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DISCLAIMER	
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For the entire Commonwealth this gives a coast-line of 12,210 miles, and an average of 244 square miles for one mile of coast-line. According to Strelbitski, Europe has only 75 square miles of area to each mile of coast-line, and, according to recent figures, England and Wales have only one-third of this, viz., 25 square miles.

- (ii.) Historical Significance of Coastal Names. It is interesting to trace the voyages of some of the early navigators by the names bestowed by them on various coastal features—thus Dutch names are found on various points of the Western Australian coast, in Nuyts' Archipelago, in the Northern Territory, and in the Gulf of Carpentaria; Captain Cook can be followed along the coasts of New South Wales and Queensland; Flinders' track is easily recognised from Sydney southwards, as far as Cape Catastrophe, by the numerous Lincolnshire names bestowed by him; and the French navigators of the end of the eighteenth and the beginning of the numeteenth century have left their names all along the Western Australian, South Australian, and Tasmanian coasts.
- 5. Geographical Features of Australia.—As indicated in the preceding issues of this Year Book, it is intended each year to give fairly complete information concerning some special geographical element. Thus No. 1 Year Book, pp. 60-68, contains an enumeration of Coastal features, No. 2, pp. 66-77, deals with Hydrology, and No. 3, pp. 59-72, with Orography. In the present issue the Lakes of Australia constitute the special feature treated. An orographical or vertical relief map of Australia will be found on page 95.

2. Lakes of the Commonwealth.

- 1. General.—The following section contains the latest available official information concerning the lakes of each State. It will, of course, be understood that both the area and depth of the mainland lakes are subject to considerable variation according to the season.
- 2. New South Wales.—(i.) Introductory. The accompanying information regarding the lakes of New South Wales has been compiled from particulars supplied by the Lands Department of that State. The name, position, area, etc., of each of the lakes will be found in the tabular statement on pp. 62 et seq.

Where the space in columns has not been filled in, the information is not obtainable. The letters in the column headed "Geological character" refer to classification adopted in (iv.) following. An explanation of the numbers and signs attached to the names of the lakes in the table will be found in the accompanying notes.

(ii.) Flora of the Lakes of New South Wales. As a botanical survey of the Lakes of New South Wales has never been undertaken information relating to their characteristic flora is necessarily incomplete.

With regard to the coastal or estuarine lakes containing either salt or brackish water, the low-lying margins are commonly the habitat of a "Swamp Oak," Casuarina glauca, the trees often extending for a short distance into the water.

Lake George—In 1898 the water was high in the shallow lake, but rapidly receding, and wherever the water receded a dense green carpet appeared of a creeping Chenopodium, determined by Professor Murr as Chenopodium glaucum L. var. ambiguum, a small saltbush, and considered valuable as a fodder for sheep.

Lake Oxley lies at the foot of Mount Oxley, and is filled only perhaps once in 10 years. In 1883 it was a smooth plain of white clay, with the sharply defined shore of a lake. A special feature of this plain was the "Cane-grass," Glyceria ramigera, F.v.M.,

a bamboo-like grass often 10 feet high, which studded the plain. The "Lignum Scrub," Muehlenbeckia cunninghami, (F.v.M.), grows in many of these clay-pans, but is absent at Lake Oxley.

The Tuggerah Lakes, consisting of three lakes known as the Entrance, Middle, and Upper lakes, are brackish and slightly affected by the ocean tides. They are very shallow and are much overgrown with Ruppia or Zostera. The principal shore plants are:—

Banksia integrifolia, B. serrata, Eupomatia laurina, Alsophia cooperi, Scolopia brownii, Euroschinus falcatus, Casuarina glauca, Duboisia myoporoides, Cryptocarya glaucescens, Rhodomyrtus psidioides, Endiandra sieberi, Monotoca elliptica, Wilkia macrophylla, Trochocarpa laurina, Phyllanthus ferdinandi, Alphitonia excelsa, Cryptocarya australis, Rhus rhodanthema, Panax elegans, Diploglottis cunninghami, Livistona australis, Festuca littoralis, Spinifex hirsuta, Zoysia pungens, Mesembryanthemum æquilaterale, Convolvulus erubescens, Senecio australis.

Lake Cargelligo is a large area of impounded water, which, after a copious rainfall, possesses considerable depth, and floods over large areas of low land at its entrance. In times of drought it becomes very shallow, and dries up sufficiently to allow sedges and annual grasses to grow, when it becomes a favourite spot for cattle to graze over while other places are destitute of fodder. The following plants are characteristic of the vegetation in and around the lake:—

- Vallisneria spiralis grows profusely when the water is present, and attracts numbers of wild ducks and swans: when the water recedes cattle feed upon this vegetation to advantage.
- Potamogeton obtusifolius, Damasonium australe, Philydrum lanuginosum, Lemna trisulca. These are the principal water plants.
- The plants on the extreme edge of the lake are:—Heliotropium curassavicum, Atriplex semibaccata, Cyperus vaginatus, C. eragrostic, Lepturus cylindricus.
- On the drier ground such plants as Eucalyptus bicolor and E. rostrata are the predominant trees; E. melliodora, E. melanophloia, E. hemiphloia var. albens, and E. conica are fairly plentiful.
- Principal wattles—Acacia pendula, A. salicina, A. decurrens, A. harpophylla, and A. juniperina.
- Fodder plants, etc.—Mesembryanthemum australe, Zygophyllum fruticulosum, Clianthus dampieri, Swainsona galegifolia, Glyceria ramigera, Danthonia penicellata, Themeda forskalli, &c.
- Introduced plants (weeds)—Lantana camara, Rosa rubiginosa, Ricinus communis, Datura stramonium, D. tatula, Solanum sodomœum.
- Hordeum murinum is the principal grass for fodder purposes.
- (iii.) Fauna of the Lakes of New South Wales. The Lakes of the State may be grouped zoologically into
 - (a) The Coast Lagoons such as Lake Illawarra,
 - (b) The Lakes of the Western Plains of which Lake Menindie is an example, and
 - (c) The Lakes of the Kosciusko Highlands, of which the Blue Lake is₃the most famous.

Lake George and Lake Bathurst are anomalous lakes which run dry at intervals, and cannot therefore contain a permanent fauna.

The coast lakes which regularly or temporarily communicate with the sea, have the usual estuarine fauna, not to be distinguished from that of the mouths of the Clarence, Hunter, and Hawkesbury Rivers. All are more or less brackish and shallow. Their mud or sandy floors are carpeted with such vegetation as Poseidonia and Zostera. A large proportion of the fish supply of the State comes from the lakes. Large quantities of mullet (Mugilidæ), whiting (Sillaginidæ), bream (Chrysophrys australis), blackfish

(Girella tricuspidata), flathead (Platycephalidæ), and flatfish (Pleuronectidæ), are caught annually and forwarded to the Sydney markets. The Crustacea are represented by the prawn (Metapenaeus macleayi), the swimming crab (Portunus pelagicus), the mangrove crab (Scylla servata), and the mud crabs (Hellocius cordiformis, Sesarma crythrodactyla, and Chasmagnathus lævis

Characteristic molluscs are the cockle (Arca trapezia), the oyster (Ostrea mordax), the whelk (Pyrazus perculeus), with species of Tapes, Taparium, Tellina, and Salinator The fauna of the western lakes and billabongs still awaits a thorough examination. In favorable seasons they are thronged with numerous animals, which in dry weather either die, seek refuge in the mud, or remain in a state of suspended animation. Among the higher forms of life may be noted the fresh water catfishes (Copidoglanis tandanus, and C. obscurus), golden perch (Plectroplites ambiguus), macquarie perch (Macquaria australasica), and the murray cod (Oligorus macquariensis). The baybream (Dorosoma erebi) occurs in plenty in the lagoons.

Several kinds of frogs (Limnodynastes dorsalis, Chiroleptes platycephalus and Notaden bennetti) chorus in rainy weather. The Crustacea are represented by forms of Apus, Estheria, Limnadopsis, Astacopsis, and perhaps Potamon. Pond snails and mussels (Melania, Vivipara, Isadora and Unio) are common mollusca.

Far more peculiar and of greater scientific interest are the Kosciusko Lakes, viz., the Blue Lake, Lake Albina, Lake Cootapatamba, the Club Lake and Hedley Tarn. These are situated at an elevation of over 6000 feet and are all enclosed by moraine dams left by vanished glaciers. Their fauna is related in the first instance to that of Tasmania, and in a wider sense to that of New Zealand, South America, and Antarctica: as a rule the species are restricted to the Australian Alps. This fauna has not yet been exhaustively investigated, but various expeditions from the Australian Museum have partly explored it. The fish that swims the highest in Australia is Galaxias findlayi: a rare and remarkable crustacean is Phreatoicus australis. Annelids (worms) discovered in the Blue Lake are Tubifex davidi, Branchiura pleuretheca, and Phreodrilaides notabilis.

(iv.) Geological Character and Probable Origin of the Lakes of New South Wales. From the lists it will be seen that there are a great number of so-called lakes in the Southern and New England Tablelands with regard to which no information is available. Probably many of these occupy basins due to geological disturbance, but as it would be misleading to class them under that heading they are placed under the general heading of "Lakes occupying local depressions in areas of drainage" (c). The only lakes with regard to which any definite information as to the geological cause is available, are Guyra Lagoon (Crater Lake), Lake George (a lake occupying a faulted area), and Lake Bathurst.

The classification adopted is admittedly unsatisfactory, but it appears to be the best under the circumstances:—

- (A) Coastal Lakes or Lagoons, caused by the formation of bars and banks of river silt and the joint action of tides and prevailing winds.
- (B) Shallow Lakes found along the courses of rivers, more especially the Murray and Darling Systems, and formed by the building up of flood barriers and plains.
- (c) Lakes of the Western and Central areas formed by the filling of local depressions. In flood there is direct connection between (b) and (c) of the Paroo River System and Ana-branches.
- (D) Lakes of the Kosciusko Highlands, due to the formation of barriers of moraine material.
- (E) Special Lakes due to distinct geological causes:—Lake George, Lake Bathurst, and Guyra Lagoon.

LAKES OF NEW SOUTH WALES.

