchison, Swan—Avon and Blackwood. The largest marine embayments are

King Sound and Shark Bay. Lakes notable for their size are Lake Argyle (largest artificial freshwater lake), Lake MacKay (largest saline lake) and Lake Jasper (largest natural freshwater lake). The most extensive intertidal mudflats are in the north; some exceed 10 km in width.

Wetland plant communities in WA include seagrass beds, mangroves, freshwater woodlands/shrublands, sedgelands and samphire (chenopod) shrublands; peat swamp and freshwater grassland communities occur but are not common. At least 2,000 wetland plant species occur in WA and endemism is relatively high, especially in ephemeral wetlands of the south-west.

The State's wetland fauna includes crocodiles (2 spp.), freshwater turtles (~ 6 spp.), waterbirds (~ 150 spp.), inland fishes (~ 55 spp.) and frogs (~ 60 wetland spp.). Endemism is high among all major groups of wetland vertebrate fauna except waterbirds. Thus 3 species of freshwater turtles, at least 30 wetland frogs and approximately 28 inland fishes are found only in Western Australia. The macroinvertebrate fauna of inland waters of the south-west is relatively species poor (250–300 taxa in some wetland suites) compared with eastern Australia, but is also characterised by a high level of endemism.

Human utilisation of wetlands in Western Australia

Aboriginal people used freshwater and tidal wetlands as sources of water, food and other resources before European settlement and continue to do so in some parts of Western Australia. The Aboriginal Sites Register for WA includes a number of wetland sites, notably stone fish traps and major campsites.

The earliest European impacts on WA wetlands were in the south-west, near Albany and Perth, where clearing of natural vegetation for agriculture began in the 1830s. European land management practices have since impacted upon most WA wetlands, apart from some of those in major conservation reserves, in the deserts and in parts of the north that are not readily accessible to livestock.

The human population of WA in December 1999 was 1.87 million and growing rapidly. Most live in the south-west where the most extensive impacts on wetlands have been clearing and drainage of coastal plain swamps and winter-wet areas; salinisation and excessive inundation of wetlands following clearance of catchments; and eutrophication due to leaching of agricultural fertilisers. Some wetlands face localised threats, eg rubbish dumping and landfill, too frequent wildfire and some insect (mosquito or midge) control measures. Other threats include extraction of groundwater for domestic or agricultural use, weed invasion and the spread of introduced fauna such as fish and molluscs. Elsewhere in the State, pastoral grazing has impacted upon wetlands through damage to river banks and riparian vegetation, degradation of catchments and associated increases in erosion, runoff and siltation.

Most of WA's nationally and internationally significant (and many regionally significant) wetlands are in existing or proposed conservation reserves managed by the WA Department of Conservation and Land Management (CALM). The WA Water and Rivers Commission also has a substantial role in managing wetlands, both directly and indirectly through water allocation. The WA Environmental Protection Authority has a major influence on the management of wetlands through statutory environmental protection policies and environmental impact assessments. Land use planning by the WA Ministry for Planning and by local government also impacts on wetlands. Most WA wetlands are on privately owned

land or pastoral leases and their conservation depends upon positive community attitudes towards both wetlands and landcare in general.

In Western Australia there is substantial community interest in wetlands, especially near Perth and other parts of the south-west. Recent research by, or funded by, Commonwealth, State and Local Government, universities, natural history and conservation groups, companies and individuals has added significantly to our knowledge of the wetlands, their types and distribution, their values and the processes that sustain or threaten them.

Purpose, scope and content of the Western Australian part of the Directory

The purpose of the Western Australian chapter of the Directory is to present a summary of existing knowledge of important wetland sites in WA and of their values. No systematic survey of wetlands or wetland values across the entire State has yet been conducted. In the current Directory this is manifest in gaps in the information presented and in the omission of some poorly known, yet potentially important, sites. This chapter of the Directory is therefore not definitive. It is hoped that the document will stimulate and guide any search for missing information, especially of poorly studied regions, sites and taxa.

