

# **Appendix of Figures and Tables**

**TABLE 1: SUMMARY OF THE WATER ACCOUNT FOR THE LOWER LIMESTONE COAST UNCONFINED AQUIFER (DRAFT)**

Unconfined Management Area	Adopted Recharge Rate (mm/year)	Target Management Limit (TML) (ML/yr)	Total Available Recharge (if different to TML) (ML/yr)	Indicative Allocation Conversion of IEs (ML/yr) March 2012 + SPRs at June 2012					Existing Volumetric Allocations (ML/yr)	Holding Allocations (ML/yr)	Holding Forestry (ML/yr)	Indicative Allocation Non-Forestry (ML/yr)	Forestry Recharge Interception at June 2012 (ML/yr)	Forestry Direct Groundwater Extraction at June 2012 (ML/yr)	Farm Forestry RI & DGE (ML/yr)	Stock & Domestic (ML/yr)	Total losses ((total alloc + farm forestry + S&D)- DS)	Total Account (ML/yr) (total losses + DS)	Water Account Surplus/Deficit (ML/yr)
				Tradeable (ML/yr)	Forestry (ML/yr)	Delivery Supplement (ML/yr)	SPRs 2012 (ML/yr)	Total (ML/yr)											
BANGHAM	20	6,395	5,408	5,376	0	155	98	5,629	35	0	0	5,664	0	166	720	6,395	6,550	0	
BEEAMMA	20	8,763	4,123	7,945	0	0	178	8,122	0	0	0	8,122	0	72	569	8,763	8,763	0	
BENARA	170	37,749		7,059	0	510	209	7,778	3,739	2,586	0	14,103	6,569	1,478	47	1,192	22,879	23,388	14,870
BLANCHE CENTRAL	175	12,140		2,871	0	0	70	2,941	43	0	0	2,984	4,321	2	40	340	7,687	7,687	4,453
BOOL	105	4,417		1,382	0	0	0	1,382	268	498	0	2,148	0	0	9	215	2,371	2,371	2,046
BOWAKA	85	16,107		8,427	0	4,171	0	12,597	0	1,588	0	14,185	68	120	44	771	11,017	15,188	5,089
BRAY	90	17,118		1,745	0	492	0	2,237	2,091	3,738	0	8,066	576	151	3	988	9,292	9,784	7,826
COLES	120	25,228		5,316	386	897	0	6,599	683	1,015	911	8,297	16,764	24,492	217	479	50,264	51,161	-25,036
COMAUM	60	4,640	3,388	2,785	0	0	44	2,829	45	0	0	2,874	1,363	157	9	237	4,640	4,640	0
COMPTON	175	5,921		232	0	0	0	232	411	348	0	992	1,228	32	0	222	2,473	2,473	3,448
CONMURRA	95	29,764		10,231	0	3,461	0	13,692	3,832	5,844	0	23,368	1,174	909	894	1,184	24,068	27,529	5,696
DONOVANS	175	34,394		16,931	0	1,296	1,143	19,370	497	0	0	19,867	6,437	0	140	1,043	26,190	27,486	8,203
DUFFIELD	50	9,225		0	0	0	0	0	0	634	0	634	0	0	4	522	1,160	1,160	8,064
FOX	100	22,027	20,370	5,959	0	1,090	153	7,203	3,113	6,357	0	16,673	1,915	3,105	435	989	22,027	23,117	0
FRANCES	30	4,393		5,520	0	9	16	5,546	86	0	0	5,632	0	0	611	6,234	6,243	-1,840	
GLENBURNIE	150	36,789		14,308	41	0	761	15,110	5,461	0	0	20,571	12,688	0	275	1,072	34,606	34,606	2,183
GLENROY	100	8,866	7,357	7,440	0	145	986	8,571	13	0	0	8,584	0	0	0	427	8,866	9,011	0
GREY	150	25,044		21,366	0	3,445	459	25,270	568	0	132	25,838	642	657	157	1,043	25,024	28,469	20
HACKS	125	5,229		4,756	0	1,640	0	6,396	0	0	0	6,396	0	0	0	214	4,970	6,610	259
HINDMARSH	150	31,276		7,488	0	0	475	7,962	629	437	0	9,028	15,888	3,606	287	735	29,544	29,544	1,732
HYNAM EAST	25	3,576		6,826	0	0	136	6,962	0	0	0	6,962	0	10	597	7,568	7,568	-3,992	
HYNAM WEST	80	5,725		5,051	0	4,219	0	9,269	0	0	0	9,269	0	0	327	5,377	9,596	348	
JOANNA	50	15,442	12,855	13,014	0	21	106	13,140	151	0	0	13,291	813	339	47	973	15,442	15,463	0
JOYCE	120	38,180		8,683	0	1,344	68	10,095	2,689	3,443	0	16,227	3,041	4,598	635	1,165	24,322	25,666	13,857
KENNION	120	25,271		3,324	0	903	54	4,280	1,117	9,981	745	15,378	2,923	2,703	262	1,004	22,113	23,016	3,158
KILLANOOLA	145	23,557	22,340	9,953	840	1,927	554	13,274	1,314	1,402	277	15,990	3,592	4,505	405	716	23,557	25,484	0
KONGORONG	170	32,676		11,438	0	828	778	13,044	496	0	0	13,540	9,571	466	427	908	24,083	24,911	8,593
LACEPEDE	100	18,014		833	0	0	1	833	559	4,506	0	5,898	0	0	0	739	6,637	6,637	11,377
LAKE GEORGE	75	7,975		1,104	0	0	43	1,147	300	2,616	0	4,063	0	156	586	4,805	4,805	3,169	
LANDSEER	45	7,626		940	0	907	0	1,847	0	1,016	0	2,864	0	0	484	2,441	3,348	5,185	
LOCHABER	90	18,916		2,533	0	0	0	2,533	2,457	3,220	0	8,210	0	0	68	851	9,130	9,130	9,786
MACDONNELL	150	24,410		19,730	0	1,498	1,226	22,453	538	0	0	22,991	10	0	10	1,043	22,557	24,055	1,853
MARCOLLAT	75	13,262		443	0	679	0	1,122	0	1,319	0	2,441	0	0	74	501	2,337	3,016	10,924
MAYURRA	110	19,430		1,452	0	0	0	1,452	2,620	4,484	0	8,556	0	0	39	1,126	9,721	9,721	9,708
MINECROW	75	18,387		2,750	0	1,988	0	4,738	230	4,033	0	9,001	0	0	232	977	8,222	10,210	10,165
MONBULLA	180	26,692		9,010	0	1,756	215	10,980	905	2,509	0	14,394	4,007	3,905	378	699	21,627	23,383	5,064
MOORAK	175	11,164		3,009	0	217	0	3,226	46	124	0	3,396	146	0	67	436	3,828	4,045	7,336
MOUNT BENSON	60	12,940		3,655	0	97	177	3,928	616	3,607	0	8,151	3,069	211	1	699	12,034	12,130	906
MOUNT MUIRHEAD	110	25,066		1,464	0	502	0	1,966	3,091	10,373	0	15,430	2,217	1,700	206	1,324	20,374	20,876	4,692
MOYHALL	105	5,565		1,170	0	978	0	2,148	25	1,039	0	3,211	0	0	6	256	2,496	3,473	3,069
MURRABINNA	90	13,919		86	0	83	0	1,68	1,388	3,057	0	4,614	0	0	642	5,173	5,256	8,746	
MYORA	160	20,655		4,004	0	0	209	4,212	75	749	0	5,037	12,456	3,397	77	412	21,378	21,378	-723
ORMEROD	120	8,901		528	0	77	0	604	0	0	0	604	0	0	337	865	941	8,037	
PEACOCK	70	19,666		0	0	0	0	0	0	2,581	0	2,581	0	0	8	766	3,355	3,355	16,312
RIDDOCH	130	28,633		9,947	0	2,499	114	12,560	814	1,364	0	14,738	9,153	1,040	140	1,003	23,575	26,074	5,057
RIVOLI BAY	100	14,029		196	0	0	33	229	415	5,214	0	5,858	206	103	26	895	7,088	7,088	6,941
ROSS	110	20,538		2,663	0	2,327	0	4,990	1	5,515	0	10,506	0	0	764	8,943	11,269	11,595	
SHORT	150	30,597		8,266	3,945	5,763	36	18,011	14	313	147	18,338	17,926	21,421	845	531	53,444	59,207	-22,846
SMITH	100	17,154		1,942	0	1,022	0	2,964	0	9,004	0	11,968	617	909	10	895	13,377	14,400	3,777
SPENCE	115	32,643		2,817	0	1,708	0	4,525	1,186	5,218	819	10,929	4,004	5,736	210	1,010	21,000	22,708	11,643
STEWARTS	145	18,330	12,128	17,476	0	24,589	0	42,065	382	0	0	42,447	0	0	102	370	18,330	42,919	0
STRUAN	95	6,147		5,248	0	417	144	5,809	0	0	0	5,809	0	0	301	5,693	6,109	454	
SYMON	110	22,498		2,416	0	0	0	2,416	1,355	6,575	0	10,346	1,471	557	1,107	1,005	14,487	14,487	8,011
TOWNSEND	85	20,970		5,221	0	2,892	3	8,117	1,401	3,298	0	12,816	0	0	128	988	11,040	13,932	9,930
WATERHOUSE	80	16,102		6,142	0	415	506	7,063	1,713	2,198	0	10,974	341	10	12	1,054	11,975	12,391	4,127
WESTERN FLAT	20	1,548	1,154	1,331	0	0	0	1,331	12	0	0	1,343	0	0	5	201	1,548	1,548	0
WOOLUMBOOL	90	25,182		1,793	0	1,733	0	3,526	20	5,763	0	9,309	0	0	456	1,105	9,137	10,870	16,045
YOUNG	200	30,273		2,361	0	29	98	2,487	848	2,291	337	5,626	8,509	3,123	313	734	18,612	18,641	11,660
ZONE 2A	140	66,015		24,358	101	216	1,043	25,718	1,389	324	0	27,431	29,340	8,610	848	1,754	67,767	67,982	-1,752
ZONE 3A	120	54,158		29,687	172	1,846	2,221	33,926	936	0	0	34,862	14,223	12,528	1,281	1,775	62,823	64,670	-8,665
ZONE 5A	40	18,780		23,902	0	173	695	24,770	618	0	0	25,388	0	0	66	1,832	27,113	27,286	-8,332
TOTAL		1,186,097		393,899	5,486	80,959	13,052	493,395	51,235	130,183	3,368	674,813	197,266	110,568	11,454	47,355	963,865	1,044,825	

Key to Table 1:

Red shaded = very high risk management areas

Orange shaded = high risk management areas

Adopted recharge rate and Total Available Recharge values from Latcham *et al.* (2007)

Forestry recharge interception values are calculated based on 100% recharge interception. The actual volume allocated to existing commercial forests in high and very high risk management areas will be calculated based on 100% recharge interception less a volume equivalent to the reductions required to allocations for that management area, or the deemed rates of recharge interception (78% for hardwoods, 83% for softwoods), whichever is the greater.

**TABLE 2: RECHARGE INTERCEPTION ALLOCATIONS FOR EXISTING COMMERCIAL FORESTS**

<b>Unconfined aquifer management area</b>	<b>Recharge Interception allocation (ML/net productive hectare of commercial forest/year)*</b>
BANGHAM	0.20
BEEAMMA	0.20
BENARA	1.70
BLANCHE CENTRAL	1.75
BOOL	1.05
BOWAKA	0.85
BRAY	0.90
COLES	1.20
COMAUM	0.60
COMPTON	1.75
CONMURRA	0.95
DONOVANS	1.75
DUFFIELD	0.50
FOX	1.00
FRANCES	0.30
GLENBURNIE	1.50
GLENROY	1.00
GREY	1.50
HACKS	1.25
HINDMARSH	1.50
HYNAM EAST	0.25
HYNAM WEST	0.80
JOANNA	0.50
JOYCE	1.20
KENNION	1.20
KILLANOOLA	1.45
KONGORONG	1.70
LACEPEDE	1.00
LAKE GEORGE	0.75
LANDSEER	0.45
LOCHABER	0.90
MACDONNELL	1.50
MARCOLLAT	0.75
MAYURRA	1.10
MINECROW	0.75
MONBULLA	1.80
MOORAK	1.75
MOUNT BENSON	0.60
MOUNT MUIRHEAD	1.10
MOYHALL	1.05
MURRABINNA	0.90

**TABLE 2: RECHARGE INTERCEPTION ALLOCATIONS FOR EXISTING COMMERCIAL FORESTS**

<b>Unconfined aquifer management area</b>	<b>Recharge Interception allocation (ML/net productive hectare of commercial forest/year)*</b>
MYORA	1.60
ORMEROD	1.20
PEACOCK	0.70
RIDDOCH	1.30
RIVOLI BAY	1.00
ROSS	1.10
SHORT	1.50
SMITH	1.00
SPENCE	1.15
STEWARTS	1.45
STRUAN	0.95
SYMON	1.10
TOWNSEND	0.85
WATERHOUSE	0.80
WESTERN FLAT	0.20
WOOLUMBOOL	0.90
YOUNG	2.00
ZONE 2A	1.40
ZONE 3A	1.20
ZONE 5A	0.40

\*Recharge interception allocation volume based on 100% recharge interception at canopy closure.