Name of Lake.	Position.	x. Area.	Greatest	Length.	Greatest		Maximum Depth.	Average Depth.	Geological Character.
1100012000	1034101.	Approx.	Miles.	Chains.	Miles.	Chains.		١	Geol
Agnes (1) Albert Albina (2) Altiboulka (3) b Annphitheatre (4) b Arable (5) Avon (6) Baleka (7) Bally Castle or Tay-	Wakool. 6 miles S. of Moulamein (f) Wynyard, 4 miles S. of Wagga (f) Selwyn. 1½ miles N. of Mount Kosciusko (f) Yantara, 27 miles N. E. of Yantara Lake (f) Livingstone, 22 miles E. of Menindee (f) Beresford, 9 miles S. W. of Cooma (f) Wellesley, 14 miles S. W of Nimmitabel (f) Tandora, 18 miles N. E. of Menindee (f)	Acres. e 240 36 1,000 1,920 45 360 640	- 1 2 2 - 1	48 -50 37 93 40	_ _ _ 1 _ _ 1	32 45 10 60 40 16 75	ft 6 10 10 6 - 10	ft a 6 5 h - g	C C C B* B*
lors (8) Bancanya (9) Baragoot (10) Barnato (11) Barney (7) d Barney (12) d	Barrona, 20 miles S.W. of Goombalie (s) Mootwingee, 30 mls. S.W. of Koonenberry (f) Dampier, 2† miles S. of Bermaguee (s) Booroondarra, 50 miles W. of Cobar (f) Rankin, 49 miles N.E. of Wileannia (f) Manara, 23½ miles S.W. of Ivanhoe (f)	1,000 10,240 100 320 Dry Dry	2 8 - - -	80 60 —	3 - - -	60 30 40 —	20 6 —	2 9 3 -	C C A C C C
Bathurst or Bundong (6) Beard's or Black (6) Big Sand Hill (13) Bijiji (7) Bingery (Goodbo) Bintullia (14) Birroul (10) Black (6) Blue (15) Boolation (16) Boocathan (16) Boolaboolka (17) b Boolaboolka (17) b Boolaboolka (17) b Boolaboora (7) Boundary (15) Brennan (17) b Brickkiln (17) b Brisbane Water (19) Brommeys (17) Bukley (6) Bulleaamang (5) Bullea Bulleabong (21) Bulleabong (23) Bunda (23) Bunda (23) Bungarry (24) [Duck-	Argyle, 1 mile E. of Tarago (b) Wellesley, 16 miles S.W. of Nimmitabel (f) Wakool, 19 miles N.E. of Balranald (f) Tandora, 14 miles N.E. of Menindee (f) Windeyer, 444 miles W. of Pooncaira Menindee, 264 miles S.W. of Menindee (f) Dampier. 55 miles N. of Moorooma (s) Wellesley, 2 miles N. of Moorooma (s) Wellesley, 2 miles N.E. of Mt. Kosciusko (f Tara, 51 miles W. of Pooncaira Auckland, 3 miles S. of Tathra (s) Caira, 7 miles N.W. of Oxley (f) Livingstone, 445 miles S.E. of Menindee (f) Gloucester, adjoins the Broadwater on N. (s) Killara, 54 miles S.W. of Louth (f) Wallace, 3 miles S. of Dalgety (f) Livingstone, 55 miles E. of Menindee (f) Northumberl nd, adjoins Broken Bay on N. (s) Livingstone, 55 miles E. of Menindee (f) Northumberland, 44 miles N.E. of Dalgety (f) Wallace, 65 miles N.E. of Dalgety (f) Northumberland, 44 miles N.E. of Gosford (b) Beresford, 34 miles S.W. of Bredbo (f) Evelyn, 28 miles S. W. of Bredbo (f) Evelyn, 28 miles S. W. of Borigal (f) Wallace, 8 miles N.W. of Berridale (f) Wallace, 8 miles N.W. of Berridale (f) Wallace, 87 miles S.W. of Booligal (f) Wallace, 87 miles S.W. of Booligal (f) Wallace, 87 miles S.W. of Booligal (f) Voung, 442 miles W. of Wilcannia (b)	Dry 3 960 320	3 1 1 3 - 1 - - 2 9 7 - - 2 2 6 3 3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	35 35 	2 1 1 1 2 1 3 2 1 1	35 57 64 — 8 40 20 — 23 — 40 40 40 40 17 — 20 — 20 — 20 — 23 — 40 — 40 — 40 — 40 — 40 — 40 — 40 — 50 — 60 — 70 —	10 -6 10 	4 - a i g g 16 g h	EB*CBBBA*BDB*CCCACC*CCACC*
shott] Bunumburt (25) Burkanoko (26) Burns (27) [3 lakes] Burra Burra (5) Burrill Cargelligo (28) Catroll's (5) Cathie (29) Cawdilla (30) Chesney (11) Club (15)	Waljeers, 14 miles N.E. of Oxley (f) Caira, 9\frac{1}{2} miles W. of Oxley (f)	160 100 160 40 25 15 290 1,120 2,500 20 635 23,040 160		60 40 38 27 40 40 19 60 40		40 30 10 17 10 7 78 60 56 14 — 40	12 8 12 7 15 - 12 4	9 39 92	C C C B* A B B* A C C D
Cobaki Broadwater (31) Cobham (32) Cockrone (19) Cochens (10) Coila (10) Collins	Rous, 3 miles N.W. from Chinderah (s) Yantara and Evelyn, 30 miles S.E. of Milparinka (f) Northumberland, 5 miles E. of Gosford (b) Auckland, 1½ miles W. of Tathra (s) Dampier, 6¾ miles S. of Moruya (s) Menindee and Windeyer, 29 miles S.W. of	1,280 120 96 1,850	1 2 1 -3	40 40 66 5	_ _ _ 1	50 40 20 58 25	3 12 - -		C A A
Comayjong (33)	Menindee	200 e 1,600 84 800 2,560 500	- 2 3 - 1 5 2	60 16 60 46 40	1 2 1 1	40 16 60 35 -	10 7 - 8 12	- - 3 - a g 6	C C A E B C

LAKES OF NEW SOUTH WALES .- (Continued).

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Name of Lake.	Position.	x. Area.	Greatest	Lengin.	Greatest	Breadth.	Maximum Depth.	Average Depth.	Geological Character.
Name of Dake.	103400.	Approx.	Miles.	Chains.	Miles.	Chains.			Cha
Coopers (5) Coorpooka (38) d Coorpooka (38) d Corralo (10) Corralo (12) Cullavie (13) Cullavie (14) Cullivie (14) Cullivie (14) Deadmans (45) Deadmans (45) Deadmans (45) Deadmans (47) Deadmans (17) Dennys (17) Dolick (47) (47) (48) (49) (50) (51) (51) Dudal Comer (53) Dudal Comer (53) Dudal Comer (53) Durras Water (10) Eckerboon (23) Emu (7) Eucalyptus (50) Eucalyptus (50) Euchobilli	Wellesley, 7½ miles W. of Nimmitabel (f) Killara, 36 miles N.E. of White Cliffs (f) Wallace, 7½ miles N.E. of Nimmitabel (f) Auckland, ½ mile N. of Eden (s) Young, 44 miles W. of Wilcannia (f) Dampier, 3 miles S. of Noorooma (s) Gipps, 6½ miles N.E. of Marsden (f) Rous, 8 miles E. from Murwillumbah (s) St. Vincent, 11 miles S. W. of Huskisson (s) Delalah, 59 miles N.E. of Wilcannia (f) Urana, 12 miles N.E. of Wilcannia (f) Dampier, 4 miles N.E. of Wilcannia (f) Dampier, 4 miles S. of Bermaguee (s) Livingstone, 36 miles N.E. Menindee (f) Livingstone, 36 miles N.E. of Menindee (f) Livingstone, 36 miles N.E. of Menindee (f) Livingstone, 54 miles E. of Menindee (f) Barrona, 14 miles N. of Goombalie (f) Barrona, 14 miles N. of Pooncaira (f) Livingstone, 49 miles S. of Ivanhoe (f) Waljeers, 24½ miles S. of Ivanhoe (f) Waljeers, 24½ miles S. N. of Wollamein (f) Waljeers, 24½ miles S.W. of Booligal (f) Waljeers, 24½ miles S.W. of Henty (f) Wellesleys. 13 miles S.W. of Nimmitabel (f) St. Vincent. 6½ miles N.E. of Bateman (s) Tandora, 46 miles W. of Wilcannia (b) Wenindee, 5 miles S.W. of Menindee (f) Welnindee, 5 miles S.W. of Menindee (f) Wallace, 4 miles S.W. of Menindee (f) Wallace, 4 miles S.W. of Menindee (f) Welnindee, 5 miles S.W. of Menindee (f)	Acres. 70 Dry 350 189 640 480 15,000 320 1,200 Dry 3,240 80 1,000 2,560 3,200 600 80 1,920 Dry 640 2,100 1,280 1,280 1,280 1,280 1,280 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200 1,280 3,200		30 5 340 5 60 20 50 40 40 40 40 40 40 40 40 40 40 40 40 40		28 74 48 30 60 50 20 50 10 60 40 40 30 28 60 40 40 20 20 40 40 40 40 40 40 40 40 40 4	ft - 8 10 10 5 6 - 6 6 5 12 6 6 4 4 7 7 6 6 15 8 15 8	ft	BBBACAC AACBCACCBCBCBCCCCBCACBC**
Fort Grey Basin or Pinaroo (56) Ganaway (57) c Geer (58) George or Werriwa Gilman Golgol (60) Goonimur (61) Goonimur (62) Green (63) Green (63) Guises Guises Guises Guises Guises Guinagia Gunagia Gunyulka (66) d Harvey's (67) Haystack (50) b Hedley Tarn (68) Hiawatha Hogans (69) Hugundara (5) Illawarra (136) Illawarra (136) Illawarra (136) Innes or Burrawan	Poole, 52 miles N.W. of Tibooburra (b) Caira, 24 miles S.W. of Oxley (f) Wakool, 9 miles E. of Tooleybue (f) Wakool, 10 miles E of Tooleybue (f) Murray 3½ miles N. of Bungendore (b) Mitchell, 6½ miles S.W. of Kingston (f) Wentworth, 2 miles N. of Gol-Gol (f) Wakool, 9½ miles S.E. of Tooleybue (f) Pottinger, 20 miles S. of Gonnedah (f) Wellesley, 2 miles S.E. of Bibbenluke (f) Evelyn, 26 miles S.E. of Milparinka (f) Wallace, 10 miles W. of Dalgety (f) Livingstone, 51 miles N.E. of Menindee (f) Mossgiel, 24 miles N.W. of Gunbar (b) Mossgiel, 24 miles N.W. of Hillston (f) Werunda, 12 miles S.E. of Wilcannia (f) Wakool, 16½ miles S.E. of Wilcannia (f) Wakool, 16½ miles S.E. of Balranald (f) Livingstone, 45 miles N.E. of summit of Mount Kosciusko (f) Clarence, 20 miles S.E. of Grafton (f) Livingstone, 45 miles N.E. of Menindee (f) Wallace, 19 miles W. of Cooma (f) Camden, 4 miles N. of Cooma (f) Camden, 4 miles S. of Wellongong (s)	206 640 e 10,000 30 -3 1,600 e 320 Dry e 60 160 15 8,500	2 			60 40 72 6 20 24 16 4 40 40 40 40 40 40 11 30	12	6 - a a - 4 g a 1½	CCBBECCBCBCCCCCC DACBA.
(70) Island (55) Island (55) Jillimatong (6) Kangaroo (71) Kerkeri (72) Kiah (55) Killen (73) Killmacoola (39) Kopago (74) Lake, unnamed (salt) (75) Loriwa (76)	Macquarie, 2½ miles S. of Pt. Macquarie (f) Wallace, 12 miles W. of Cooma (f) Wallace, 20 miles S.W. of Nimmitabel (f) Wallace, 13½ miles W. of Dalgety (f) Menindee, 20 miles S.W. of Menindee (f) Wakool, 15 miles N.W. of Menindee (f) Wakool, 15 miles N.W. of Berridale (f) Delalah, 50 miles N.W. of Wanaaring (b) Beresford, 11 miles W. of Cooma (f) Young, 22½ miles N. of Wilcannia (f) Barrona, 38 miles W. of Goombalie (s) Barrona, 41 miles S.W. of Goombalie (s) Landsborough, 48 mls.S.W. of Goombalie (s) Wakool, 19½ miles S.E. of Balranald (f)	12 45 70 1,280 200 50 300 100 640	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	60 13 28 41 40 56 31 60 54 40 — — 64	3 2 1 1 1 1 1 1 1 1 1	10 25 30 32 20 50 25 — — 48	8 6 10 -	- - - 3 6 - - - a	A B B B C C B C B B C C C C C

LAKES OF NEW SOUTH WALES.—(Continued).