Site accounts for Western Australia were compiled mainly from published and unpublished reports, from databases held by CALM and from consultations with wetland scientists, managers and others with relevant knowledge. The terminology and categories of Semeniuk (1987) and Semeniuk *et al.* (1990) have been used to describe certain physical, hydrological (salinity) and structural (vegetation) characteristics of the wetlands.

The 120 site accounts for WA cover several hundred discrete wetlands, which is a small fraction of the total (and unknown) number of wetlands in the State. Because most is known about south-west wetlands, half (60) of the sites included in the WA chapter of the Directory are from this region. However, most major wetland types occurring in WA are represented in the range of sites that has been selected.

In preparing the second edition of the Directory, most effort was directed towards increasing the representation of wetlands in bioregions (Thackway and Cresswell 1995) from which few or no wetlands had previously been selected. In the main, these were in remote arid areas such as the Central Ranges, Gascoyne, Gibson Desert, Great Victoria Desert and Little Sandy Desert. This proved to be a time consuming, though rewarding, process as much of the information needed to select and adequately describe suitable sites was found only in the knowledge, notebooks and unpublished reports of scientists, State government field officers, wildlife consultants, nature tour operators, Aboriginal linguists and naturalists scattered widely across the State. In the course of this work we (Lane, J and Lynch, R) became much more aware of the great significance of the many rockholes of the deserts for Aboriginal inhabitants, early European explorers and wildlife. For many thousands of years life in the deserts has revolved around these very small but vital sources of permanent and semi-permanent freshwater. While dependence on these water features for survival is now much reduced, many Aboriginal people still retain strong cultural ties to these sites.

Other new sites of particular interest include the mound springs (Bunda-Bunda and Willie Creek) of Dampierland, the gorges of the Pilbara and Gascoyne, the Banded Stilt breeding sites of Lakes Ballard and Marmion (Murchison), the tidally influenced microbialite communities of Lake Thetis (Swan Coastal Plain), the frog swamps of Mount Soho and the freshwater snail site at Cape Leeuwin (Warren).

Preparation of the third edition has largely been limited to updating descriptions of the 110 sites of the second edition, plus the addition of four new State sites. These are Big Springs (Dampierland), Gladstone Lake (Central Kimberley), Mount Bruce Coolibah—Lignum Flats (Pilbara) and Lake Bryde—East Lake Bryde (Mallee). An additional six wetlands occurring on land owned or managed by the Commonwealth have also been included, bringing the total number of nationally important WA wetlands to 120.

With the completion of the third edition, all but three (Hampton, Nullarbor and Ord-Victoria Plains) of the 26 bioregions of Western Australia (eight shared with SA and/or NT) now have wetlands included in the Directory. Representation is generally limited to two to four sites per bioregion, however, and more field work is needed to ensure that the great diversity of wetlands in this western one-third of the continent is truly represented in future editions. Government funding for formal wetland inventory and evaluation is limited and information will continue to be collected by other means. For the next edition, we encourage readers to advise one of us (Lane, J., c/o CALM, Busselton) of any new information that would add usefully to descriptions of the 120 existing sites and to bring to our attention any additional wetlands of outstanding significance.

Acknowledgments

The assistance of all those who have contributed to the compilation of the first, second and third editions is gratefully acknowledged.

The Western Australian chapter of *A Directory of Important Wetlands in Australia* (first edition) was compiled by Roger Jaensch, with general guidance from Jim Lane of the Western Australian Department of Conservation and Land Management (CALM), in 1992–1993. The second edition was prepared by Romeny Lynch and Jim Lane in 1995 and the third by Sue Elscot and Jim Lane in 1999–2000.

Preparation of the third edition was funded by Environment Australia under the National Wetlands Program of the Natural Heritage Trust. Substantial in-kind support and input was provided by CALM.

The following people have provided invaluable assistance in the preparation of the Directory, by bringing sites to our attention, providing information for site descriptions, checking and commenting on drafts, directing us to additional sources of information, and other help. This assistance is gratefully acknowledged.