**TABLE 3: MINIMUM VOLUME OF ALLOCATION REQUIRED FOR COMMERCIAL FORESTS**

	Deemed Recharge Interception		Deemed Direct Underground Water Extraction		
	A	B	C	D	E
<b>Unconfined aquifer management area</b>	<b>Minimum volume hardwood  (ML/net planted hectare of forest/year)</b>	<b>Minimum volume softwood  (ML/net planted hectare of forest/year)</b>	<b>Minimum volume hardwood (ML/net planted hectare of forest/year)</b>	<b>Minimum volume hardwood when coppiced after date of declaration (ML/net planted hectare of forest/year)</b>	<b>Minimum volume softwood (ML/net planted hectare of forest/year)</b>
BANGHAM	0.16	0.17	1.82	2.50	1.66
BEEAMMA	0.16	0.17	1.82	2.50	1.66
BENARA	1.33	1.41	1.82	2.50	1.66
BLANCHE CENTRAL	1.37	1.45	1.82	2.50	1.66
BOOL	0.82	0.87	1.82	2.50	1.66
BOWAKA	0.66	0.71	1.82	2.50	1.66
BRAY	0.70	0.75	1.82	2.50	1.66
COLES	0.94	1.00	1.82	2.50	1.66
COMAUM	0.47	0.50	1.82	2.50	1.66
COMPTON	1.37	1.45	1.82	2.50	1.66
CONMURRA	0.74	0.79	1.82	2.50	1.66
DONOVANS	1.37	1.45	1.82	2.50	1.66
DUFFIELD	0.39	0.42	1.82	2.50	1.66
FOX	0.78	0.83	1.82	2.50	1.66
FRANCES	0.23	0.25	1.82	2.50	1.66
GLENBURNIE	1.17	1.25	1.82	2.50	1.66
GLENROY	0.78	0.83	1.82	2.50	1.66
GREY	1.17	1.25	1.82	2.50	1.66
HACKS	0.98	1.04	1.82	2.50	1.66
HINDMARSH	1.17	1.25	1.82	2.50	1.66
HYNAM EAST	0.20	0.21	1.82	2.50	1.66
HYNAM WEST	0.62	0.66	1.82	2.50	1.66
JOANNA	0.39	0.42	1.82	2.50	1.66
JOYCE	0.94	1.00	1.82	2.50	1.66
KENNION	0.94	1.00	1.82	2.50	1.66
KILLANOOLA	1.13	1.20	1.82	2.50	1.66
KONGORONG	1.33	1.41	1.82	2.50	1.66
LACEPEDE	0.78	0.83	1.82	2.50	1.66
LAKE GEORGE	0.59	0.62	1.82	2.50	1.66
LANDSEER	0.35	0.37	1.82	2.50	1.66
LOCHABER	0.70	0.75	1.82	2.50	1.66
MACDONNELL	1.17	1.25	1.82	2.50	1.66

**TABLE 3: MINIMUM VOLUME OF ALLOCATION REQUIRED FOR COMMERCIAL FORESTS**

	Deemed Recharge Interception		Deemed Direct Underground Water Extraction		
	A	B	C	D	E
Unconfined aquifer management area	Minimum volume hardwood  (ML/net planted hectare of forest/year)	Minimum volume softwood  (ML/net planted hectare of forest/year)	Minimum volume hardwood (ML/net planted hectare of forest/year)	Minimum volume hardwood when coppiced after date of declaration (ML/net planted hectare of forest/year)	Minimum volume softwood (ML/net planted hectare of forest/year)
MARCOLLAT	0.59	0.62	1.82	2.50	1.66
MAYURRA	0.86	0.91	1.82	2.50	1.66
MINECROW	0.59	0.62	1.82	2.50	1.66
MONBULLA	1.40	1.49	1.82	2.50	1.66
MOORAK	1.37	1.45	1.82	2.50	1.66
MOUNT BENSON	0.47	0.50	1.82	2.50	1.66
MOUNT MUIRHEAD	0.86	0.91	1.82	2.50	1.66
MOYHALL	0.82	0.87	1.82	2.50	1.66
MURRABINNA	0.70	0.75	1.82	2.50	1.66
MYORA	1.25	1.33	1.82	2.50	1.66
ORMEROD	0.94	1.00	1.82	2.50	1.66
PEACOCK	0.55	0.58	1.82	2.50	1.66
RIDDOCH	1.01	1.08	1.82	2.50	1.66
RIVOLI BAY	0.78	0.83	1.82	2.50	1.66
ROSS	0.86	0.91	1.82	2.50	1.66
SHORT	1.17	1.25	1.82	2.50	1.66
SMITH	0.78	0.83	1.82	2.50	1.66
SPENCE	0.90	0.95	1.82	2.50	1.66
STEWARTS	1.13	1.20	1.82	2.50	1.66
STRUAN	0.74	0.79	1.82	2.50	1.66
SYMON	0.86	0.91	1.82	2.50	1.66
TOWNSEND	0.66	0.71	1.82	2.50	1.66
WATERHOUSE	0.62	0.66	1.82	2.50	1.66
WESTERN FLAT	0.16	0.17	1.82	2.50	1.66
WOOLUMBOOL	0.70	0.75	1.82	2.50	1.66
YOUNG	1.56	1.66	1.82	2.50	1.66
ZONE 2A	1.09	1.16	1.82	2.50	1.66
ZONE 3A	0.94	1.00	1.82	2.50	1.66
ZONE 5A	0.31	0.33	1.82	2.50	1.66

**TABLE 4: CALCULATION OF THE ADDITIONAL DEEMED RATES OF RECHARGE INTERCEPTION  
(ML/NET PLANTED HECTARE OF FOREST/YEAR)**

Forest Type	Calculation of the Additional Deemed Rates of Recharge Interception (ML/net planted hectare of forest/year)
Hardwood	<p>= [(100% - x)/100%] * [adopted recharge rate (in mm/year)/100]</p> <p>where</p> <p><math>x = [(120\% \times \text{no. of additional years of forest fallow}) + 120\% + 80\% + 40\%] / (10 + \text{no. of years of forest fallow});</math></p> <p>adopted recharge rate is as listed in Table 1 (<i>Appendix of Figures and Tables</i>), for the relevant management area.</p>
Softwood	<p>= [(100% -x)/100%] * [adopted recharge rate (in mm/year)/100]</p> <p>where</p> <p><math>x = [(120\% \times \text{no. of additional years of forest fallow}) + 120\% + 100\% + 80\% + 60\% + 40\% + 20\% + (50\% \times \text{no. of forest thinnings})] / (35 + \text{no. of years of forest fallow});</math></p> <p>adopted recharge rate is as listed in Table 1 (<i>Appendix of Figures and Tables</i>), for the relevant management area.</p>

Note to Table 4:

The percentages in the calculation of x are the assumed recharge rates as a percentage of average annual vertical recharge for a given management area, as listed in Table 4.2 (*Assessment of the capacity of the resource to meet demand*).

**TABLE 5: CONFINED AQUIFER - SUMMARY OF THE WATER ACCOUNT FOR THE LOWER LIMESTONE COAST PWA**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
<b>Confined Aquifer Management Area</b>	<b>PAV (ML/year)</b>	<b>TML (ML/year)</b>	<b>Stock and domestic requirements (ML/year)</b>	<b>Indicative allocation conversion of IE's (ML/year)</b>	<b>Total existing volumetric allocations (ML/year)</b>	<b>Total demand for water (ML/year) (D+E+F)</b>	<b>Water account (surplus/deficit) (ML/year) (C-G)</b>
<b>Kalangadoo</b>	3,900	3,900	78	2,562	509	3,149	751
<b>Kingston</b>	25,000	40,089	500	34,912	4,677	40,089	0
<b>Lucindale</b>	3,600	3,600	72	1,407	993	2,472	1,128
<b>Millicent</b>	10,800	10,800	216	5,622	1,202	7,040	3,760
<b>Taratap</b>	330	330	7	23	0	30	300
<b>Fairview</b>	290	290	6	0	0	6	284
<b>Wirrega</b>	960	960	19	0	225	244	716
<b>Zone 1A</b>	9,200	9,200	184	611	1,017	1,812	7,388
<b>Zone 2A</b>	2,900	2,900	58	0	1,455	1,513	1,387
<b>Zone 3A</b>	1,900	1,900	38	0	1,181	1,219	681
<b>Zone 4A</b>	710	710	14	81	0	95	615
<b>Zone 5A</b>	540	540	11	0	0	11	529
<b>Zone 6A</b>	360	360	7	0	17	24	336
<b>Grand Total</b>	<b>60,490</b>	<b>75,579</b>	<b>1,210</b>	<b>45,218</b>	<b>11,276</b>	<b>57,704</b>	<b>N/A</b>

Notes to Table 5:

1. Total Indicative Allocation Conversion of IE's is based on conversion to a volumetric system for all individual licences, with the tradeable component based on crop water requirements + 16% additional volume. Column E includes delivery supplements.
2. The above table does not include bridging volumes or specialised production requirements allocations that some licensees may choose to apply for under the terms of this Plan.



**TABLE 6. VOLUMETRIC CONVERSION**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
<b>VOLUMETRIC CONVERSION ZONE</b>	<b>Tradeable component drip/spray/flood (ML/haE)**</b>	<b>Delivery supplement (flood) (ML/haE)***</b>	<b>Delivery supplement (spray) (ML/haE)***</b>	<b>Drip Bridging Volume (ML/haE)</b>	<b>Flood Bridging Volume (ML/haE)</b>	<b>Spray Bridging Volume (ML/haE)</b>
BANGHAM	7.77	2.37	0.00	0.74	9.11	2.08
BEEAMMA	7.77	5.52	0.00	0.74	9.11	2.08
BENARA	5.68	1.74	0.43	0.54	2.65	1.91
BLANCHE CENTRAL	5.68	1.74	0.00	0.54	2.65	2.16
BOOL	7.13	6.34	0.00	0.68	9.59	1.66
BOWAKA	7.13	6.89	0.00	0.68	8.92	1.35
BRAY	6.37	6.15	0.00	0.60	7.96	2.75
COLES	6.77	6.55	0.00	N/A	N/A	N/A
COMAUM	6.77	2.07	0.00	0.64	9.11	1.58
COMPTON	5.68	1.74	0.00	0.54	2.65	2.16
CONMURRA	6.77	6.55	0.00	0.64	8.47	1.28
DONOVANS	5.68	1.73	0.43	0.54	2.65	1.91
DUFFIELD	7.77	7.50	0.00	0.74	9.72	3.35
FOX	6.77	6.55	0.00	0.64	8.47	1.28
FRANCES	7.42	2.27	0.00	N/A	N/A	N/A
GLENBURNIE	5.68	1.73	0.00	0.54	2.65	2.16
GLENROY	6.77	2.07	0.00	0.64	9.11	1.58
GREY	5.89	5.71	0.00	0.56	5.28	1.17
HACKS	7.13	6.34	0.00	0.68	9.59	1.66
HINDMARSH	5.68	1.74	0.00	0.54	2.65	2.16
HYNAM EAST	7.42	11.40	0.00	N/A	N/A	N/A
HYNAM WEST	7.42	11.40	0.00	0.70	7.30	1.22
JOANNA	6.77	2.07	0.00	0.64	3.15	2.22
JOYCE	7.13	6.89	0.00	0.68	6.40	1.41
KENNION	6.37	6.15	0.00	0.60	7.96	2.75
KILLANOOLA	6.77	6.55	0.00	0.64	6.07	1.34
KONGORONG	5.68	1.74	0.43	0.54	2.65	1.91
LACEPEDE	7.13	6.89	0.00	0.68	8.92	3.08
LAKE GEORGE	6.37	6.15	0.00	0.60	7.96	2.75
LANDSEER	7.77	7.50	0.00	0.74	9.72	1.47
LOCHABER	7.42	11.40	0.00	0.70	7.30	1.22
MACDONNELL	5.68	1.74	0.43	0.54	2.65	1.91
MARCOLLAT	7.77	11.91	0.00	0.74	7.64	1.27
MAYURRA	5.89	5.71	0.00	0.56	7.37	2.54
MINECROW	7.13	6.89	0.00	0.68	8.92	1.35
MONBULLA	6.37	6.15	0.00	0.60	5.71	1.26
MOORAK	5.68	1.74	0.43	0.54	2.65	1.91
MOUNT BENSON	7.13	6.89	0.00	0.68	8.92	3.08
MOUNT MUIRHEAD	5.89	5.71	0.00	0.56	7.37	2.54
MOYHALL	7.13	6.89	0.00	0.68	6.40	1.41
MURRABINNA	7.13	6.89	0.00	0.68	8.92	1.35
MYORA	5.68	1.73	0.00	N/A	N/A	N/A
ORMEROD	7.13	10.94	0.00	0.68	7.01	1.17
PEACOCK	7.77	7.50	0.00	0.74	9.72	1.47