Name of Lake.	Position.	Approx. Area.	Greatest	Length.	Greatest	Breadth.	Maximum Depth.	Average Depth.	Geological Character.
			Miles.	Chains.	Miles.	Chains.			Geo
Lignam (22) Llangothlin Little (49) b Little Sand Hill (77)	Caira, 5 miles S.W. of Oxley (f) Clarke, 7 mls. E. of Ben Lomond Rly. Stn. (f) Windeyer, 40 miles N.W. of Pooncaira (f) Wakool, 20 miles S.E. of Balranald (f)	Acres. 120 980 640 e	- 1 -	60 20 40	- 1 1 -	20 50 32	ft 3 6 3 4	ft 1 3 k a	C B* B
Little Amphitheatre (4) b Little Llangothlin	Livingstone, 20 miles E. of Menindee (f)	160	-	40	-	40		-	c
(78) Little Mother of	Clarke, 8 mls. E. of Ben Lomond Rly. Stn.(f)	285	-	65		65	4	2	B*
Ducks Long (50) b , (49) b Loorica (79) Lyle (80) Macommon (81)	Sandon, 4 miles S. of Guyra (f)	80 1,120 320 e 150	2 1 1 -	50 40 20 40 48	11111	27 60 40 64 32	6 - 6 - 6	- - - a -	B* C B C C
Macquarie (19) Maffra (82) Malta (7) Manies (83) Marias (84)	Northumberland, 8½ miles S.W. from New- castle (s)	29,000 70 640 1.000 600	15 1 2 2	63 40 40	5 1 1	30 20 —	40 - 8 8 8	25 k 5 5	A B B B
May or Cootapatam- ba (2) Menindee (7)	Selwyn, † mile S.E. of Mount Kosciusko (f) Menindee & Tandora, 2 miles W. of Menin-	15	-	23	-	9	-	-	D
Mere (8) Merrimbula (10) Merrimageel (85) Mickwilly (87) d Mikkengay (49) b Mindona (49) b Mindona (49) b Mindona (49) b Monoratchie (85) Mooratchie (85) Moornanyah (90) c Mother of Ducks (91) Muckee (92) c Muddah (6) Muetata (93). Basin	dee (f) Barrona, 26 miles S.W. of Goombalie (f) Auckland, 1 mile N. of Panbula (s) Waljeers, 14½ miles W. of Booligal (e) Wakool, 17 miles S.E. of Balranald (f) Rankin, 66 miles N.E. of Wileannia (f) Wentworth, 42 miles N.W. of Pooncaira (f) Windeyer, 31 miles N.W. of Pooncaira (f) Clarence, 19½ miles S.E. of Grafton (f) Clarence, 19½ miles S.E. of Grafton (f) Vincent, 2 miles S.E. of Termeil (s) Nicholson, 14½ miles N.E. of Booligal (f) Yungnulgra, 36 miles N.E. of Wileannia (f) Manara, 20 miles S.W. of Ivanhoe (f) Livingstone, 54½ miles E. of Menindee (f) Livingstone, 54½ miles S.W. of Menindee (f) Gaira, 14 miles N.W. of Balranald Beresford, 10 miles N.W. of Cooma (f) Beresford, 12 miles S. of Cooma (f)	38,400 200 1,350 320 e Dry 6,400 15,360 128 400 0 0 1140 - 50 20	9 2 1 7 1 1 1 2 7 1 1 2 7 1 1 1 2 7 1 1 1 2 7 1 1 1 2 7 1 1 1 2 7 1 1 1 1	50 57 64 40 48 30 	8 1 3 4 1 1 1	40 60 40 64 	20 6 4 6 15 7 6 8 8 8	8 3 2 a - 1 15 2 - 6 - 2 - 1 - 1	BCABCCBBAABBCCECBBB*
(94) Mummuga (95) Mungundi (74) Mummorah (20) Myall (18) Nangudga (10) Nargal or Nuttal (10) Narcolpilly (7) d Narraheen (136) Narraheen (136) Narraheen (136) Nev (97) Nialia (49) b Nichebulka (98) Nine Mile (47) d Nitchie (49) b North (50) b Nucha (Nutchie) (99) Oil Tree Lagoon (100) Oleopoloko (74) d Oxley Ox	Fitzgerald, 58 miles S.W. of Wanaaring (f) Dampier, 38 miles N. of Noorooma (s) Fitzgerald, 30 miles S. of Wanaaring (f) Northumberland, adj'ng Tuggerah Lakes (s) Gloucester, 18 mls. N.E. from Pt. Stephens (s) Dampier, 18 miles S. of Noorooma (s) Dampier, 18 miles S. of Noorooma (s) Dampier, 18 miles S. of Noorooma (f) Rankin, 62 miles N.E. of Wilcannia (f) Cumberland, 63 N. of Manly (s) Finch & Narran, 52 mls. N. E. of Brewarina (f) Windeyer, 39 miles W. of Pooncaira (f) Taila, 93 miles E. of Euston (f) Menindee. 25 miles S.W. of Menindee (f) Menindee. 20 miles S.W. of Menindee (f) Tara, 483 miles W. of Fooncaira (f) Barrona, 38 miles W. of Ford's Bridge (s) Yungnulgra & Young, 31 miles N.E. of Wilcannia (f) Windeyer & Wentworth, 43 miles W. of Pooncaira (f) Livingstone, 38 miles E. of Menindee (f) Mootwingee, 37 miles N.E. of Toorawangee(f) Hume, 14 miles N.W. of Howlong (f) Cowper, 20 miles S.E. of Bourke Cilifs (f) Cowper, 20 miles S.E. of Bourke Killara, 24 miles N.E. of Wilcannia (f)	600	3 1 3 9 	40 35 40 20 65 45 40 40 40 60 40 40 70	1 2 5 - 1 6 3 3 3 - 1 2 1 1 1	6 27 40 25 32 20 40 40 40 40 20 50 50	10 10 	5 8 37 k 3 k 4 k 3 - k k k	BABAAAACACBBBBBBC B BCC B B BC
Paika (57) c Pamamaroo (7) Panbula (10) Paradise (49) b Patagorah (14)	Caira, 15 miles N. of Balranald	16,640 700 480	6 1 1 -	40	5 1 —	60	10 6	=	C B A B

LAKES OF NEW SOUTH WALES.—(Continued).