Aboriginal Affairs Dept, WA: L. Bloor, P. Vinnicamb (Perth), R. Graham (Kalgoorlie). Agriculture WA: A.A. Mitchell. *Australian Heritage Commission*: R. Webb. *Birds Australia:* C.D.T Minton, V. Pattinson. *Department of Conservation and Land Management*, WA: J. Blyth, A. Brown, A.A. Burbidge, A.H. Burbidge, V. English, P.J. Fuller, N. Gibson, S. Halse, S. Hamilton-Brown, G. Keighery, N. McKenzie, D. Pearson, G.B. Pearson, R.I.T. Prince, M. Smith, G. Wardell-Johnson (CALMScience Division, Woodvale); K.J. Atkins, Alex Chapman, K.F. Kenneally, P. Lambert (Como); C. Broadbent, P. Hanly, B. Read (Central Forest Region); Andrew Chapman, I. Kealley (Goldfields Region); C. Done, A. Grosse, G. Graham, A.N. Start, T. Willing (Kimberley Region); K. Bancroft (Marine Conservation Branch). K. Cunningham, G. Leaman, D. Rose, N. Sercombe, R. Shepherd (Midwest Region); P. Kendrick, M. Parker, S. van Leeuwen (Pilbara Region); P. Collins, M. Fitzgerald, K. Gillen, K. Tiedemann, J. Watson (South Coast Region); R. Hearne, V. Metcalfe (Southern Forest Region); J. Alford, P. Lambert, D. Mitchell, R. Towers (Swan Region); M. Graham, D. Hilder, L. Silvester, A. Smith, K.J. Wallace (Wheatbelt Region). *Department of Environmental*

Protection, WA: V. Cox (Perth), S. Vellacott (Karratha). *Department of Transport, WA*: R. Mahoney. *Edith Cowan University*: R. Froend, P. Horwitz. *Environment Australia*: B. Phillips, S. Young, S. Usback (Canberra). *Heritage Council of WA*: J. Williams. *Murdoch University*: J. Davis, J. Newsome, E. Paling, I. Potter. *University of Western Australia:* D. Edward, B. Knott, J. Roberts, A. Storey. *Victorian Dept of Conservation and Environment*: M. Newton. *Water & Rivers Commission*: M. Allen, A. Hill, N. Arrowsmith, P. Clews, L. Moore, R. Paice, R. Shams, S. Stratico. *WA Museum*: G. Allen, W.F. Humphreys, R.E. Johnstone, D.J. Kitchener, S.M. Slack-Smith. *Wetlands International*: R.P. Jaensch, C. Prentice, D. Watkins. *World Wide Fund for Nature*: M. Handley. Also: H. Amez, Mike Bamford, W.H. Butler, E.A. & R.J. Gard, W. Klau, T. Morrissey, J.A. Raines, L. Rive, V. & C. Semeniuk, G. Swann, B. & G. Wells.

Special thanks are also due to Alan Clarke (CALM) for assistance in collating information and Lisa Wright (CALM) for library support.

Summary analysis

The Directory describes 120 nationally important wetlands in Western Australia. The distribution of nationally important wetlands in WA (including Ramsar wetlands) is shown in Figure 10. A list compiling data on bioregion, site area, wetland type and criteria for inclusion for each wetland is provided at the end of this chapter.

As the largest State, Western Australia has the most bioregions in 26, eight of which it shares with South Australia and the Northern Territory. All but three of the 26 bioregions contain nationally important wetlands (refer to Table 12.1). By far the greatest number of sites is in the Swan Coastal Plain bioregion (n=29), the only region that contains more than eight sites. Seven bioregions contain only one or two nationally important wetlands. An overview of the IBRA regionalisation and a map of IBRA regions is included in Appendix 2.