**TABLE 6. VOLUMETRIC CONVERSION**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
<b>VOLUMETRIC CONVERSION ZONE</b>	<b>Tradeable component drip/spray/flood (ML/haE)**</b>	<b>Delivery supplement (flood) (ML/haE)***</b>	<b>Delivery supplement (spray) (ML/haE)***</b>	<b>Drip Bridging Volume (ML/haE)</b>	<b>Flood Bridging Volume (ML/haE)</b>	<b>Spray Bridging Volume (ML/haE)</b>
RIDDOCH	5.89	5.71	0.00	0.56	5.28	1.17
RIVOLI BAY	5.89	5.71	0.00	0.56	7.37	2.54
ROSS	6.77	6.55	0.00	0.64	8.47	1.28
SHORT	6.37	6.15	0.00	N/A	N/A	N/A
SMITH	6.37	6.15	0.00	0.60	7.96	1.21
SPENCE	7.13	6.89	0.00	0.68	6.40	1.41
STEWARTS	7.13	10.94	0.00	0.68	7.01	1.17
STRUAN	6.77	2.07	0.00	0.64	9.11	1.58
SYMON	5.89	5.71	0.00	0.56	7.37	2.54
TOWNSEND	7.13	6.89	0.00	0.68	8.92	1.35
WATERHOUSE	6.77	6.55	0.00	0.64	8.47	2.92
WESTERN FLAT	8.42	2.57	0.00	0.80	9.87	2.25
WOOLUMBOOL	7.42	7.18	0.00	0.70	9.28	1.41
YOUNG	5.68	1.74	0.00	0.54	2.65	2.16
ZONE 2A	5.89	1.80	0.00	N/A	N/A	N/A
ZONE 3A	6.37	1.94	0.00	N/A	N/A	N/A
ZONE 5A	7.13	2.18	0.00	N/A	N/A	N/A

Notes:

\*\* Tradeable component calculated as (hectare irrigation equivalents x net irrigation requirement) + 16% for drip, spray and flood irrigation.

\*\*\*Delivery supplement calculated as [(hectare irrigation equivalents x net irrigation requirement)] + volume required to deliver the net irrigation requirement] – tradeable component

**TABLE 7: SPECIALISED PRODUCTION REQUIREMENTS  
(ML PER HECTARE OF CROP/INFRASTRUCTURE)**

VOLUMETRIC CONVERSION ZONE	Grapevines - frost control	Fruit trees	Potatoes	Olives	Onions	Sub clover seed	Maximum Production Pasture		
							spray	flood	drip
BANGHAM	4.65	0.38	1.70	0.28	1.47	0.38	1.01	1.74	0.95
BEEAMMA	4.65	0.38	1.70	0.28	1.47	0.38	1.01	1.74	0.95
BENARA	4.65	0.38	1.35	0.28	1.10	0.31	1.44	1.74	1.25
BLANCHE CENTRAL	4.65	0.38	1.35	0.28	1.10	0.31	1.33	1.74	1.25
BOOL	4.65	0.38	1.70	0.28	1.47	0.38	1.13	2.14	1.07
BOWAKA	4.65	0.38	1.70	0.28	1.47	0.38	1.13	2.23	1.07
BRAY	4.65	0.38	1.35	0.28	1.10	0.31	1.27	2.51	1.20
COLES	4.65	0.38	1.70	0.28	1.47	0.38	1.20	2.37	1.13
COMAUM	4.65	0.38	1.70	0.28	1.47	0.38	1.20	2.27	1.13
COMPTON	4.65	0.38	1.35	0.28	1.10	0.31	1.44	1.74	1.25
CONMURRA	4.65	0.38	1.70	0.28	1.47	0.38	1.20	2.37	1.13
DONOVANS	4.65	0.38	1.35	0.28	1.10	0.31	1.44	1.74	1.25
DUFFIELD	4.65	0.38	1.70	0.28	1.47	0.38	1.01	2.00	0.95
FOX	4.65	0.38	1.70	0.28	1.47	0.38	1.20	2.37	1.13
FRANCES	4.65	0.38	1.70	0.28	1.47	0.38	1.07	1.40	1.01
GLENBURNIE	4.65	0.38	1.35	0.28	1.10	0.31	1.33	1.74	1.25
GLENROY	4.65	0.38	1.70	0.28	1.47	0.38	1.20	2.27	1.13
GREY	4.65	0.38	1.35	0.28	1.10	0.31	1.31	2.58	1.23
HACKS	4.65	0.38	1.70	0.28	1.47	0.38	1.13	2.14	1.07
HINDMARSH	4.65	0.38	1.35	0.28	1.10	0.31	1.33	1.74	1.25
HYNAM EAST	4.65	0.38	1.70	0.28	1.47	0.38	1.07	2.72	1.01
HYNAM WEST	4.65	0.38	1.70	0.28	1.47	0.38	1.07	2.72	1.01
JOANNA	4.65	0.38	1.70	0.28	1.47	0.38	1.20	1.57	1.13
JOYCE	4.65	0.38	1.70	0.28	1.47	0.38	1.13	2.23	1.07
KENNION	4.65	0.38	1.35	0.28	1.10	0.31	1.27	2.51	1.20
KILLANOOLA	4.65	0.38	1.70	0.28	1.47	0.38	1.20	2.37	1.13
KONGORONG	4.65	0.38	1.35	0.28	1.10	0.31	1.44	1.74	1.25
LACEPEDE	4.65	0.38	1.70	0.28	1.47	0.38	1.13	2.23	1.07
LAKE GEORGE	4.65	0.38	1.35	0.28	1.10	0.31	1.27	2.51	1.20
LANDSEER	4.65	0.38	1.70	0.28	1.47	0.38	1.01	2.00	0.95
LOCHABER	4.65	0.38	1.70	0.28	1.47	0.38	1.07	2.72	1.01
MACDONNELL	4.65	0.38	1.35	0.28	1.10	0.31	1.44	1.74	1.25
MARCOLLAT	4.65	0.38	1.70	0.28	1.47	0.38	1.01	2.57	0.95
MAYURRA	4.65	0.38	1.35	0.28	1.10	0.31	1.31	2.58	1.23
MINECROW	4.65	0.38	1.70	0.28	1.47	0.38	1.13	2.23	1.07



**TABLE 8: CROP ADJUSTMENT FACTOR (ML PER HECTARE OF CROP)**

<b>VOLUMETRIC CONVERSION ZONE</b>	<b>CORIANDER</b>	<b>FRUIT TREES</b>	<b>GRASS SEED</b>	<b>MAIZE</b>	<b>MUSTARD</b>	<b>NATIVE FLOWERS</b>	<b>NATIVE FOLIAGE</b>	<b>ONION</b>
<b>BANGHAM</b>	1.03	1.94	0.00	2.15	0.00	2.33	0.76	0.99
<b>BEEAMMA</b>	1.03	1.94	0.00	2.15	0.00	2.33	0.76	0.99
<b>BENARA</b>	1.04	0.65	0.25	2.77	0.38	1.40	0.00	0.87
<b>BLANCHE CENTRAL</b>	1.04	0.65	0.25	2.77	0.38	1.40	0.00	0.87
<b>BOOL</b>	0.95	1.82	0.00	2.15	0.00	2.15	0.61	1.07
<b>BOWAKA</b>	1.19	0.52	0.00	2.60	0.31	1.90	0.36	0.61
<b>BRAY</b>	1.09	0.83	0.00	2.68	0.35	1.68	0.18	0.78
<b>COLES</b>	1.10	0.54	0.00	2.66	0.27	1.81	0.28	0.71
<b>COMAUM</b>	1.16	0.85	0.00	2.66	0.34	1.81	0.28	1.15
<b>COMPTON</b>	1.04	0.65	0.25	2.77	0.38	1.40	0.00	0.87
<b>CONMURRA</b>	1.10	0.54	0.00	2.66	0.27	1.81	0.28	0.71
<b>DONOVANS</b>	0.99	0.68	0.25	2.62	0.32	1.40	0.00	1.24
<b>DUFFIELD</b>	1.10	1.94	0.00	2.15	0.10	2.06	0.49	0.48
<b>FOX</b>	1.10	0.54	0.00	2.66	0.27	1.81	0.28	0.71
<b>FRANCES</b>	0.93	1.87	0.00	2.18	0.00	2.22	0.69	1.06
<b>GLENBURNIE</b>	0.99	0.68	0.25	2.62	0.32	1.40	0.00	1.24
<b>GLENROY</b>	1.16	0.85	0.00	2.66	0.34	1.81	0.28	1.15
<b>GREY</b>	1.04	0.73	0.20	2.59	0.35	1.46	0.00	0.81
<b>HACKS</b>	0.95	1.82	0.00	2.15	0.00	2.15	0.61	1.07
<b>HINDMARSH</b>	1.04	0.65	0.25	2.77	0.38	1.40	0.00	0.87
<b>HYNAM EAST</b>	0.93	1.87	0.00	2.18	0.00	2.22	0.69	1.06
<b>HYNAM WEST</b>	0.93	1.87	0.00	2.18	0.00	2.22	0.69	1.06
<b>JOANNA</b>	0.86	1.79	0.00	2.24	0.00	2.04	0.52	1.15
<b>JOYCE</b>	1.11	1.82	0.00	2.15	0.22	1.90	0.36	1.07
<b>KENNION</b>	1.09	0.83	0.00	2.68	0.35	1.68	0.18	0.78
<b>KILLANOOLA</b>	1.10	0.54	0.00	2.66	0.27	1.81	0.28	0.71
<b>KONGORONG</b>	1.04	0.65	0.25	2.77	0.38	1.40	0.00	0.87
<b>LACEPEDE</b>	1.11	1.82	0.00	2.15	0.22	1.90	0.36	1.07
<b>LAKE GEORGE</b>	1.13	0.78	0.00	2.85	0.39	1.68	0.18	0.78
<b>LANDSEER</b>	1.10	1.94	0.00	2.15	0.10	2.06	0.49	0.48
<b>LOCHABER</b>	1.00	1.87	0.00	2.18	0.00	1.97	0.43	0.57
<b>MACDONNELL</b>	1.04	0.65	0.25	2.77	0.38	1.40	0.00	0.87
<b>MARCOLLAT</b>	1.10	1.94	0.00	2.15	0.10	2.06	0.49	0.48
<b>MAYURRA</b>	1.07	0.69	0.20	2.75	0.39	1.46	0.00	0.81
<b>MINECROW</b>	1.11	1.82	0.00	2.15	0.22	1.90	0.36	1.07
<b>MONBULLA</b>	1.09	0.83	0.00	2.68	0.35	1.68	0.18	0.78
<b>MOORAK</b>	1.04	0.65	0.25	2.77	0.38	1.40	0.00	0.87
<b>MOUNT BENSON</b>	1.19	0.52	0.00	2.60	0.31	1.90	0.36	0.61
<b>MOUNT MUIRHEAD</b>	1.07	0.69	0.20	2.75	0.39	1.46	0.00	0.81
<b>MOYHALL</b>	0.95	1.82	0.00	2.15	0.00	2.15	0.61	1.07
<b>MURRABINNA</b>	1.11	1.82	0.00	2.15	0.22	1.90	0.36	1.07