•	SARES OF THE OF SOUTH WHEELS.	(
Name of Lake.	Position.	эх. Агев.	Greatest	Lengtn.	Greatest	Breadth.	Maximum Depth.	ge Depth.	Geological Character.
		Approx.	Miles.	Chains.	Miles.	Chains.		Average	Cha
Patterson (101) Peri (Peery) (74) d Pine Pinpira Pollioillaluka (103) d Pollioillaluka (103) d Poomah (104) Poon Boon (105)	Evelyn, 30 miles S.E. of Milparinka (f) Killara, 28 miles E. of White Cliffs (f) Tara, 50½ miles W. of Pooncaira Evelyn, 34 miles W. of Koonenberry (f) Caira, 15 miles N. of Balranald (f) Werunda, 13 miles S.E. of Wilcannia (f) Wakool, 9½ miles S.E. of Tooleybuc (f) Wakool, 10½ miles S.E. of Tooleybuc (f)	Acres. 1,920 Dry 160 Dry 450 1,000	2 - - - 1 1	20 40 48	1 - - - - - - 1	40 	ft 6 - 1 - 16 7	ft k a a	C B B C C C C C B C
Popilta (49) b Popio (49) b	Werunda, 33 miles W. of Wilcannia (f) Windeyer and Tara, 49½ miles N.W. of Pooncaira (f) Windeyer, 42 miles N.W. of Pooncaira (f)	Dry 22,400 15,360	10 8	=======================================	5 4		10 10	_ k	C B B
Pysant (50) b Queens (106) Racecourse (107) Ratcatchers (50) b Redbank (49) b Rodmans Roping Pole (100) Round Swamp (108) Ryans (22)	Livingstone, 42 miles N.E. of Menindee (f) Macquarie, 1 mile N. of Camden Haven (s) Sandon, 2 miles S. of Uralla (f) Livingstone, 443 miles E. of Menindee (f) Windeyer, 36 miles S.W. of Menindee (f) Yungnulgra, 30 miles N. of Wilcannia Mitchell, 3 miles W. of Uranquintry (f) White, 16 miles W. of Narrabri (f) Waljeers, 19 miles N.E. of Oxley (f)	320 2,560 46 6,400 320 — 480 90 160	1 6 1 -	10 25 - - 40 32 40	3	60 	15 15 4 - 10 4	$\frac{"}{3}$ $\frac{3k}{k}$ $\frac{k}{-\frac{3k}{2}}$ $\frac{1}{k}$	C A B C B C C
Salisbury Salt (19) Sayers (50) b Shadbolts (14) Silistria (14)	Sandon, 23 miles S. of Uralla (f) Wallace, 63 miles E. of Berridale (f) Livingstone, 53 miles S.E. of Menindee (f) Windeyer, 37 miles S.W. of Menindee (f) Tandora, 39 miles E. of Willyama (Broken Hill)	_	- 4 -	55 26 40 20	1 -	30 22 20 	15 —		B* B C B
Smith (20) Speculation (7) Spring Creek (110)	Gloucester, 262 mls. N.E. from Pt. Stephens(s) Menindee and Tandora, 102 miles W. of Men- indee (f)		3 2 —	40 — 15	1	60	20	k	C B
St. George's Basin (136)	St. Vincent, 4 miles N.E. of Berridale (f) St. Vincent, 4 miles S. of Huskisson (s) Rankin, 52 miles N.E. of Wilcannia Taila, 8 miles N.E. of Euston (f) Caira, 9 miles N.E. of Balranald (f) Wakool, 18 miles S. of Balranald Wakool, 9 miles S.E. of Tooleybuc (f) Menindee, 22 miles S.W. of Menindee (f) Tandora, 10 miles N.E. of Menindee (f) Northumberland, 5 miles E. of Gosford (f) Waljeers, 38 miles W. of Booligal (f) Waljeers, 38 miles W. of Moulamein (f) St. Vincent, 22 miles E. of Termeil (s)	9,200 - 1,400 - 180	6 - 2 1 - 12 4 - 1	40 	3 - 1 - 7 2 - - -	50 	40 20 8 - 8 6 10 - 5	23 - 5 - a - k k - a 2	A C B C C B A C B A
Terranora Broad- water (31 Teryaweynya (50) b The Back (10) The Boundary (15) The Broadwater (18) The Broadwater (117)	Rous, 2½ miles W. of Chinderah (s) Livingstone, 54½ miles E. of Menindee (f) Auckland at Merrimbula (s) Wellesley, 9 miles W. of Nimmitabel (f) Gloucester, 11 miles N. E. of Pt. Stephens (s) Clarence, joins Clarence River between		1 4 - 5	60 40 60 30	1 2 - 2	60 40 35 19 40	6 15 —	1½ k	A O A B*
The Little (10) The Dry (22) The Long (110) The Salt Lake (118) The Tinkers (110) Thubergal (119) Tilba (10) Tilba (10) Tilpilly (66) d Tommys (110) Toms Toms	Ashby and Lawrence (s)	30 300 Dry	3 1 6 - 1	70 30 40 12 25 45 14 20	5	67 20 60 17 - 9 15 48 - 8 20	5 4	$\begin{bmatrix} \frac{6}{k} \\ - \\ - \\ - \\ - \\ 2 \end{bmatrix}$	A B B C B B A C D
Tom Thumb Lagoon (136)	Dampier, 9 miles S. of Moruya Heads (s) Tara, 56è miles N.W. of Pooncaira (f) Kilfera, 28 miles N.W. of Oxley Yantara, 28 miles S.E. of Milparinka (f) Wellesley, 3 mls. S.W. of Beards or Black (f)	850 480 18,500 1,400 40 2,000 t	1 2 1 10 1 - 3 -	20 30 40 70 20 42	- - - 4 1 - - 1 -	60 60 72 60 35 20 40 22 32	5 4 16 - - 6 12 6	$\begin{bmatrix} \frac{2}{1\frac{1}{2}} \\ -\frac{1}{2} \\ -\frac{1}{6} \\ -\frac{1}{a} \end{bmatrix}$	A A B C B A C C C B

LAKES OF NEW SOUTH WALES .- (Continued).

							•		
Name of Lake.	Position.	Approx. Area.	Greatest	Length.	Greatest	Breadth.	Maximum Depth.	Average Depth.	Geological Character,
		Appr	Miles.	Chains.	Miles.	Chains.			Geo
Urana (123) Urangong (124) Victoria (50) b Victoria (60)	Urana, 2 miles W. of Urana (f) Urana, 7 miles S.E. of Urana (f) Livingstone, 56½ miles E. of Menindee (f) Tara, 34 miles W. of Wentworth (f)	Acres. 14,500 1,160 3,840 25,600	8 1 4 9	25 55 —	4 1 2 6	35 30 —	ft - - 15 30	ft - - k 5	C C B
Wagonga or Bullengella (10) Waldaira (125) Waljeers (22) Wallace (14) Wallaga (10) Wallaga (10) Wallaga (10) Wallaga (10) Wallagot (10) Wanberal (114) Wapengo (10) Wannah (126) Warrawenia (49) b Washpool (119) Watchie (127) Watchie (127) Watchie (127) Watchie (127) Watchie (127) Watchie (129) Willeroo (128) Windamingle (49) b Willeroo (128) Windamingle (49) b Windamingle (49) b Woolower (130) Wooromur (131) Wollumboola (136) Wongallarra (7) d Woytchugga (132) d Yandaroo (133) Yanga (134) Yantara (122) Yarrie (105) Yeltow (49) b Yentabangee (74) d	Dampier, 1½ miles S.E. of Noorooma (f) Caira, 12½ miles W. of Balranald (f) Waljeers, 17½ miles S.W of Booligal (f) Livingstone, 28 miles E. of Menindee (f) Dampier, 2 miles N. of Bermaguee (s) Auckland, 4½ miles S. of Tathra (s) Gloucester, on coast near Cape Hawke (s) Northumberland, 5½ miles E. of Gosford (b) Danpier, 8 miles N of Tathra (s) Wakool, 5 miles N. of Tooleybuc (f) Rankin, 49 miles N. of Tooleybuc (f) Rankin, 49 miles N. en of Wilcannia (f) Tara, 49 miles W. of Pooncaira (f) Wellesley, 17 miles S.W. of Nimmitabel (f) Fitzgerald, 34 miles S.W. of Wannaring (f) Livingstone, 54 miles E. of Menindee (f) Macquarie, 2 mls. S. from Camden Haven (s) Livingstone, 51 miles E. of Menindee (f) Mootwingee, 28 miles W. of Pooncaira (f) Mootwingee, 28 miles W. of Koonenberry (f) Wakool, 9½ miles S.E. of Tooleybuc (f) St. Vincent, 1½ miles N. of Jervis Bay (s) Werunda, 57 miles W. of Wilcannia (f) Clarence, 2 miles S.W. of Wilcannia (f) Young, 6 miles W. of Wilcannia (f) Yantara, 25 miles S. e. of Balranald (f) Yantara, 25 miles S. E. of Balranald (f) Whideyer, 26 miles N. W. of Pooncaira (f) Whideyer, 26 miles N. E. of Milparinka (f) Whideyer, 26 miles N. E. of Milparinka (f) Whideyer, 26 miles N. G. Of White Cliffs (f) Wallace, 2 miles S. of Adaminaby (f)	30 640 1,280 1,280 19,000 140 870 e Dry 15 320 2,880 1,920 640 1,920 1,500 1,500 1,500 1,500 1,500 1,500 1,500 2,880 2,880 1,500	12 221112 13311311127521343 5	37 20 	11 2 1 5 1 2 1 1 4 2 1 - 2 3 2 - 2	15 20 20 10 10 10 40 40 40 40 40 30 	15 6 6 10 5 4 — 6 18 15 10 6 6 — —	-54 a 100 k "4 kk 18 a a a 19 5 3 a 8 kk 3 kk	ACBCAAAAB* CBBBCACCBCBBBCCBCBBBB*

* Origin doubtful.

NOTES.

- a After the first 10 chains from the shore all these lakes are practically flat bottomed, so that the average depth is very little less than the greatest depth.
- b Lakes of the Ana Branch and Teryawynia Creek Systems. The lower lakes of the first-mentioned system, those situated on Avoca, Bunneringa and Lake Victoria Holdings, are controlled by a private trust constituted of the lessees of these holdings. Under this trust no water (the supply is overflow by way of connecting channels in times of flood from the Ana Branch) is allowed to enter these lakes until the water of the Ana Branch meets that of the Darling at or near their lower confluence, a very rare occurrence.

Similarly with the Teryawynia Creek System. A private trust, constituted of the lessees of Teryawynia, Albemarle, and Tolarno Holdings, controls the intake to these lakes. A large dam and regulator have been constructed on the Teryawynia Creek at its offtake from the Talyawalka Creek. The regulator is kept shut until the Talyawalka water meets that of the Darling at or near their lower confluence. It is questionable if it will ever be opened again. The lakes with water therein constantly receding are looked upon as death traps for stock, and again from a grazing point of view these lakes are considered more valuable in a dry state than if holding water. This system only fills at intervals of 20 years and the lessees have expressed the determination to keep the lakes permanently dry.

c Referring to the lakes on the Lower Murrumbidgee, a large number, notably Paika, Pinaru, Dundomalee, Pitarpunga, and Muckee, with, in the near future, Ganaway and Tori, are and will be kept dry by means of dams across their influent channels, the dry bed of these lakes being looked upon as more valuable for grazing purposes than as storage for water. Within the area of Paika Lake there is a very prolific irrigated area.

- d None of the lakes marked thus is filled annually, and many of them are supplied only at long intervals after flood waters have receded. Probably not one retains over 8 feet of water and in numerous instances the depth is very much less.
 - e No water in ordinary seasons.
 - g Generally dry.
 - h Only retains water for short periods.
 - i Only has water after high flood.
 - k No average.
 - l Dry.
 - (1) Generally dry, fills from the Niemur River.
 - (2) Very deep, fed by snow springs; presumably old volcanic craters.
- (3) Large clay pan filled from surrounding hills by drain from the Bulloo overflow when in d. Water yellow, fresh when full, brackish when low, good for stock. Often dry. flood.
 - (4) Probably fills from Talywalka Creek in very high floods.
 - (5) Alienated, often dry for years.
 - (6) Reserved, often dry for years.
 - (7) Only fills after heavy Darling floods.
 - (8) Large shallow clay pan filled from surrounding country, yellow, good stock water when full:
 - (9) Fills with drainage from surrounding hilly country.
 - (10) Coastal.
- (11) Clay pan filled from surrounding hills; shallow, yellow water, fresh when full, good for stock. Not permanent.
 - (12) Filled only in wet seasons or high Willandra floods. Merely regarded as a plain.
 - (13) Generally contains water, local catchment, alienated to Pultaney Main (Part of Portion 18).
 - (14) Only looked upon as a plain.
 - (15) Reserved.
 - (16) Fills from Lachlan and Murrumbidgee in very high floods.
 - (17) Fills via Talywalka and Teryaweynia in times of high flood in Darling River.
- (18) One of a chain of lakes, Myall, Boolambayt, and Broadwater, connected with Port Stephens by Myall River. Remarkable for its scenery, and abounding in fish.
- (19) Popular health and pleasure resort, noted for its beauty and diversity of scenery, and bunding in fish. The entrance is deep enough to allow vessels of considerable tonnage to enter abounding in fish. and ply upon its waters.
 - (20) Noted for its scenery and abounding with fish.
 - (21) Partly alienated, often dry for years.
 - (22) Fills from flood waters of Lachlan River.
 - (23) Not permanent; shallow, filled only in wet seasons.
 - (24) Fills through Ballogath by artificial channel in times of high flood. (25) This lake is filled annually owing to an artificial channel and low banks.
- (26) Fills from surrounding country, generally contains clear water which is brackish and fit for stock when full.
 - (27) Three shallow lagoons; alienated.
- (27) Three shallow lagoons; alienated.