Table 12.1 Number and area of nationally important wetlands in WA by IBRA region

IBRA Region	IBRA code	No. of Sites	Area (ha)
Avon Wheatbelt	AW	5	7274
Carnarvon	CAR	8	537,801
Central Kimberley	CK	3	121
Central Ranges	CR	1	1
Coolgardie	COO	1	550
Dampierland	DL	8	168,252
Esperance Plains	ESP	8	19,960
Gascoyne	GAS	4	153,627
Geraldton Sandplains	GS	3	4,154
Gibson Desert	GD	2	501
Great Sandy Desert	GSD	4	112,606
Great Victoria Desert	GVD	1	71,000
Hampton	HAM	0	0
Jarrah Forest	JF	7	27,068
Little Sandy Desert	LSD	2	154,202
Mallee	MAL	3	13,348
Murchison	MUR	6	304,630
Nullarbor	NUL	0	0
Northern Kimberley	NK	4	589,540
Ord-Victoria Plains	OVP	0	0
Pilbara	PIL	6	126,912
Swan Coastal Plain	SWA	29	30,470
Tanami	TAN	1	38,700
Victoria Bonaparte	VB	4	206,200
Warren	WAR	8	11,015
Yalgoo	YAL	2	585
Total	**26**	**120**	**2,578,517**

Thirty of the 40 wetland types are present in the 120 sites currently listed in Western Australia. Like the Northern Territory the most numerous types are B14—Freshwater swamp forest (n=28), and B10—Seasonal/intermittent freshwater ponds and marshes (n=25) (refer to Table 12.2).

Table 12.2 Number of WA sites in each Wetland type

A—Marine and Coastal Zone wetlands

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
Total	3	5	0	2	5	9	14	10	10	5	0	1

B—Inland wetlands

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19
Total	18	18	0	6	12	15	19	23	8	25	2	16	13	28	11	0	11	0	5

C—Human-made wetlands

	C1	C2	C3	C4	C5	C6	C7	C8	C9
Total	3	0	0	2	1	0	1	0	0

WA wetlands are most often included in the Directory because they are good examples of their types within their bioregion (Criterion 1, n=102), or because of their historical or cultural significance (n=94) (refer to Table 12.3). The Wetland classification system and Criteria for inclusion in the Directory are explained in Chapter 2.

Table 12.3 Number of WA sites included under each Criterion

	1	2	3	4	5	6
Total	102	65	82	51	27	94

List of nationally important wetlands in Western Australia

Wetland name	Old Reference No.	New Reference No.	IBRA Region	Area (ha)	Wetland type(s)	Criteria for inclusion
Coyrecup Lake	AW001WA	WA001	AW	500	B7, B12	2, 3, 4, 6
Dumbleyung Lake	AW002WA	WA002	AW	5561	B7	2, 3, 4, 6
Toolibin Lake	AW003WA	WA003	AW	437	B14	1, 2, 3, 6
Yealering Lakes System	AW004WA	WA004	AW	775	B8	2, 3, 4, 5, 6
Yorkrakine Rock Pools	AW005WA	WA005	AW	1	B10	1, 2, 6
Cape Range Subterranean Waterways [C]	CAR001WA	WA006	CAR	175000	B19	1, 2, 3, 4, 6
Exmouth Gulf East	CAR002WA	WA007	CAR	120000	A2, A7, A8, A9	1, 2, 3
Hamelin Pool	CAR003WA	WA008	CAR	90000	A1, A5, A7	1, 6
Lake MacLeod	CAR004WA	WA009	CAR	150000	A9, B7, B8, B10, B11, B12, B19, C4	1, 2, 3, 4, 6
McNeill Claypan System	CAR005WA	WA010	CAR	2500	B6, B13	1
Shark Bay East	CAR006WA	WA011	CAR	—	A1, A2, A7, A8, A9	1, 2, 3, 4, 5, 6
Tunnel Creek	CK001WA	WA012	CK	1	B19	1, 6
Windjana Gorge	CK002WA	WA013	CK	20	B1	1, 3, 6
Rock Pools of the Walter James Range	CR001WA	WA014	CR	1	B17	1, 3, 6
Rowles Lagoon System	COO001WA	WA015	COO	550	B6, B10, B13	1, 2, 6
Bunda-Bunda Mound Springs	DL001WA	WA016	DL	22	B17	1, 6
Camballin Floodplain (Le Lievre Swamp System)	DL002WA	WA017	DL	30000	B1, B2, B4, B6, B10, B14, C1, C7	1, 2, 3, 4, 6
Eighty Mile Beach System	DL003WA	WA018	DL	40000	A5, A7, B4, B10	1, 2, 3, 4, 5, 6
Geikie Gorge	DL004WA	WA019	DL	130	B1	1, 2, 6
Roebuck Bay	DL005WA	WA020	DL	50000	A2, A4, A5, A7, A8, A9	1, 2, 3, 4, 5, 6
Roebuck Plains System	DL006WA	WA021	DL	48000	B4, B5, B6, B10	1, 2, 3, 4, 6
Willie Creek Wetlands	DL007WA	WA022	DL	20	B8, B9	1, 3, 6
Balicup Lake System	ESP001WA	WA023	ESP	1400	B8, B12	1, 4, 5
Culham Inlet System	ESP002WA	WA024	ESP	11349	B1, B7, B12	1, 3, 4, 6
Fitzgerald Inlet System	ESP003WA	WA025	ESP	1200	A10, B2, B8, B12	1, 3, 5, 6
Lake Gore System	ESP004WA	WA026	ESP	1500	B7, B8, B12, B14	2, 3, 4, 5, 6
Lake Warden System	ESP005WA	WA027	ESP	1200	B7, B12	1, 2, 3, 4, 5, 6
Mortijinup Lake System	ESP006WA	WA028	ESP	750	B7, B10, B14	1, 3, 6
Pink Lake	ESP007WA	WA029	ESP	1061	B7	1, 5, 6
Yellilup Yate Swamp System	ESP008WA	WA030	ESP	1500	B7, B14	1, 2, 3, 6
Kookhabinna Gorge	GAS001WA	WA031	GAS	125	B2, B14	1, 3