**TABLE 8: CROP ADJUSTMENT FACTOR (ML PER HECTARE OF CROP)**

<b>VOLUMETRIC CONVERSION ZONE</b>	<b>CORIANDER</b>	<b>FRUIT TREES</b>	<b>GRASS SEED</b>	<b>MAIZE</b>	<b>MUSTARD</b>	<b>NATIVE FLOWERS</b>	<b>NATIVE FOLIAGE</b>	<b>ONION</b>
<b>MYORA</b>	0.99	0.68	0.25	2.62	0.32	1.40	0.00	1.24
<b>ORMEROD</b>	0.95	1.82	0.00	2.15	0.00	2.15	0.61	1.07
<b>PEACOCK</b>	1.05	1.96	0.00	2.28	0.00	2.06	0.45	0.60
<b>RIDDOCH</b>	1.07	0.69	0.20	2.75	0.39	1.46	0.00	0.81
<b>RIVOLI BAY</b>	1.07	0.69	0.20	2.75	0.39	1.46	0.00	0.81
<b>ROSS</b>	1.19	0.85	0.00	2.66	0.36	1.81	0.28	0.71
<b>SHORT</b>	1.09	0.83	0.00	2.68	0.35	1.68	0.18	0.78
<b>SMITH</b>	1.09	0.83	0.00	2.68	0.35	1.68	0.18	0.78
<b>SPENCE</b>	1.02	1.82	0.00	2.15	0.13	1.90	0.36	0.61
<b>STEWARTS</b>	0.95	1.82	0.00	2.15	0.00	2.15	0.61	1.07
<b>STRUAN</b>	0.86	1.79	0.00	2.24	0.00	2.04	0.52	1.15
<b>SYMON</b>	1.07	0.69	0.20	2.75	0.39	1.46	0.00	0.81
<b>TOWNSEND</b>	1.19	0.52	0.00	2.60	0.31	1.90	0.36	0.61
<b>WATERHOUSE</b>	1.19	0.85	0.00	2.66	0.36	1.81	0.28	0.71
<b>WESTERN FLAT</b>	1.12	2.00	0.00	2.09	0.00	2.45	0.87	0.84
<b>WOOLUMBOOL</b>	1.10	1.87	0.00	2.18	0.15	1.97	0.43	1.06
<b>YOUNG</b>	1.04	0.65	0.25	2.77	0.38	1.40	0.00	0.87
<b>ZONE 2A</b>	1.02	0.73	0.20	2.59	0.33	1.46	0.00	1.19
<b>ZONE 3A</b>	1.07	0.83	0.00	2.68	0.33	1.68	0.18	1.20
<b>ZONE 5A</b>	0.95	1.82	0.00	2.15	0.00	2.15	0.61	1.07

**TABLE 9: UNDERGROUND WATER DEPENDENT WETLANDS OF HIGH OR VERY HIGH CONSERVATION VALUE IN THE LOWER LIMESTONE COAST PRESCRIBED WELLS AREA (AT NOVEMBER 2012)#**

<b>UNDERGROUND WATER DEPENDENT ECOSYSTEM</b>	<b>WETLAND COUNT*</b>
Hog Lake and Butchers Gap Complex	12
Hacket Hill Complex	26
Green Swamp Complex	1
Kalandra Swamp Complex	6
Hanson Scrub	1
Grants Swamp	2
Fairview Wetland Complex	4
Dirty Joes	1
Deep Swamp Complex	13
Deadmans Swamp Complex	1
Cockatoo Lake & Clay Lake	13
Broadlands	1
Borderlands	1
Bool Lagoon Wetland Complex	8
Blackfellows Cave Wetland	2
Big Heath Complex	21
Del Fabbros Swamp Complex	3
West Avenue Complex	34
Toops Gap	1
Telford Scrub	3
Sheepwash Swamp	1
Robe to Beachport Coastal Lakes Complex	22
Reedy Creek	1
Naracoorte Range Wetland	1
Mosquito and Yelloch Creeks	2
Nangwarry & Horshoe Paddock	3
Moyhall Swamp	1
Mount Scott	2
Lake Frome & Mullins Swamp Complex	10
Marcollat Watercourse	15
Kangaroo Flat Complex	1
LSE Rising Springs Central Complex	3
LSE Rising Spring West Complex	3
Lower Coorong Lakes	3
Lochaber Swamp	1
Lake Ormerod	1
Yeulba Swamp Complex	2
Lake Hawdon Complex	14
Barnett Road & Rushy Swamp Complex	12
Lake Bonney & Bucks Lake Complex	12
Keilira Swamp	2
McInnes Wetland	1
<b>Total</b>	<b>267</b>

#: sourced from South Australian Wetland Inventory Database for the South East

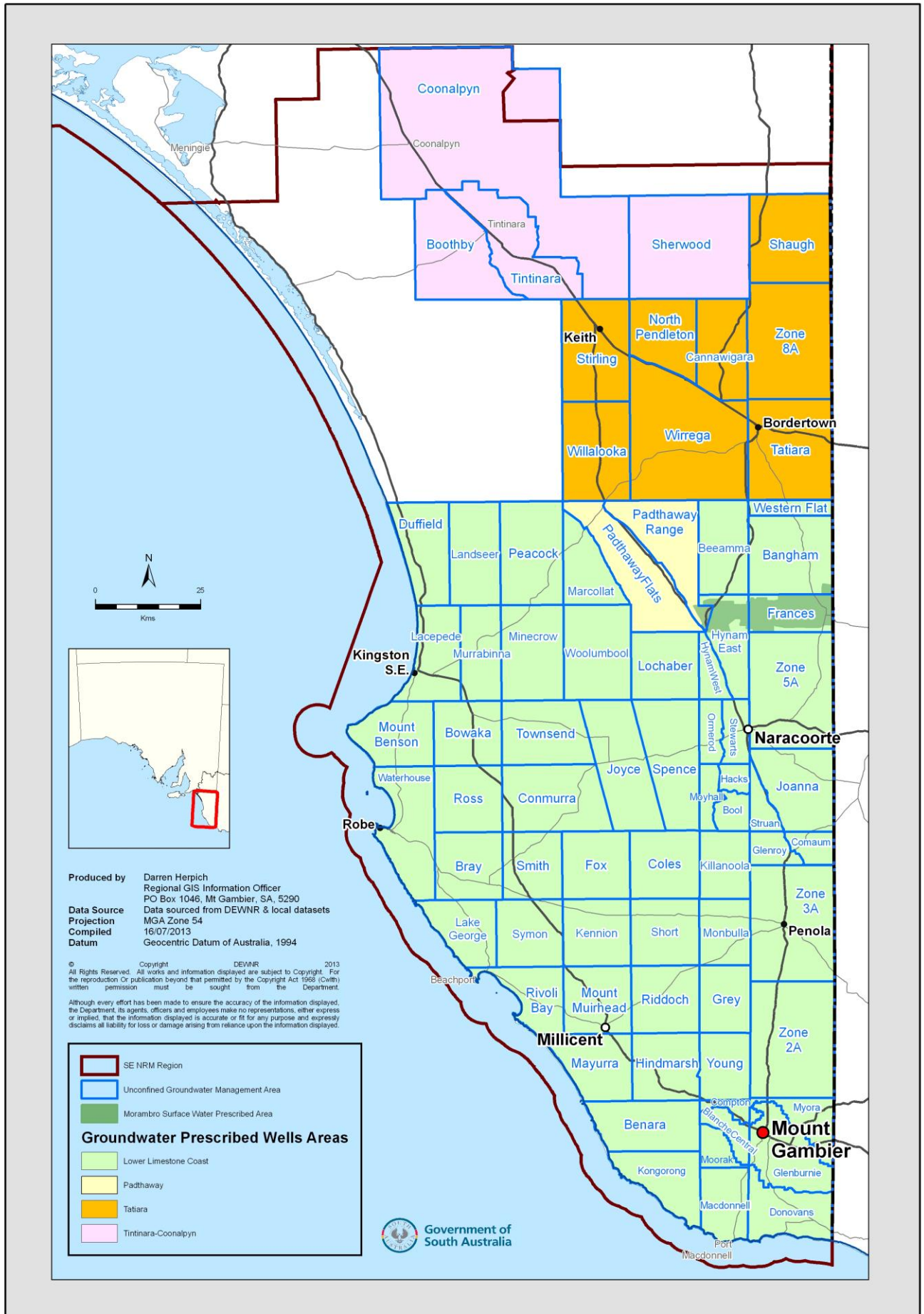
\* : Wetland count indicates the number of separate wetlands located within the complex as mapped in Figure 14 (*Appendix of Figures and Tables*). Some wetlands in this table form part of the same complex as the 13 priority wetlands.

**TABLE 10: SETBACK DISTANCES FOR FIRST ROTATION COMMERCIAL FORESTS FROM THE 13 PRIORITY KEY WETLAND COMPLEXES**

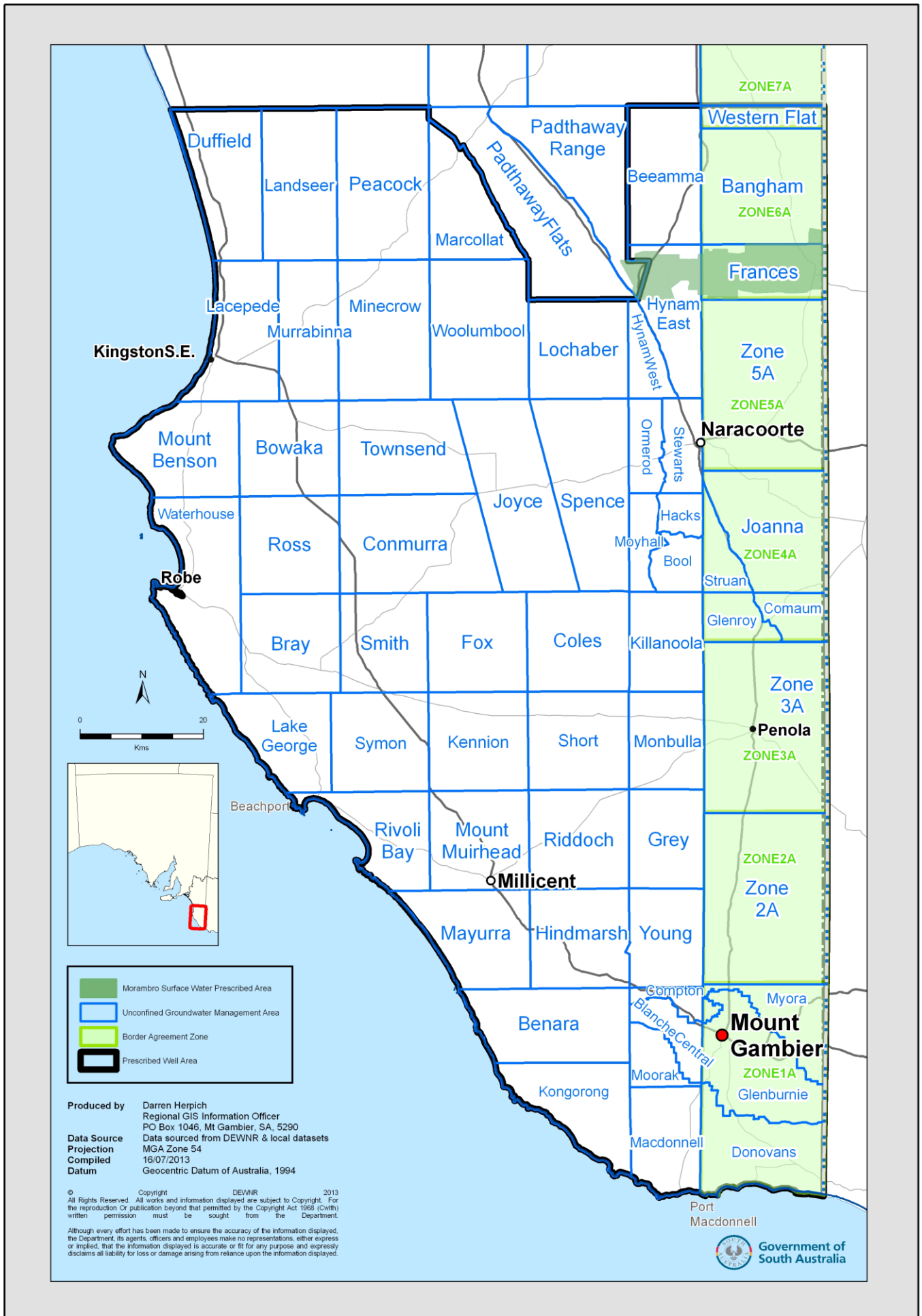
	Priority Wetland Complex	Management Area	Setback distance for newly established areas of commercial forests (metres)
1	Hog Lake Complex	Mount Benson	1,751
2	Robe to Beachport Coastal Lakes Complex	Waterhouse and Lake George	1,410
3	Lake Hawdon Complex	Bray, Waterhouse, Ross	1,410
4a	Mary Seymour Complex	Moyhall	2,330
4b	Bool Lagoon Wetland Complex	Bool	1,977
5	Deadmans Swamp Complex	Joanna	1,961
6	Green Swamp Complex	Monbulla	1,853
7	Topperwein and Trail Waterhole Complex	Zone 2A	1,640
8	Whennan Complex	Riddoch	1,098
9a	Overland Track Complex	Riddoch	1,098
9b	The Marshes Complex	Hindmarsh	1,684
10	Honan and Kangaroo Flat Complex	Young	1,439
11	Lower SE Rising Springs West Complex (Winterfield Creek, Middle Point Swamp)	MacDonnell, Kongorong	1,211
12	Lower SE Rising Springs Central Complex (Cress Creek Spring, Jerusalem Creek Spring, The Woolwash, Ewens Ponds Complex, Stratman Pond)	Donovans	1,169
13	Lower SE Rising Springs East Complex (Piccaninnie Ponds, Green Point, Pic Swamp)	Donovans	1,169