 (28) Originally filled by overflow from the Lachlan River, later by the construction of a weir on the river and the improvement of the channel therefrom to the lake, and by the construction also of embankments, floodgates, etc.. Lake Cargelligo is not a permanent sheet of water, and is filled in flood times and stored until the summer months when the Lachlan River ceases running. Water is then allowed to run out of the lake till there is an average depth of about 5 feet, when the floodgates are closed. Two-thirds of this surplus water is allowed to run down the Lachlan and one-third down Willandra Creek. The latter proceeding is effected by a weir (the Willanthry), about 40 miles from Cargelligo, on the Lachlan River. Fish and game abound in and on the lake, and it is an ideal sheet of water for skiff racing and shallow centre-board sailing. The Works Department propose to raise the embankments, etc., 3 feet, and so double the present capacity of the lake. the lake.
- (29) The water of this lake is generally brackish. Its outlet to the Pacific becomes periodically choked up by a sandbank. During this time it is quite safe and practicable to ride or drive along the barrier of sand which effectually excludes all tides from the lake. Whilst this position lasts the water loses its salinity, but never becomes quite fresh. Should local rainfall be heavy, causing an unusual flow from back lands into the lake, the waters become sufficiently fresh to affect the an unusual now from back isings into the lake, the waters become sumiciently fresh to affect the life and quality of the oysters cultivated on the foreshores. A very heavy downfall locally is generally followed by an outburst through the sandy bar. More often than not the outburst is hastened by local residents using shovels to give the impounded water a start. After such outbursts the lake again becomes tidal and salt for a period, but gradually the silting up process sets in again. The lake is not navigable.
 - (30) Fills by natural channels and overflow from Menindie Lake in times of high flood.
- (30) Fills by natural channels and overnow from Reminde Load . (31) Terranora and Cobaki Broadwater form the western estuary of the Tweed River and cover (31) Terranora and Cobaki Broadwater form the western estuary of the Tweed River and cover (31) Terranora watershed of 48 square miles. Terranora

- (31) Terranora and Cobaki Broadwater form the western estuary of the Tweed River and cover an area affected by tides of about 3½ square miles and a watershed of 48 square miles. Terranora Broadwater has a maximum depth of 5 or 6 feet in places, but parts are dry at low water. The average depth at low water average spring tides would not exceed 12 or 18 inches.

 Practically the whole of Cobaki Broadwater is dry at low tide except in the channel, where the greatest depth is about 3 feet and the average about 18 inches.

 Recently the Public Works Department has had channels cut through Terranora Broadwater to a depth of 6 feet at low tide and 50 feet wide. A dredge is now at work cutting a channel 40 feet wide and 6 feet deep up Cobaki Broadwater, and this will probably be completed in about 18 months' time. The completed channels are navigable for droghers of about 50 or 60 tons, and allow of sugar cane being carried in punts to the mill.
- (32) Filled in abnormal seasons by local creeks, will last two or three years. Sandstorms have choked the main channel, and its chief supply is now diverted.
 - (33) Sandstorms have so filled its feeding channel that its main source of supply is cut off.

- (34) Generally dry; local catchment connected by natural channels with Lake Yanga, but a rise of about 7 feet near the centre of channel and corresponding fall further on prevents it from filling. Within W.R.2979 and Yanga, 18th Section Lease.
 - (35) Within W.R.2013, 44,075, and 44,076.
- (36) Fills from overflow from Ana Branch in times of high floods. Questionable if water will ever again reach it.
 - (37) Local catchment, generally contains water, fit for stock when full and brackish.
 - (38) Fills by Paroo flood waters, will last 12 months.
 - (39) Partly alienated, partly reserved. Sometimes dry.
- (40) Dry. Filled only in wet seasons from run off of surrounding high country. Not permanent, shallow.
- (41) The area of the lake when full is about 40,000 acres, but the area under water is continually changing according to the season and annual rainfall. The average area submerged would probably not exceed 15,000 acres per annum, and taking the last 15 years only the area would be considerably less.

The lake was at one time timbered with gum trees in places, interspersed with "Coba" or "Cooba." These trees have been dead many years, and apparently were killed by the water, an indication that for many years previously the lake bed could not have remained under water for periods of any great length. There are similar green trees along the edge of the lake at the present time, and it is noted that they only stand in water for short periods with long intervals between. Brackish water can be obtained by boring into the lake bed, which consists of stiff clay, and is of considerable depth. The lake is not permanent, and affords good pasture over a large area in dry seasons. The bed of the lake is lower than the bank of the Lachlan River at Jemalong. The waters of the lake are replenished chiefly from the Lachlan River and the Bland Creek when in flood.

- (42) This lake is slightly affected by tides when the mouth of Cudgen Creek is open, but it is more often blocked by sand, and at its best, this entrance is impossible for shipping.
 - (43) Yellow clay pan. Local catchment, fit for stock when full, brackish when low.
 - (44) Broad shallow clay pan, occasionally dry.
 - (45) Fills from overflow of Talyawalka Creek in times of high floods.
- ' (46) Filled by Kerribree Creek in flood and also has local catchment. Generally contains good stock water, brackish when low.
 - (47) Filled by high Paroo flood, will last 9 months.
- (48) Local catchment, thick brackish water when low, suitable for stock when full, cane grass swamp.
 - (49) One of the Ana Branch system of lakes, which only fills at wide intervals.
 - (50) One of the Teryawynia Creek System.
 - (51) Filled by Willandra flood waters.
 - (52) Generally dry, local catchment. Dry at present and covered with grass.
 - (53) Broad shallow lagoon periodically covered with water.
- (54) Water is not allowed to reach this lake. A dam erected by Crown lessees keeps the flood water out.
 - (55) Alienated. Sometimes dry.
- (56) Fills from the surrounding hills, generally contains water, good and fresh when full, brackish when low.
 - (57) Now kept dry by a dam across its feeding channel.
 - (58) Generally dry, fills from the Murray.
 - (59) Generally dry, fills from the Murray.
 - (60) Fills from flood waters of Murray.
 - (61) Generally dry, fills from the Murray, joins Lake Wollare.
- (62) This is in reality a big swamp, which holds water only in wet seasons. During 4 years out of every 5 it is held under grazing leases, affording excellent pasturage.
 - (63) Not alienated. Often dry for years.
 - (64) Not permanent.
 - (65) Old clay pan, partially filled up with sand hummocks.
 - (66) Filled by Darling floods. Will last 6 months.
 - (67) Generally dry, fills from Lake Condoulpe.
 - (68) Reserved. Tourist Resort.
 - (69) Always dry.
- (70) The deepest portion is surrounded to the extent of about half a mile by low swamp lands which gradually merge into the lake. Its water is, generally speaking, fresh; it has two outlets indirectly leading into the Pacific, one is Cathie Creek, a shallow, sluggish body of water connecting with the lake of that name. The other is through the lake swamp, thence by Kooloonbung Creek, which flows into Hastings River near Port Macquarie; this creek is a sluggish swampy body of fresh water for part of its course, but a dam erected many years ago in Port Macquarie has influenced its flow, and has excluded tidal waters. The lake is not used for navigation, but its depth is possibly sufficient to carry light draught vessels.
 - (71) Only gets a supply about once in 20 years. Fills from Darling River flood waters.
 - (72) Fairly permanent, local catchment.
- (73) Local catchment, good stock water when full, often dry, shallow clay pan, brackish water when low.
 - (74) Filled with Paroo flood waters. Will last an ordinary season.
- (75) Large salt clay pan filled about once every 30 years when Kerribree Creek overflows. Contains shallow water when full, evaporation very great.
 - (76) Generally dry, local catchment.
 - (77) Within alienated portions 61, 62, and 64.

(78) Generally dry except for small hole in south-east corner.
(79) Generally dry, local catchment, within Tara 18th Section Lease.
(80) Fair water supply, but frequently dry, local catchment, partly within alienated portion 77.
(81) Water not allowed to flow into it.

(81) Water not allowed to flow into it.
(82) Reserved, sometimes dry.
(83) A natural extension to Lake Cargelligo. Since the construction of dams on the latter it is now dry and is good grazing country. Partly within Sp. Ls. 07.7, 07.8, 07.9, 07.10.
(84) Partly within Sp. Ls. 08.6 and 08.7. A natural extension of Lake Cargelligo. It used to fill from the Lachlan overflow through that lake. Owing to the construction of dams on Lake Cargelligo it is now dry and is good grazing country providing excellent grass.
(85) Not permanent, only a plain filled by Lachlan flood waters.
(86) Generally dry, local catchment, within alienated portion 19.
(87) Filled in wet seasons only.

(86) Generally dry, local catchment, within alienated portion 19.
(87) Filled in wet seasons only.
(88) Within South Thoronga 18th Section Lease.
(89) Filled by Bunker Creek, lasts an ordinary season.
(90) Filled only in high Lachlan floods brought down Willandra billabong.
(91) Of late years generally dry, fills quickly after rain and empties quickly.
(92) Only looked upon as a plain. Water kept out by a dam on Paika Creek.
(93) Partly reserved. Often dry for years.
(94) Filled with Paroo flood waters.
(95) Coastal, often dry.
(96) This lake is filled by the Narran River in flood and overflows into the Bokhara River.
Anoration very great, often dry. Evaporation very great, often dry.
(97) Fills from Stephen's Creek.

(97) Fills from Stephen's Creek.
(98) Local catchment. Good brackish stock water when full, salt when low.
(99) Fills with local rainfall.
(100) Very shallow clay pan, land alienated and useless for storage area.
(101) Fills very rarely, is a debouchure of Mount Brown Creek.
(102) Fills from Packsaddle Creek at very wide intervals.
(103) Filled by Darling floods down Talywalka, will last 6 months.
(104) Dares and the first the fills from the Market. Been station is on the

(104) Permanent water, fills from the Murray. Poon Boon station is on the shore of this lake.

(105) Permanent water, fills from the Murray.

(106) The lake is tidal and salt. It has an outlet into Camden Haven Inlet, thence a short distance by that inlet to the Pacific. It is a clear sheet of water and its shores are readily approachable by solid land. It is fed from inland by Heron's Creek and Queen's Lake River, and is navigable and regularly used for punting timber by vessels drawing from 3 to 4 feet.

(107) In 1894 a regatta was held on this lagoon, but of late years the depth has gradually decreased.

It has never been known to overflow.