Wetland name	Old Reference No.	New Reference No.	IBRA Region	Area (ha)	Wetland type(s)	Criteria for inclusion
Lake Carnegie System	GAS002WA	WA032	GAS	153100	B8	1, 3
Windich Springs	GAS003WA	WA033	GAS	2	B17	1, 3, 6
Yadjiyugga Claypan	GAS004WA	WA034	GAS	400	B6	1, 3, 6
Hutt Lagoon System	GS001WA	WA035	GS	3000	B6, B8, B10, B12	1, 6
Lake Logue—Indoon System	GS002WA	WA036	GS	529	B6 (Lake Logue), B7 (Lake Indoon), B2, B10	1, 3, 5
Murchison River (Lower Reaches)	GS003WA	WA037	GS	625	A6, B1, B2	1, 6
Gibson Desert Gnamma Holes	GD001WA	WA038	GD	1	B17	1, 6
Lake Gruszka	GD002WA	WA039	GD	500	B6, B14	1, 6
Dragon Tree Soak	GSD001WA	WA040	GSD	5	B9, B15, B17	1, 6
Lake Dora (Rudall River) System	GSD004WA	WA041	GSD	32600	B1, B2, B8	1, 2, 6
Mandora Salt Marsh	GSD005WA	WA042	GSD	80000	B1, B8, B12, B15, B17	1, 3, 6
Rock Pools of the Breaden Hills	GSD006WA	WA043	GSD	1	B17	1, 6
Yeo Lake/Lake Throssell	GVD001WA	WA044	GVD	71000	B2, B8	1, 6
Avon River Valley	JF001WA	WA045	JF	320	B2	6
Byenup Lagoon System	JF002WA	WA046	JF	5000	B5, B7, B13, B14, B15	1, 2, 3, 4, 5, 6
Chittering—Needonga Lakes	JF003WA	WA047	JF	248	B7, B14	1, 2, 3, 4, 6
Lake Muir	JF004WA	WA048	JF	4600	B8, B12	1, 2, 3, 4, 5, 6
Lake Pleasant View System	JF005WA	WA049	JF	550	B9, B15	1, 3, 6
Moates Lake System	JF006WA	WA050	JF	750	B5, B7, B9	1, 3, 4, 6
Oyster Harbour	JF007WA	WA051	JF	15600	A2, A6, A7, A8	1, 2, 3, 6
Lake Disappointment (Savory Creek) System	LSD001WA	WA052	LSD and GAS	154200	B2, B8	1, 3
Pools of the Durba Hills	LSD002WA	WA053	LSD	2	B17	1, 3, 6
Lake Cronin	MAL001WA	WA054	MAL	13	B10, B13	1, 3, 6
Lake Grace System	MAL002WA	WA055	MAL	13200	B8, B12	1, 3, 4, 5
Anneen Lake (Lake Nannine)	MUR001WA	WA056	MUR	12000	B8, B12	1, 2, 3
Breberle Lake	MUR002WA	WA057	MUR	750	B6, B14	1
Lake Ballard	MUR003WA	WA058	MUR	60000	B8	1, 3, 4
Lake Barlee	MUR004WA	WA059	MUR	194380	B8	1, 2, 3, 4, 6
Lake Marmion	MUR005WA	WA060	MUR	35300	B8	1, 3, 4
Wooleen Lake	MUR006WA	WA061	MUR	2200	B6	1, 3
Drysdale River	NK001WA	WA062	NK	5100	B1	1, 2, 3, 4, 6
Mitchell River System	NK002WA	WA063	NK	4140	A6, A7, A8, A9, B1, B2	1, 2, 3, 4, 6
Prince Regent River System	NK003WA	WA064	NK	14300	A6, A7, A9, B1, B2	1, 2, 3, 4, 6
De Grey River	PIL001WA	WA065	PIL	13600	A6, A7, A8, B1, B2, B9	1, 2, 6