**Figure 1. Prescribed Wells Areas – South East Natural Resources Management Region**



**Figure 2. Unconfined aquifer management areas and Designated Area**



**Figure 3. Confined aquifer management areas and Designated Area**

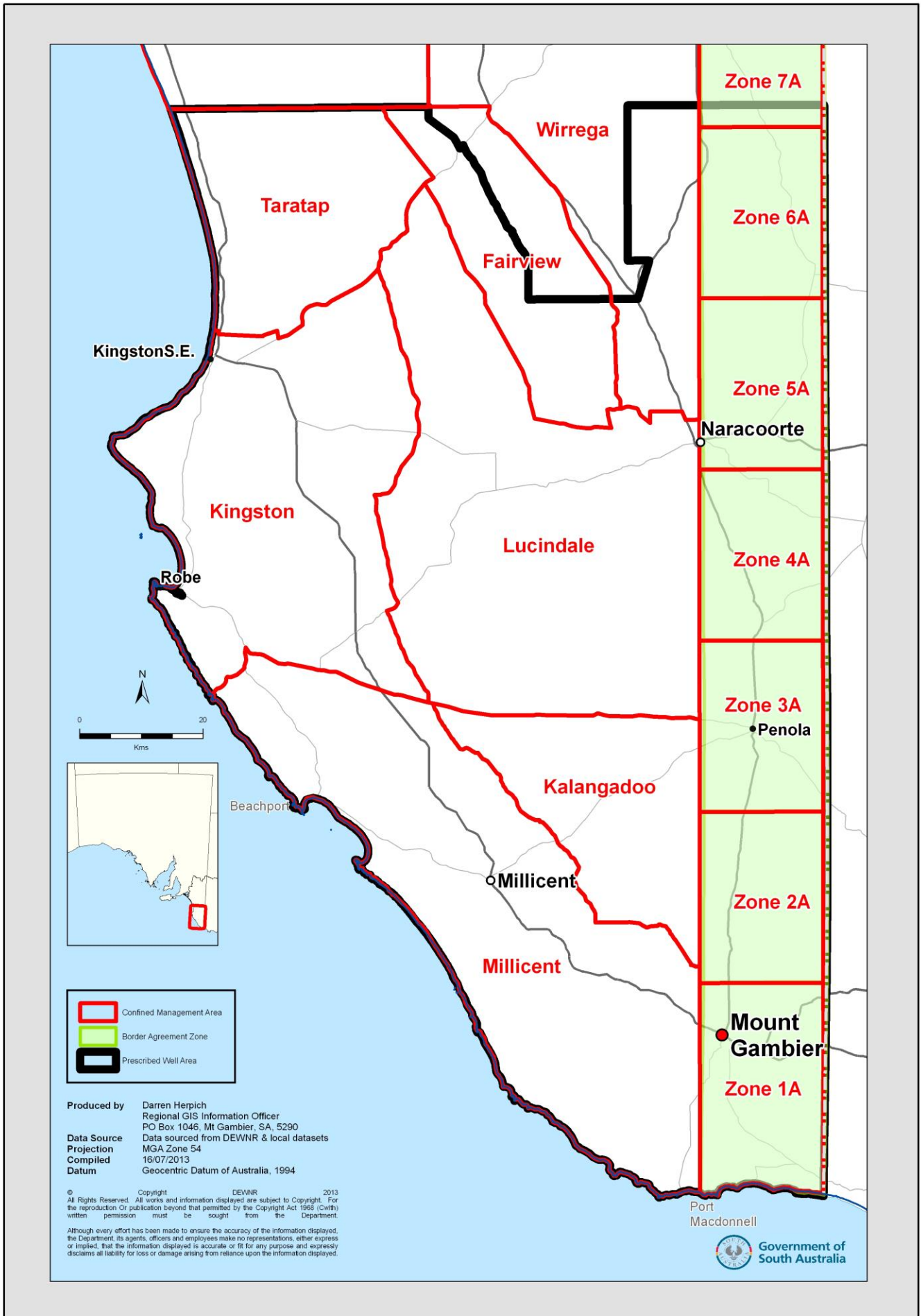
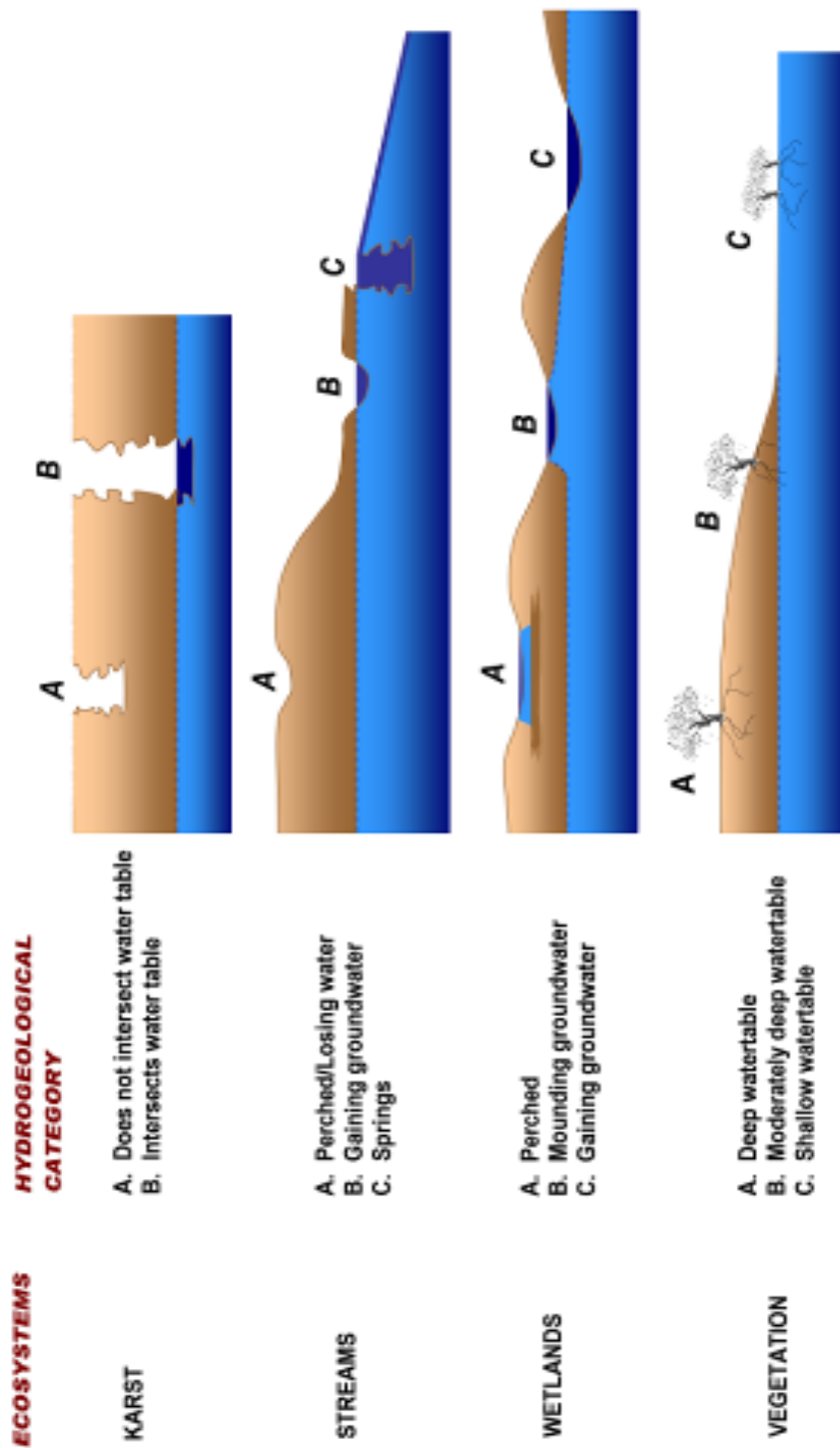
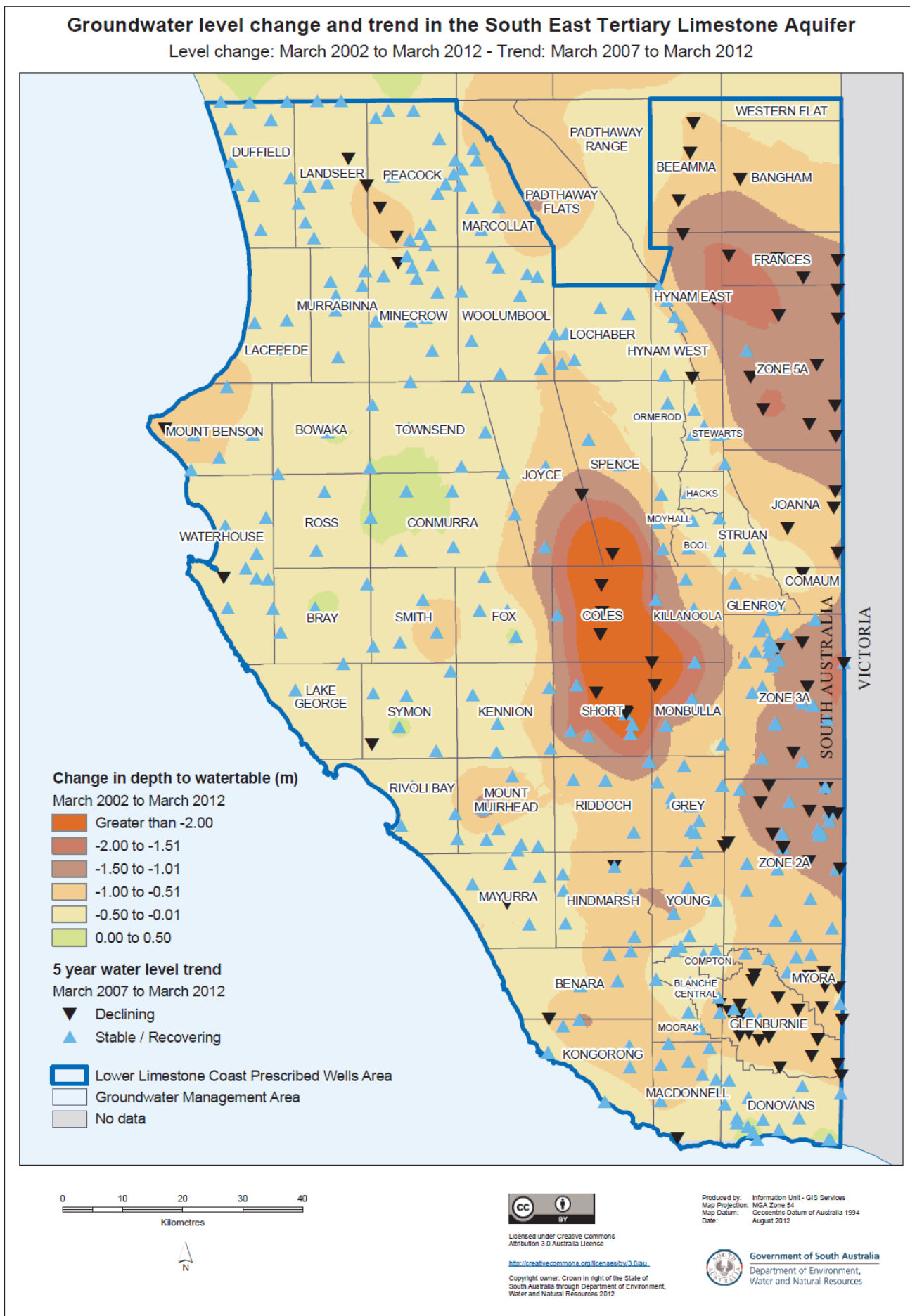