(108) When full after heavy rain about 10 feet deep at most, sinks rapidly to a normal of about 5 feet greatest depth. Catchment small, and occasionally lake is dry. Surrounding country of a rather sandy character and thickly timbered. This lake has been a great resort of wild-fowl, but closer settlement is to some extent driving them away.

(109) Alienated, dry, this lake is fresh when full.
(110) Alienated, often dry.
(111) Permanent, fills from the Murrumbidgee River, fairly picturesque, within W.R. 3021.
Reserve 4462 for preservation of game, set apart for preservation of birds and partly within Tara

(112) Dry except for occasional rain water. No other water since 1870 floods.
(113) Permanent water, fills from the Murray, within W.R. 1960.
(114) Popular health and pleasure resort, noted for beauty and diversity of scenery; abounding with fish.
(115) Fills through Merrimageel Creek from Lachlan River.
(116) A swamp, generally dry within C. and W.R. 2591.
(117) Excellent breeding ground for fish.
(118) Filled by local creeks will located.

(118) Filled by local creeks, will last 12 months. Through sandstorm diversions takes practically all the Worrominta Creek water.

(119) Alienated.

(120) Fairly picturesque, practically permanent, being last dry in 1897. Fills from Murray River (nearest point of which is distant 3 miles), water commencing to flow in when the river is 10ft. 9 in. high at Swan Hill. In the future this lake may be very useful for storage purposes in connection with any Murray River water conservation scheme. It is covered by W.R. 2109 and is surrounded by "Murray Downs" freehold lands.

(121) Only a plain, but gets water at wide intervals.

(122) Filled by Yancowinna and local creeks after exceptionally heavy rain. Has a large, quick catchment. Ulenia and Yantara Lakes, which are joined together, were filled only once from 1881 to 1896, viz.. in 1885, and replenished by a foot or so a few times. The lake is not permanent, evaporation is great, average annual rainfall about 8 inches

(123) Broad shallow clay pan, rarely flooded in late years, but in 1870 covered to a depth of from (123) Broad Shillow Chay pan, rately noorded in law years, 10 to 18 feet.
(124) Shallow clay pan, last year 2 to 3 feet of water stored.
(125) Fills from Murrumbidgee River.
(126) Generally dry, fills from the Murray, within W.R. 2964.
(127) Permanent, filled by Paroo flood waters.
(128) Good, quick local catchment, good stock water.

(129) Fills with run off from surrounding high country, holding capacity improved by a low dam at mouth of effluent creek.

(130) Permanent water, fills from the Murray, within W.R. 1957, joins Lake Goonimur.

(131) Supply channel blocked, not allowed to fill, now used for grazing, excellent grass, partly within W.R. 2977 and T.S.R. 11411, within Poon Boon 18th Section Lease.

(132) Fills from overflow in high Darling floods. Practically empties as waters recede.

(133) Local catchment, often dry, good stock water.

(134) Fills from the Murrumbidgee River. Yanga Station is situated on the shores of this lake. Within W.R. 3020, Reserve 44155 for preservation of game, and Yanga 18th Section Lease.

(135) Often dry.

(136) These are not lakes in a geographical sense, but lagoons connected with the ocean.

- 3. Victoria.—The accompanying information regarding the lakes of Victoria has been furnished by the Survey Branch of the Department of Lands.
- (1.) Flora of Victorian Lakes. The Victorian lakes, owing to variety of conditions such as altitude, depth, geological surroundings, area, etc., have different floras. Salt, brackish, and fresh water types exist, but these are linked by gradations which render the drawing of a hard and fast line of demarcation between types practically impossible, yet the salt marsh of the plain and the mountain tarn are remote and distinct.

The salt lakes may be divided into two groups, viz., inland and estuarine. The former are situated in the western and north-western parts of the State, those of the west occupying basins probably formed by the subsidence of the roof of cavities in the volcanic plain, and those of the north-west are said to be due to saucer-like depressions once filled by river overflow and since replenished, some of them by rainfall and direct surface drainage, and others by streams which flow through them. Many of these northern and western lakes become areas of dried mud or salt pans in summer time.

The estuarine or Gippsland lakes are a series brought into being by the reclamation of a portion of the sea through the formation first of the ridge behind the Ninety-mile Beach by sea and wind agencies, and the subsequent deposition of river silt on the landward side. Continued deposition is decreasing the area of these lakes, which are the remnants of a once large open lagoon. Of those forming individual lakes, one (Lake Wellington) is already isolated except for the river outlet at the eastern end. arboreal vegetation of the inland lake margins in the western and northern districts is scanty, and is more in evidence near the inlets of creek water, while salaceous plants occupy the immediate margin, and when dry those basins of less saline nature carry a growth of salty-flavoured herbage which is relished by cattle and valued as fodder. Redgum, tea-trees, and other shrubby growths may be found in the vicinity. The vegetation of the Gippsland estuarine lakes varies from the southern mangrove of the muddy shores and flats, and marine weeds of the tidal mouth, to the fringing myrtaceous shrubs and other tea-trees, eucalyptus, etc., which creep down to the water's edge in the comparatively or absolutely fresh water parts towards the river mouths within the estuary.

Of fresh water lakes there are those of natural and artificial origin, and these are scattered throughout the State. The most rare is the mountain tarn. At about 3000 feet altitude a landslip on Mount Wellington, in Gippsland, has blocked a small, steep valley, and the cold, deep water (Lake Karng) is held by steep, rocky walls, from which conspicuous littoral flora is absent.

Another land-locked, fresh water body is the Yan Yean Reservoir, which occupies the site of an old marsh amongst silurian hills of the lowlands at an elevation of only 519 feet above sea level, an embankment having been thrown across a narrow outlet from a considerable drainage area. The surface of this lake—the supply to which is augmented by diverted mountain drainage—approximates to 1360 acres at high level. The depth is 24 feet in parts. The surrounding arboreal vegetation is partly native eucalyptus, banksia, but largely consists of pinus insignis, with many shrubs, native and exotic, interspersed, while a continuous carpet of native kangaroo grass shelters an abundance of native herbaceous and small shrubby plants. The margin of the bays is marked by a growth of sedges, rushes, and reeds, while a variety of water weeds extend across the shallow inlets, and require periodical cutting. Microscopic forms are abundant. Generally speaking, the Yan Yean Reservoir has a richer littoral and purely aquatic vegetation than any other Victorian lake.

Other fresh water lakes are those of the south-western plains, with visible or secret outlets and fresh or slightly brackish water, but these for the most part are poorly vegetated owing to the low banks and the exposure to strong winds, while the geological conditions which result in almost treeless plains as an environment, together with the instability of the water level, do not permit of tree growths at the margins.

Lake Wendource, at Ballarat, is a shallow, fresh water lake, the area being sheltered physiographically and also by liberal planting of introduced and native trees with which city improvements have surrounded it. The water weeds grow so luxuriantly here as to require special weed cutting to keep the tracks clear for the small pleasure steamers.

Another type of freshwater lake is that resulting from former meanderings of rivers such as the Murray and the Goulburn in their lower reaches across the tertiary plains: portions of old courses, mostly curved in sinuous or horse-shoe pattern, and cut off by silting up when the streams were diverted into new natural channels, the old reaches becoming lagoons or billabongs of considerable extent. The banks of these bear finely developed Eucalyptus rostrata; large areas along the Murray being reserved as forest land. Other plants (many myrtaceous trees and shrubs) luxuriate there, and smaller plants find shelter among these, while water weeds are in abundance.

Finally, there is a type of lake—small, deep, and almost devoid of vegetation—occupying the old craters of volcanic mounts. Such is Tower Hill Lake at Koroit, in the Western district, where the hollow formed by the falling in of the scoriæ and tuff has filled with water of unknown depth.

(2.) Fauna of the Victorian Lakes. For the purpose here required the fauna of the Victorian lakes may be roughly divided into three districts, viz:—The Tidal Lakes and Inlets, the Western District Lakes, and the Northern District and Mallee.

Only the more numerous varieties are mentioned below, the list not being in any way exhaustive, and with few exceptions, the species mentioned in one district are to be found in the other two in more or less numbers.

- (a) The Tidal Lakes and Inlets consist principally of the Gippsland Lakes, Lake Tyers, and Mallacoota Inlet. In the vicinity of these lakes native bear, opossum, wallaby and kangaroo may be seen, and at Mallacoota Inlet platypi are perhaps more numerous than elsewhere. Aquatic birds are chiefly the black swan, coot, musk and black duck, and gull, all of which are plentiful. Other birds in these localities are the laughing jackass, magpie, sulphur-crested, leach black, and gang-gang cockatoo, bellminer, native companion, nankeen heron, crow-shrike, honey eater, hawk, robin, king and pennant parrot, satin bower birds, and wren. The emu is occasionally seen, but the lyre-bird is rarely met with.
- (b) Western District Lakes comprise those lakes in the South Western portion of Victoria and are very numerous in the vicinity of Colac and Camperdown, the largest being Lake Corangamite.

Bandicoot and native cats are occasionally to be seen. The birds that haunt the waters of these lakes are ducks, swans, coot, water-fowl and mountain duck. In the district generally are to be found the magpie, parrot, ground-lark, snipe and plover.

In many places in this district the remains of the extinct diprotodon have been found.

(c) Northern District and Mallee. Lake Hindmarsh, Albacutya, Tyrrell, Lonsdale and Kow Swamp are among the chief natural depressions in this district. The three

first named are frequently dry and in time of drought may so remain for years. Bird and other life is then very scarce.

The black swan, waterfowl, musk and black duck, coot, black cormorant, white and straw-necked ibis, moorhen and marsh tern frequent the lakes and marshes. The mallee fowl, native companion, nankeen heron, yellow-legged spoonbill, magpie, laughing jackass, hawk, galah, cockatoo and wren are also met with. Wedge-tailed eagles and the emu are occasionally to be found.