Wetland name	Old Reference No.	New Reference No.	IBRA Region	Area (ha)	Wetland type(s)	Criteria for inclusion
Fortescue Marshes	PIL002WA	WA066	PIL	100000	B4, B6	1, 2, 3, 6
Karijini (Hamersley Range) Gorges	PIL003WA	WA067	PIL	80	B2, B17	1, 6
Leslie (Port Hedland) Saltfields System	PIL004WA	WA068	PIL	13000	A7, A8, A9, C4	1, 2, 3, 4, 5, 6
Millstream Pools	PIL005WA	WA069	PIL	150	B1, B9, B17	1, 2, 3, 6
Barraghup Swamp	SWA001WA	WA070	SWA	25	B14	1, 2, 3, 6
Becher Point Wetlands	SWA002WA	WA071	SWA	10	B10, B14	1, 6
Benger Swamp	SWA003WA	WA072	SWA	572	B10, B14	3, 4, 6
Booragoon Lake	SWA004WA	WA073	SWA	13	B5, B14	1, 2, 3, 6
Brixton Street Swamps	SWA005WA	WA074	SWA	30	B13	1, 5, 6
Chandala Swamp	SWA006WA	WA075	SWA	100	B14	1, 2, 3, 4, 6
Ellen Brook Swamps System	SWA007WA	WA076	SWA	20	B13	1, 3, 4, 5, 6
Forrestdale Lake	SWA008WA	WA077	SWA	250	B8	1, 2, 3, 4, 5, 6
Gibbs Road Swamp System	SWA009WA	WA078	SWA	70	B13, B14	1, 2, 3, 6
Guraga Lake	SWA010WA	WA079	SWA	350	B7, B12	1, 2, 3, 4, 6
Herdsman Lake	SWA011WA	WA080	SWA	250	B5, B10, B14, B15	2, 3, 4, 6
Joondalup Lake	SWA012WA	WA081	SWA	530	B5	1, 2, 4, 6
Karakin Lakes	SWA013WA	WA082	SWA	600	B10	2
Lake McLarty System	SWA014WA	WA083	SWA	400	B12, B13, B14	1, 2, 3, 4, 6
Lake Thetis	SWA015WA	WA084	SWA	7	B7	1, 6
Loch McNess System	SWA016WA	WA085	SWA	255	B5, B9, B14, B15, B19	1, 3, 6
McCarley's Swamp (Ludlow Swamp)	SWA017WA	WA086	SWA	25	B14	1, 2, 3, 6
Peel—Harvey Estuary	SWA018WA	WA087	SWA	14000	A6, A7, A8	1, 2, 3, 4, 5, 6
Perth Airport Woodland Swamps [C]	SWA019WA	WA088	SWA	23	B10, B14, C5	1, 3, 5, 6
Rottnest Island Lakes	SWA020WA	WA089	SWA	180	B7, B8, B12	1, 2, 3, 6
Spectacles Swamp	SWA021WA	WA090	SWA	142	B10, B14	1, 2, 3, 6
Swan—Canning Estuary	SWA022WA	WA091	SWA	3300	A6, A7, A8	1, 2, 3, 4, 5, 6
Thomsons Lake	SWA023WA	WA092	SWA	213	B8	1, 2, 3, 4, 6
Vasse—Wonnerup Wetland System	SWA024WA	WA093	SWA	1000	A10, B8, B11	2, 3, 4, 5, 6
Wannamal Lake System	SWA025WA	WA094	SWA	470	B6, B7, B13	2, 3, 4, 5, 6
Yalgorup Lakes System	SWA026WA	WA095	SWA	5600	B7	1, 2, 3, 4, 5, 6
Lake Gregory System	TAN001WA	WA096	TAN	38700	B2, B7, B8	1, 2, 3, 4, 6
Lake Argyle	VB001WA	WA097	VB	100000	C1	2, 3, 4, 6
Lake Kununurra	VB002WA	WA098	VB	2500	B1, B9, C1	2, 3, 4, 6
Ord Estuary System	VB004WA	WA099	VB	94700	A6, A7, A8, A9	1, 2, 3, 6
Parry Floodplain	VB005WA	WA100	VB	9000	B1, B2, B4, B6, B10, B14, B17	1, 2, 3, 4, 6