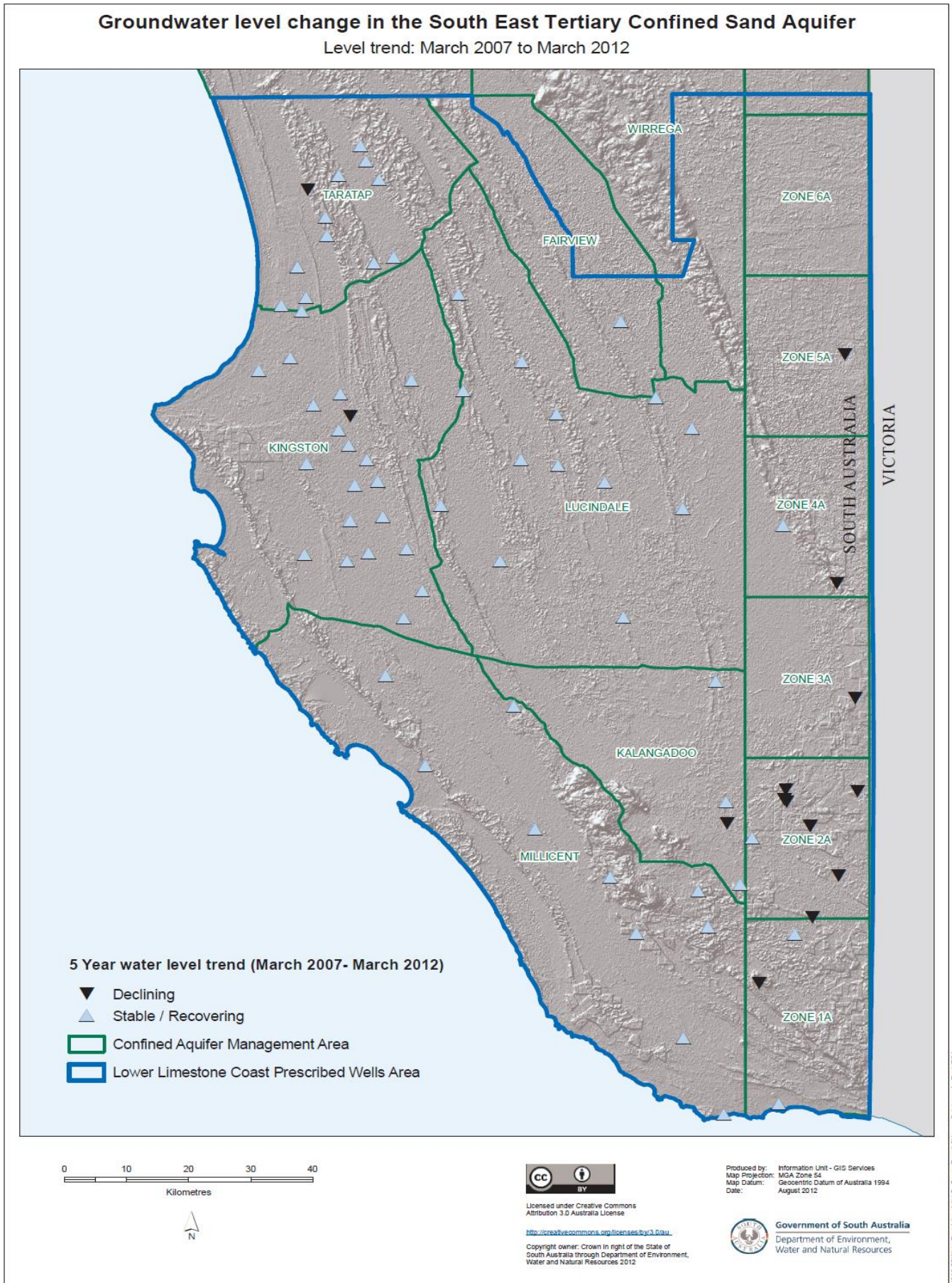
Figure 4. Types and categories of underground water dependent ecosystems (URS 2000)



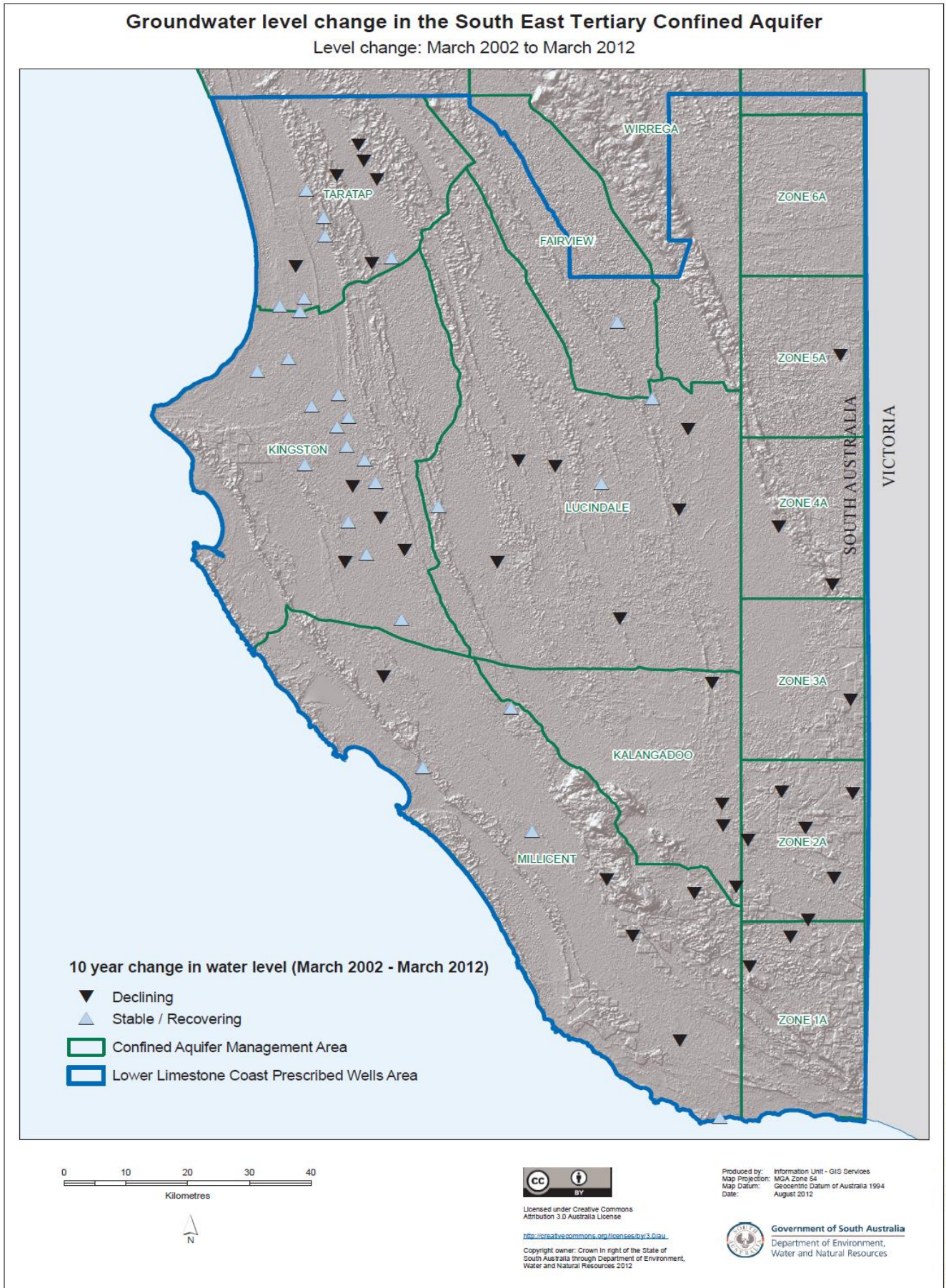
**Figure 5. Groundwater level change and trend in the South East Tertiary Limestone Aquifer**



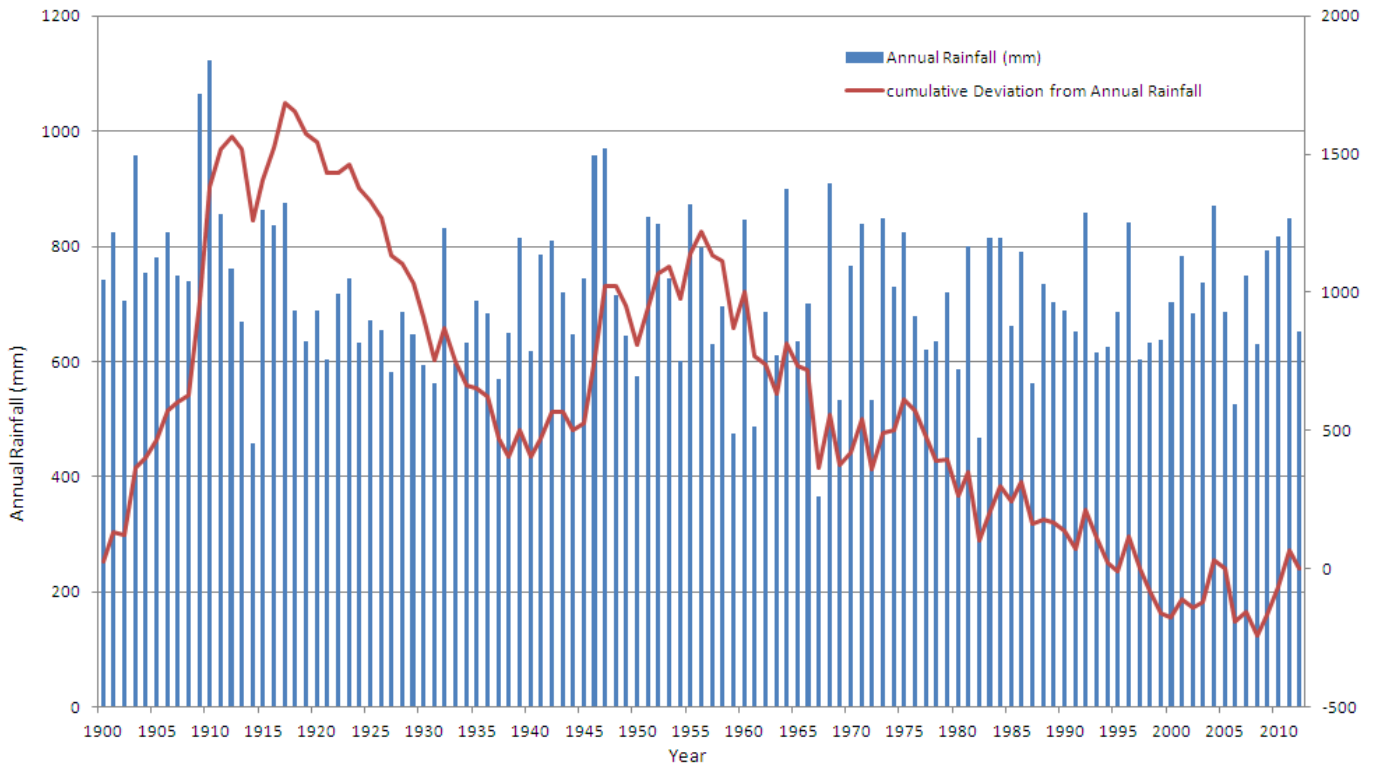
**Figure 6. Five year groundwater level change in the South East Tertiary Confined Sand Aquifer**