- (3) Geological Characteristics. In regard to their geological characteristics, the lakes of Victoria may be divided into four classes, viz.:—(i.) Lakes in basalt plains, (ii.) Lakes in Wimmera and adjoining districts, (iii.) The Gippsland lakes, and (iv.) Lakes formed by flood plains of rivers.
- (i.) Lakes in the Basalt Plains. Most of these have no streams entering them, and the basalt is of late tertiary age. They may be classified as follows:—
 - (A) Shallow lakes in hollows due to irregularities in the original volcanic surface, to erosion by wind, or to both; generally small, and irregular in shape. Many of them become dry in summer and are liable to remain so for protracted periods. These lakes are very abundant in the Western District.
 - (B) Deeper lakes occupying calderas or craters; more or less circular as a rule. The calderas mark the sites of volcanic explosion and possibly have been deepened by the sinking of their floors. There are few if any lakes occupying true craters in Victoria.
 - (c) Lakes filling subsided areas which have resulted from the adjustment of the surface to the new conditions following the transference of large quantities of rock from underground to the surface in the form of lava flow (basalt).
- (ii.) Lakes in the Wimmera and Adjoining Districts. The basins are formed in sedimentary rocks of late tertiary age. The lakes are generally shallow, many of them being little more than swamps, and they may become dry for considerable periods. They may be grouped as follows:—
 - (A) Basins formed by subsidence due to the removal by solution of the underlying limestone or by wind erosion, or by both.
 - (B) Expansions of rivers caused by the blocking up of shallow valleys by silt or wind-blown material; some caused or assisted by wind erosion.
- (iii.) The Gippsland Lakes. These have resulted from the growth of the land seawards, owing to the deposition of silt from the Gippsland rivers, combined with the action of the tides, which sweep eastwards along the coast and deflect the river mouths in that direction. The rocks are of tertiary and recent age and the action is still in progress.
- (iv.) Lakes formed by Flood Plains. These lakes, formed by the building up of flood plains by the rivers, are situated principally near the Murray.
- (4) Names, Positions, and Special Features of Victorian Lakes. The subjoined statement gives particulars in tabular form of Victorian lakes. The numbers attached to the names of some of the lakes in this statement refer to the footnotes at the end of the table. The letters (f), (s), and (b) given in the second column of the table indicate that the lake referred to is either fresh, salt, or brackish. The reference signs given in the column dealing with geological characteristics and probable origin refer to the articulation figures and letters of the preceding paragraph (3) hereof, and have the meanings given thereunder.

LAKES OF VICTORIA.

Name.	Position.	Approx. Area. Acres.	1	Length.	;	Breadin.	tx.	eological Characteristics and Probable Origin.
	TOSTION.	Approx	Miles.	Chains.	Miles.	Chains.	Max. Depth.	Geological Characteristics and Probable Origin.
Albacutya (1) Albert Park (2) Bael Bael Baker Barracoota Beeac Birdebush Bitterang Bolac Bookaar (3) Booroopki Booroopki Bringalbert Bullen Merri (4)	Weeah, 10 miles N. of Lake Hindmarsh (f) South Melbourne (f) Tatchera, 9 miles W. of Kerang (f) Tatchera, 7 m. S.E. of Castle Donnington (f) Croajingolong, 6 miles W. of Cape Howe (f) Grenville, 10 miles N. of Colac (s) Hampden, 8 miles N. W. of Camperdown (b) Karkarooc 45 miles N.W. of Lake Tyrrell (f) Tatchera, 8 m. S.E. of Castle Donnington (f) Ripon, 6 miles E. of Wickliffe (f) Hampden, 6 miles N. W. of Camperdown (b) Lowan, 14 m. E. of S. Aust. boundary line (f) Gladstone, fed by overflow of Loddon (f) Lowan, 10 miles N.E. of Apsley (f) Hampden, 1 mile S.W. of Camperdown (b) Borung, 4 miles N. of Donald (occasionally dry willow)	14,430 105 1,075 700 600 1,500 1,500 1,80 2,120 3,500 1,075 1,030 1,127 250 1,330	713122 232 1 1	40 5 20 10 55 60 23 40 15 50 70 65 70	3 - 1 1 2 1 1	60 35 60 70 70 50 15 30 70 30 45 65	6 12 - - - 6 266	(ii) B (iv) (iii) A (ii) A (iv) (iiv) (iiv) (iiv) (iiv) (ii) C (ii) A (iii) A (iii) A (iii) B
Bunga Bungaa Buainjon Burnmbeet (6) Calvert Centalla Carchap Catcarrong	for a series of years) (f)	5,200 5,200 250 220 80	6 8 11 1 - 4 12 -	20 60 30 -70 50 45	3 1	40 20 60 35 50 50 40 25	8 6 10	(ii) B (iii) (iii) — (i) A (i) C (i) C (ii) A (ii) A (i) C, A
Catherine Centre	Polwarth, W. boundary of county, 13 miles from sea (f)	130 660 1,390 300 6,650 3,500 3,880 2,400 90 57,700 400 200 1,660 350 370 50	1 1 1 5 4 4 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 40 70 70 30 50 30 40 40 		15 50 50 50 70 30 50 30 60 50 35 10 35 20 35 30 35 30 35 30 35 30 35 30 35 35 35 35 35 35 35 35 35 35 35 35 35	10 8 12 - 10 20 - -	(ii) A (iv) (iii) A (ii) A (iii) A (iii) A (iii) A (iii) A (iiii) A (iiii) A (iiii) A (iiii) A (iii) A (iii) A (iii) A
Drung Drung or Taylor's Duck Durdidwarrah (Upper Stoney Ck. Reservoir)	Borung, 11 miles S.E. of Horsham (f) Tatchera, 6 miles N.W. of Kerang (f) Grant, reserved for town of Geelong, 25 miles N.W. (f)	750 870 —	2 2 -	40 20 -		60 70 —	60	(ii) A (iv)
Elingamite Elizabeth Eyang Furnell Garry (11) Ghentghen Gherang Gherang Gnarpurt	Heytesbury, 11 m. S.W. of Camperdown (f) Tatchera, 5 miles W. of Kerang (f) Hampden, 9 miles E. of Chatsworth (f) Croajingolong, 8 m. N.W. of Cape Everard (f) Moira, 10 miles N.W. of Shepparton (f) Ripon, 5 miles E. of Wickliffe (s) Grant, 3 miles E. of Winchelsea (f) Hampden, at northern extremity of Lake	800 180 800 1,700 40 250	1 2 -	40 65 70 15 40 30 75	1 - 1	25 40 45 40 — 15 40	12 —	(i) B (iv) (i) A, C (iii) — (i) A (i) A
Gnotuk (12) Goldsmith Goulb'rn Weir (13) Green Hattah Hindmarsh (14) Jollicum Kakydra Kanagulk Kangaroo Kariah Karnak	Corangamite (s)	5,800 600 2,130 4,500 250 150 30,000 130 452 870 2,250 350 300	3 1 2 3 	70 65 60 20 70 40 70 60 	3 1 1 1 - - 5 - 1 1	5 60 30 60 35 50 35 70 10 30 40 60	103 · 42 14 14 13 — 10 —	(i) A (i) B (i) C (ii) A (iv) (ii) B (ii) A (iii) A (iv) (i) A (iv)

LAKES OF VICTORIA—(Continued).

Name.	Position.	Approx. Area. Acres.	,	Length.	;	Breadth.	Max. Depth.	Geological Characteristics and Probable Origin.
		Appro	Miles.	Chains.	Miles.	Chains.	ÃĞ	Geologic terist Probab
Karng (15) Keilambete (16) Kemi Kemi Kennedy Kerferd (17) King (18)	Tanjil, 30 miles E. of Woods Point (f) Hampden, 15 miles W. of Camperdown (b Lowan, 2 miles S. of Edenhope (f) villiers, 8 miles N.W. of Penshurst (b) Bogong, Beechworth Water Supply (f)	770 130 690 100	 1 1 -	40 60 30 55	_ 1 1 -	15 40 30 28	96 — —	(i) B (ii) A (i) A
Konardin	Tanjil, near Bairnsdale, 23 miles N.E. of Sea- combe (tidal) Karkarooc, 44 miles N.W. of north shore of	22,500	9	-	9	-	65	(iii)
Koreetnung Kow (19) Laanecoorie Weir	Lake Tyrrell (f)	300 560 6,800	1 1 5	30	- 1 2	40 10 50	$\frac{14}{7}$	(iv) (i) A (iv)
(20) Lalbert (21) Leaghur Learmonth (22) Linlithgow Little Lockie Long Lonsdale (23) Lookout Mailacoota (Inlet)	Bendigo and Gladstone (f)	1,620 1,250 130 1,200 2,450 80 350 500 6,000 130	3 2 1 2 - 1 1 3	40 25 50 60 70 40 60 40 40 50	1 1 1 - - 2	40 60 35 40 70 40 50 42 —	37 10 8 20 6 21 4 14	(ii) B (ii) B (ii) C (i) (iv) (iv) (iv) (iv) (ii) B (iv)
(24) Malmsbury (25)	Croajingolong, 12 m. W. of Cape Howe (tidal) Dalhousie and Talbot, reservoir for northern gold-fields' population, borough of Malms-	1,700	5	60	3	-		(iii)
Mannaor	bury (f)	640 40 250 1,700 153 560 230 1,225 1,025 180 180 2,800 2,800 180 180 180 180 180 180 360 360 360 360 360 360 360 360 360 36	2 1331 1 1 1 1 1 1 1 3 1 1 1 1 1 1 1 1 1	30 40 20 50 50 60 70 30 55 40 40 40 70 55 70 55 70 55 70 55 70 55 70 55 70 70 70 70 70 70 70 70 70 70 70 70 70	1 1 1 2 - 1	60 30 45 20 50 50 45 45 45 45 65 10 70 45 45 45 50 45 50 45 50 45 50 45 50 45 50 45 50 45 50 50 50 50 50 50 50 50 50 50 50 50 50	52 6 10 6 10 	(iv) (iii) A, B (iv) (iii) A (iii
Purrumbete (28) Racecourse Reedy Reeve (29)	Heytesbury, 4 miles S.E. of Camperdown (f) Tatchera, 10 miles N.W. of Kerang (f) Tatchera, 3 miles N. of Kerang (f) Buln Buln, 2 miles S.E. of Seacombe, on coast	1,450 196 550	1 1	70 50 10	<u>1</u> _	50 40 70	<u> </u>	(i) B (iv) (iv)
Repose Rosine Round Salt Salt Salt Salt Salt Spectacle (Great)	(tital) Villiers, 7 miles S.E. of Dunkeld (f) Grenville, 3 miles W. of Cressy (s) Tatchera, 10 miles S.W. of Kerang (f) Weeah, 46 miles N.W. of Lake Albacutya (s) Grenville, 9 miles N.E. of Colac (s) Ripon, 6 miles N.E. of Streatham (s) Ripon, 9 miles S. of Beaufort (s) Lowan, 12 miles N.W. of Mostyn (s) Lowan, 5 miles N.W. of Mostyn (s) Tatchera, 13 miles N.W. of Kerang (s) Tatchera, 13 miles W. of Kerang (s) Karkarooc (f) Tatchera, 10 miles S.W. of Kerang (f)	9,000 280 380 35 4,480 870 500 180 500 600 700 100 160 30 328	36 1 1 1 1 1 1 -	10 10 54 40 65 45 60 10 50 40 55 60 15 45		70 50 70 34 50 30 60 45 70 25 30 50 15 38		(iii) (i) A, C (iv) (ii) A (i) A (i) A (ii) A (ii) A (ii) A (iii) A

LAKES OF VICTORIA—(Continued).