Wetland name	Old Reference No.	New Reference No.	IBRA Region	Area (ha)	Wetland type(s)	Criteria for inclusion
Blackwood River (Lower Reaches) and Tributaries System	WAR001WA	WA101	WAR	620	B1, B2	1, 3, 4, 5, 6
Broke Inlet System	WAR002WA	WA102	WAR	4865	A10, B1, B2, B6, B10, B13, B15	1, 2, 3, 6
Cape Leeuwin System	WAR003WA	WA103	WAR	20	B10, B17	5
Doggerup Creek System	WAR004WA	WA104	WAR	2524	B1, B2, B4, B5, B10, B15	1, 2, 3, 4, 6
Gingilup—Jasper Wetland System	WAR005WA	WA105	WAR	1600	B5, B10, B13, B14, B15	1, 2, 3, 4, 6
Maringup Lake	WAR006WA	WA106	WAR	286	B5, B15	1, 2, 4, 6
Mt. Soho Swamps	WAR007WA	WA107	WAR	50	B15	4, 6
Owingup Swamp System	WAR008WA	WA108	WAR	1050	B1, B5, B10, B14	1, 2, 3, 4, 6
Thundelarra Lignum Swamp	YAL001WA	WA109	YAL	135	B13	1, 2, 3
Wagga Wagga Salt Lake	YAL002WA	WA110	YAL	450	B8, B12	1
Gladstone Lake		WA111	CK	100	B5	1, 3, 6
Lake Bryde—East Lake Bryde		WA112	MAL	135	B13	4, 5
Mt. Bruce Coolibah—Lignum flats		WA113	PIL	82	B6	1
Big Springs		WA114	DL	80	A9, A12, B17	1
Yampi Sound Training Area [C]		WA115	NK	566000	A1, A2, A4, A5, A6, A7, A9, A10	1, 5
Learmonth Air Weapons Range —Saline Coastal Flats [C]		WA116	CAR	300	A10	1
Bundera Sinkhole [C]		WA117	CAR	1	B19	1, 5
Palmer Barracks, Guildford [C]		WA118	SWA	5	B10, B14	1, 2
Lancelin Defence Training Area [C]		WA119	SWA	2000	A5, B10, B14	1, 2
RAAF Caversham [C]		WA120	SWA	30	B10, B14	2, 3

C *wetlands occurring in part on land owned or managed by the Commonwealth (eight sites).*

Note: *area figures for the above tables are approximate only and are not available for all wetlands.*