**Figure 7. Ten year groundwater level change in the South East Tertiary Confined Sand Aquifer**



**Figure 8. Monthly rainfall and cumulative deviation from mean annual rainfall**

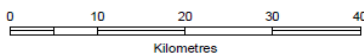
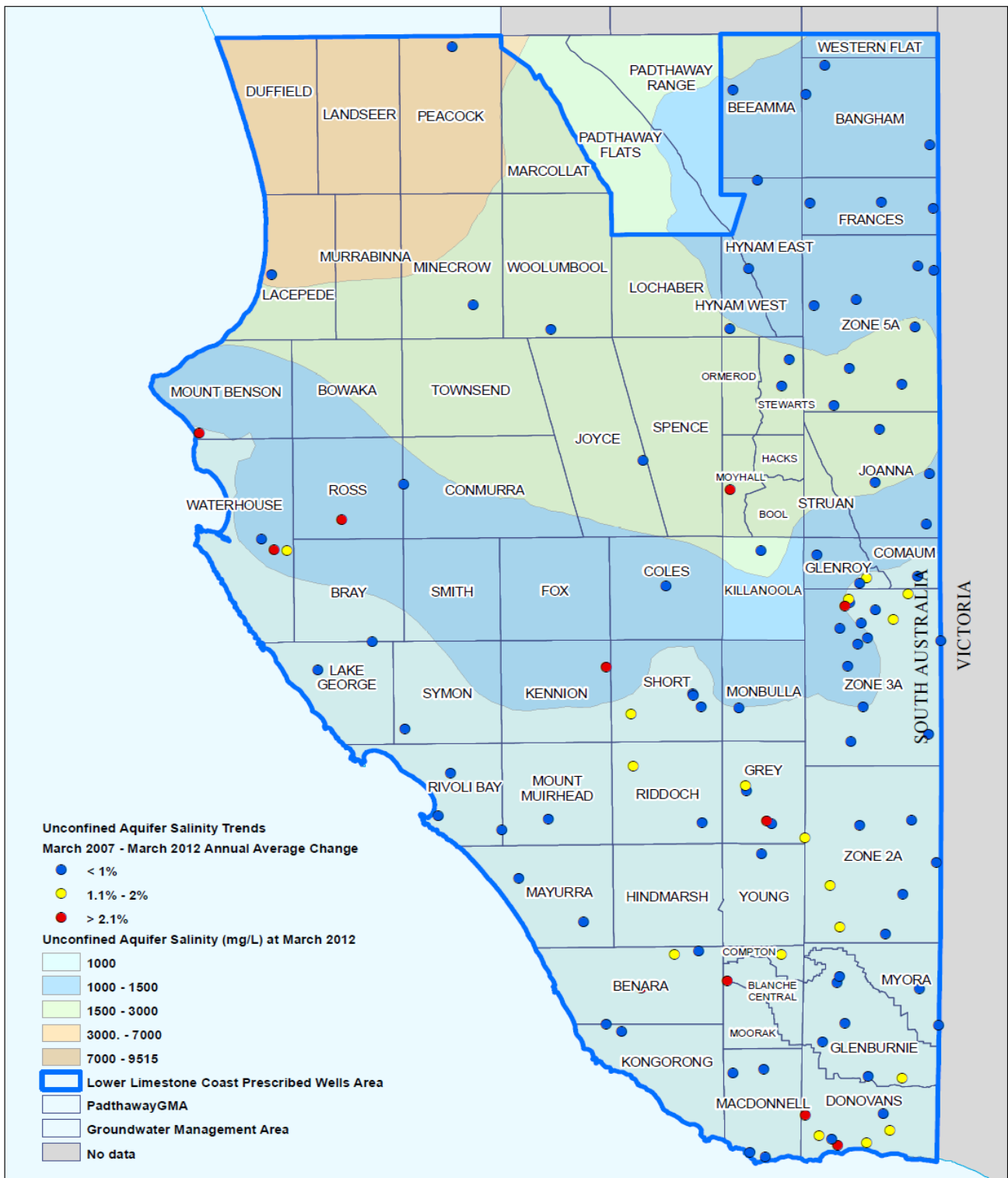


Note to Figure 8: 1900 to 1942 records from Station 026020 (Mt Gambier Post Office) and 1942 to 2012 records from station 026021 (Mt Gambier Airport).



**Figure 9. Trends in unconfined aquifer underground water salinity**

**Groundwater salinity distribution and trends in the South East: Tertiary Limestone Aquifer**  
 Five year salinity trends: March 2007 – March 2012



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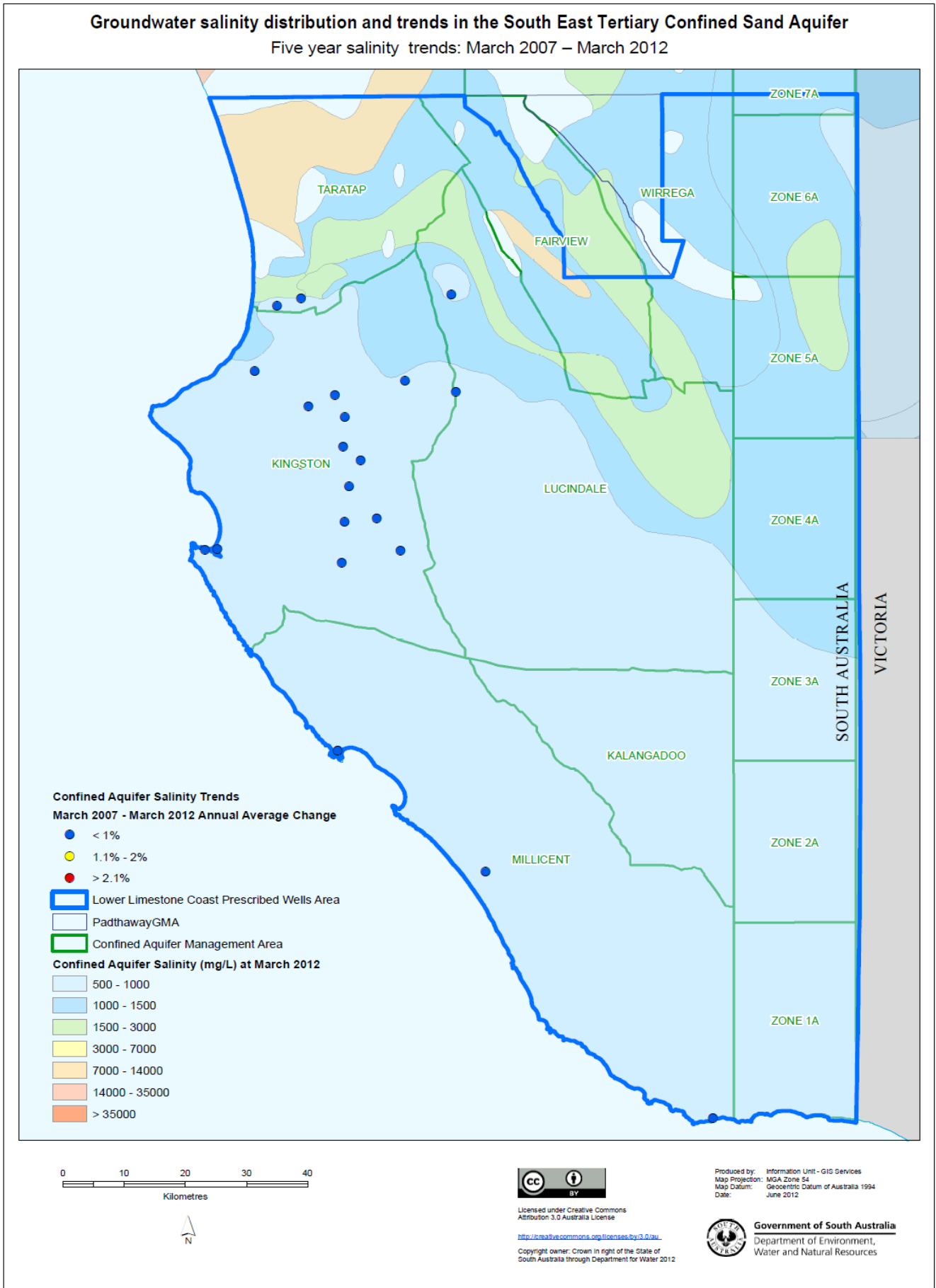
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Produced by: Information Unit - GIS Services  
 Map Projection: MGA Zone 54  
 Map Datum: Geocentric Datum of Australia 1994  
 Date: June 2012

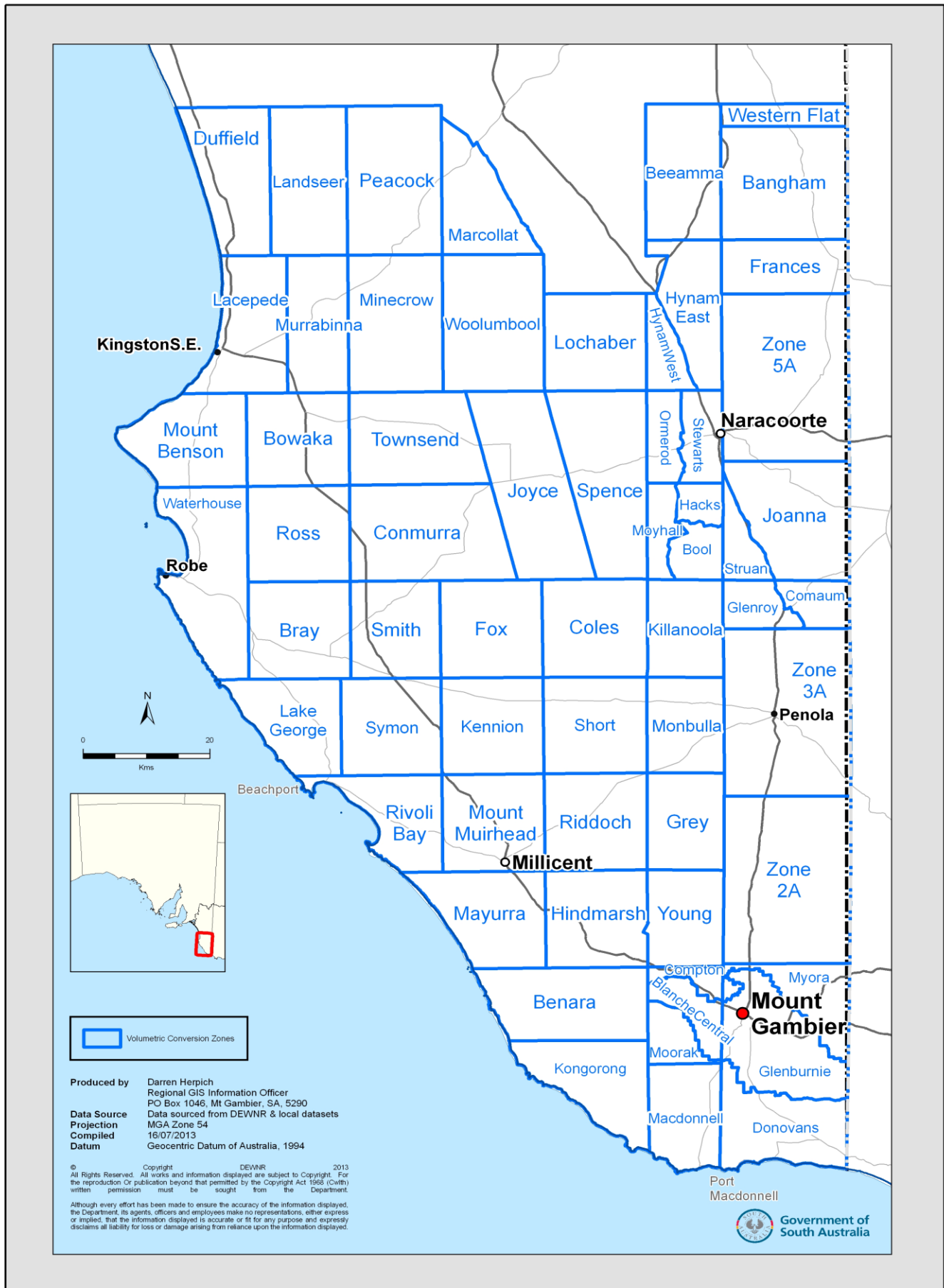


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**Figure 10. Trends in confined aquifer underground water salinity**



**Figure 11. Volumetric conversion zones**



**Figure 12. Depth to unconfined aquifer water table**

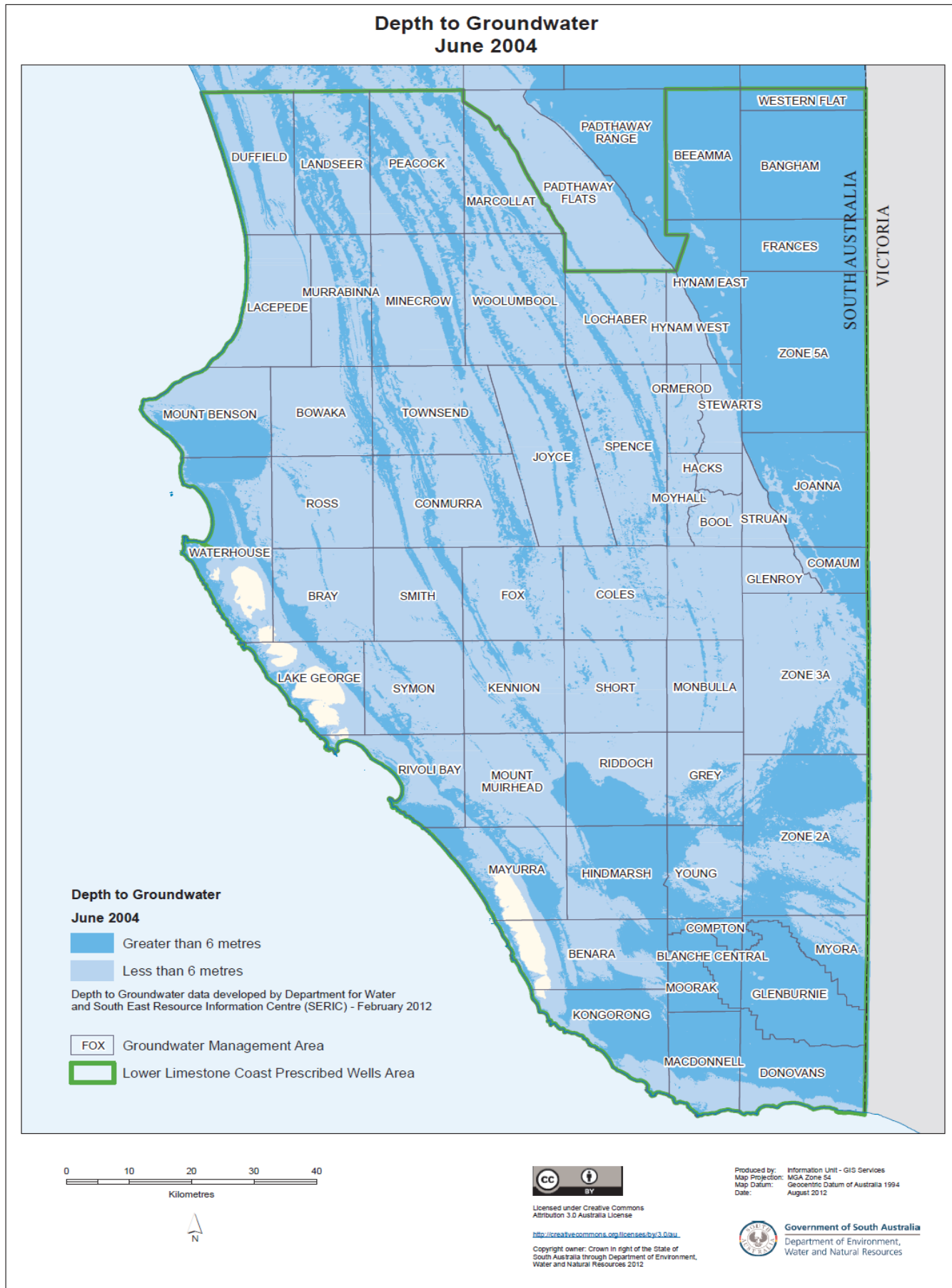
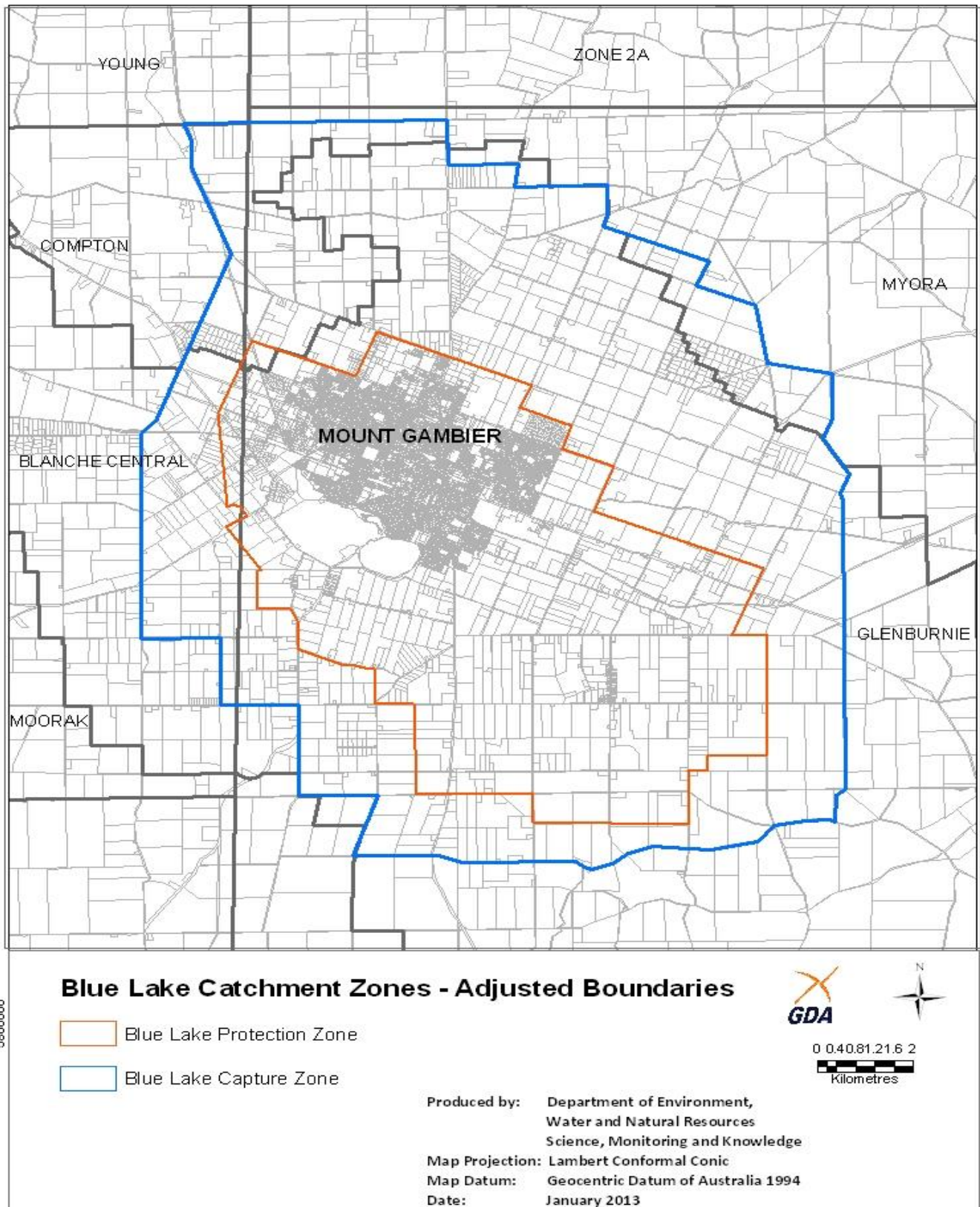


Figure 13. Blue Lake Capture and Buffer Zone



**Figure 14. Underground water-dependent ecosystems of high ecological importance (including the 13 priority key wetland complexes)**

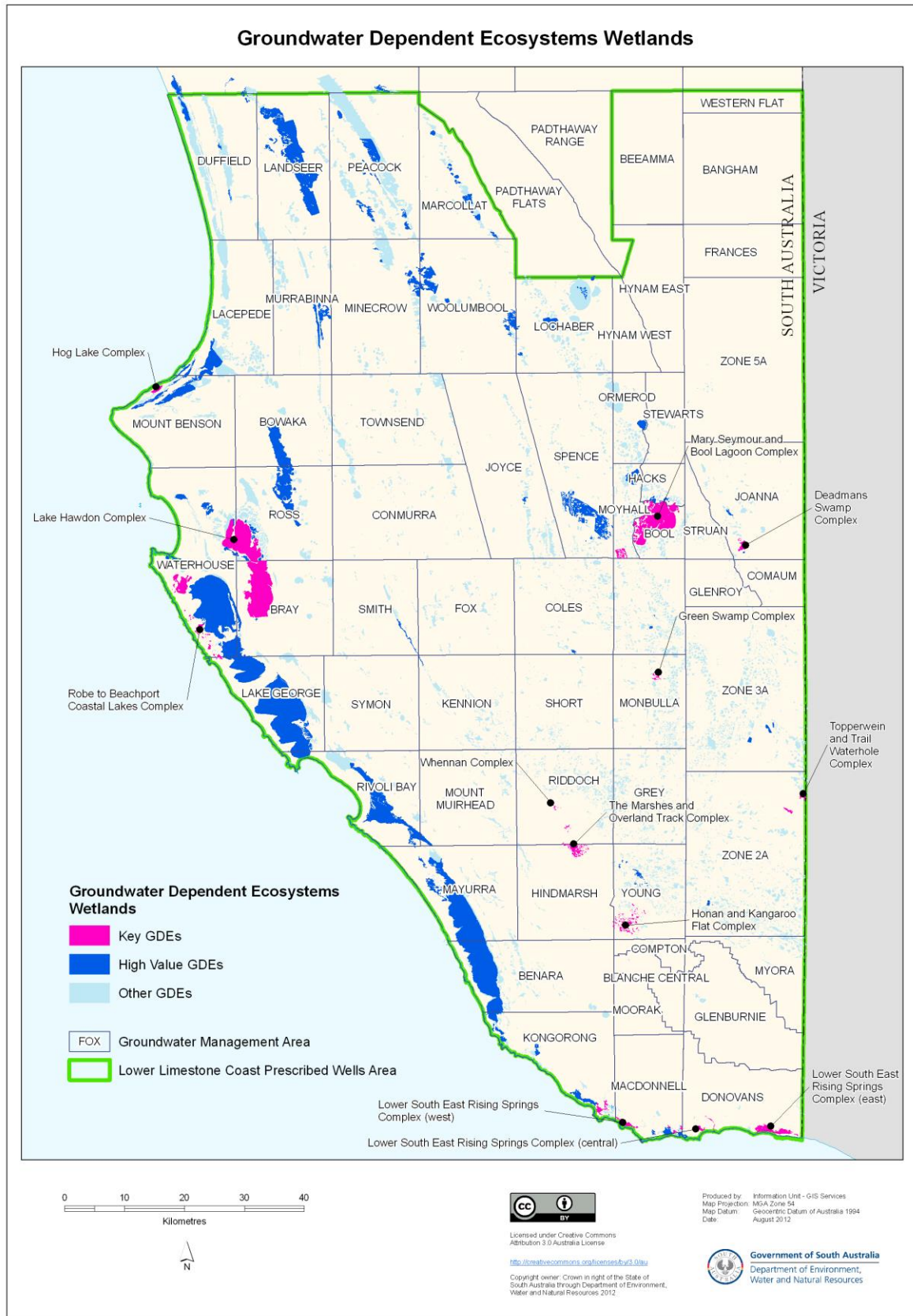


Figure 15. Unconfined aquifer saturated thickness