Name.	Position.	Approx. Area. Acres.	Longth	Lengui.	Dungath	Dieación.	Max. Denth.	Geological Characteristics and Probable Origin.
		Appro Ac	Miles.	Chains.	Miles.	Chains.	ZĞ	Geological C teristics Probable C
Spectacle (Little) St. Mary's Swan Sydenham (30) Tamboon (31) Tatutong Tchum (32) Terang Terang Tobacco Tooliorook Tower Hill Turang-moroke	Tatchera, 10 miles S.W. of Kerang (f)	43 230 60 2,300 1,150 50 260 300 500 25 850 850 250	-1 -3 2 	25 30 70 30 70 70 70 25 70 30 70	- - 1 - - - - 1	20 40 20 70 40 20 		(iv) (ii) A ————————————————————————————————————
Tyers (33) Tyrrell (34) Upper Coliban	Tambo, 22 miles west of mouth of Snowy River (tidal)	3,950 42,600	2 14	50 40	1 7	30 40	_ 15	(iii) (iv)
Reservoir (35) Victoria (36) Wahpool	Talbot and Dalhousie (f) Tanjil, 21 miles E. of Sale (tidal) Karkarooc and Tatchera, 6 miles E. of Lake	574 28,500	3 15	 40	3	50 70	60 25	(iii)
Wallwalla	Tyrrell (s)	- 600	7	40	2	40	12	(iv) (iv)
Wallace Wangoom WarangaB'sin (37) Wartook Res. (38) Wau Wauka Weerancanuck Weering Wellington (39) Wendouree (40) White Wirraan Wooronook Wurdee Boluc Yallakar Yambuk (41) Yando Yan Yean (42) Yeeangmaria Yellwell	Lowan, at Edenhope (f) Villiers, 6 miles N.E. of Warrnambool (f) Rodney (f) R	450 200 11,009 2,556 600 1,280 921 34,500 500 1,400 250 440 870 200 1,360 75 200	1 1 1 1 2 - 1 1 1 - 2 - 2	10 55 10 50 40 40 60 20 20 45 75 60 60 20 55 70	5 1 7 1 1 1 7 1 - 1	60 45 20 40 15 10 75 15 25 60 20 40 40 50 24 40 40 40 40 40 40 40 40 40 40 40 40 40	12	(ii) A (i) B - (iii) A (ii) A (ii) A (ii) A (iii) A (ii) A (iii) A (iii) A (iii) - (iv)
Yerang	Karkarooc, 44 miles N.W. of Lake Tyrrell (f)	160	-	55	-	35	6	(iv)

NOTES.

- (1) Practically dry for several years up to 1999, now receiving overflow from Lake Hindmarsh (1910). Height above sea level, 210 feet.
 - (2) Ornamental lake, contains English perch (brown and golden) and carp.
 - (3) 450 feet above sea level.
- (4) Enclosed in a ring of hills, 520 feet above sea level. A remarkable feature about this lake is that, although separated from Lake Gnotuk (depth 103 feet) by less than half-a mile, its surface level is 140 feet higher, and the water, though brackish, is fit for stock, whilst Lake Gnotuk is quite salt. Lake Bullen Merri is supplied by underground springs, &c., and discharges into Lake Gnotuk. This explains the difference in salinity, one having a discharge and the other not. Both supply and discharge are underground.
 - (5) Now (1910) about 8 feet deep. Fairly flat basin. 438 feet above sea level.
- (6) 1270 feet above sea level, occasionally dry, usually contains from 4 to 6 feet of water. English perch, carp and eels.
 - (7) 367 feet above sea level.
 - (8) 494 feet above sea level.
- (9) Shallow. Barwon River runs through to coast at Barwon Head. Bar at entrance. Navigable by small crafts only. Contains mullet and bream (migratory).

- (10) 380 feet above sea level.
- (11) Contains English perch and eels.
- (12) 380 feet above sea level. See note against Lake Bullen Merri.
- (13) Artificial lake made for water supply purposes. Capacity 5,650,000,000 gallons. Masonry and concrete dam. Contains Murray cod, Murray perch (golden, silver and Macquarie) and black fish.
 - (14) This lake, now full (1910), dries up frequently. 277 feet above sea level.
 - (15) On Mount Wellington, caused by landslip.
 - (16) 400 feet above sea level.
 - (17) Artificial lake
- (18) Most important of the Gippsland lakes; average depth, 21 feet. Receives the waters of the Mitchell, Nicholson, and Tambo Rivers, all of which are navigable for some miles up stream. The Gippsland Lakes include Lakes Wellington, Victoria, King, and Reeve, and all inlets and channels. Except on eastern shore of Lake King, the borders are flat, with abrupt sandy rises, in places attaining a height in some cases of 150 feet. The entrance opposite Kalimna is an artificial one, and was opened in July, 1889. The old or natural inlet of the lakes, situated about two miles to the eastward, is now non-existent, having been filled up by dritting sands. A sand bar exists across the entrance, with a depth of about 14 feet at low water. This limits the navigability of the lakes to vessels of comparatively small tonnage. Range of tides at springs, about 3 feet. Numerous wharves and jetties abound on the shores of these lakes, the principal ones being at Bairnsdale and Sale. A regular service of lake steamers plies to and from these towns, and from Bairnsdale there is a coastal service to Melbourne.
 - (19) Timber weir, impounds 11.150,000,000 gallons of water.
 - (20) Artificial lake, impounds 3,812,000,000 gallons of water.
 - (21) Contains English perch and English trout.
 - (22) 1328 feet above sea level. Contains English perch and English trout.
- (23) Water supply reservoir, impounds 12,380,000,000 gallons. Contains English perch, English trout, and Murray perch.
- (24) Divided into two portions, called upper and lower lakes; connected by a narrow passage about one mile long. Sand bar at entrance to lakes, with 3 or 4 feet over it at low water. There is also an inner bar stretching from Captain's Point, over which there is not more than 2 feet at low water. Navigation of this entrance is extremely hazardous, and a good personal knowledge of the locality, combined with great caution, is necessary. A sinuous channel about 13 feet deep communicates with the strait connecting the upper and lower lakes. The strait is about 100 feet wide, with deep water. Bold, rocky, timber-covered slopes characterise the shores of the lake and river banks. Mullet, skipjack, schnapper, bream, flathead, whiting, garfish, sea trout, and ludrick are found in this lake.
- (25) Artificial water supply reservoir, impounds 20,856,000,000 gallons. Contains English perch and English trout.
 - (26) 2374 feet above sea level, now practically dry.
 - (27) Occasional shoals of mullet and bream.
 - (28) Crater 150 feet deep.
- (29) One of the Gippsland Lakes. See remarks against Lake King. Contains bream, mullet, whiting, sea trout, sea perch, garfish and ludrick.
 - (30) Contains mullet, bream and sea perch.
 - (31) Contains mullet, bream and sea perch.
 - (32) For Mallee Water Supply, impounds 180,000,000 gallons.
- (33) The entrance to Lake Tyers is generally barred across during dry seasons by a sand bank, but after heavy rains the bank is broken, forming one or two channels to the sea. This entrance is not fit for navigation. A settlement for the education and religious instruction of the aborigines is formed on the northern shore of the lake. Contains mullet, bream, sea perch and ludrick.
 - (34) Usually dry. Can hold from 10 to 15 feet of water. 118 feet above sea level.
 - (35) Artificial lake, impounds 4,100,000,000 cubic feet of water. Contains English perch and trout.
- (36) One of the Gippsland Lakes, average depth about 18 feet. See general note against Lake King. Contains mullet, bream, sea perch and ludrick.
- (37) Artificial water supply reservoir. Impounds 60,000,000,000 gallons. Contains English trout, Murray cod and Murray perch.
 - (38) Impounds 6,560,000,000 gallons. Contains English perch and trout.
- (39) One of the Gippsland Lakes. Averages 8 feet in depth at low water. See general remarks against Lake King.
 - (40) Contains English perch, trout, carp and tench.
 - (41) Contains mullet, bream, sea perch and ludrick.
- (42) Principal reservoir for MeTourne water supply. Impounds 6,400,000,000 gallons. Contains English perch, trout, carp and tench.

4. Queensland.—The tabular statement giving information regarding Queensland lakes has been furnished by the Survey Office of the Lands Department of Queensland. With regard to the lakes in the interior it may be noted that they are nearly all shallow and mostly waterless in dry seasons.

LAKES IN QUEENSLAND.

		Ge	ographical Position.	Approx. Area, Sq. M.	gth es.	dth es.
Name.	Lat. S.	Long. W.	Locality.	App Area,	Length Miles.	Breadth Miles.
Numalla, fresh, not permanent (1) Wyarra, salt, not permanent (1) Bulloo or Berteela, fresh, permanent	28 43 28 42	144 19 144 14	20 miles N. of Hungerford 23 ,, N.W. ,,	$\frac{6\frac{1}{2}}{12\frac{1}{2}}$	6 6	2 3
for about 2 years (1910) (2) Bullawarra, fresh (3) Dartmouth (4) Cuddapau, fresh, not permanent (5)	28 40 27 53 26 5 25 2	142 26 143 35 145 20 141 27	28 ,, N.E. of Wompah 16 ,, N.W. of Thargomindah 46 ,, E. of Adavale 77 S.W. of Mindorah	$16 \\ 1\frac{3}{4} \\ 25 \\ 14$	7 13 7	31 11 51 4
Moondah ,, (6) Nappanerica Machattie, salt (7) Koolwoo (8)	25 50 25 53 24 50 24 57	140 28 139 4 139 47 139 33	22 , , Beetoota 18 , W. of Birdsville	46 6 1 120 10	12 7½ 17	4 5 1 10 21
Phillipi or Wickamunna, salt (9) Galilee or Jochmus, fresh at N. end, salt S. end; dry in dry seasons (10) Buchanan, salt, permanent (11)	24 23	139 0 145 47 145 54		126 80 50	14 19 15	14 10 44
Mueller, sods. A clay pan in dry seasons (12) Barcoorah, fresh, permanent (13) Amaroo (14)	22 46	145 28 145 22 138 42	58 , E. of Muttaburra 50 , N.E. of Muttaburra 65 , N.W. of Bedowrie	2 1 2	4 2 2	1 3 1
Cargoon, fresh, permanent (15) Yamma Yamma or Mackillop, salt; dry in dry seasons (16)	20 8 26 15	144 51 144 25	64 , N.E. of Hughenden 30 , N.E. of Haddon Corner	2½ 275	2½ 20	11 18
Walter Plains	18 21 17 17 17 142 26 12	145 14 145 38 145 39 153 3	50 ,, S.W. of Cardwell 10 ,, E. of Atherton 12 ,, N.E. ,, On the coast between Brisbane	4 15 13	4	1 2 3 8
Como, salt	26 12 26 16 26 21	153 1 153 1 153 2	and Maryborough	$1 \\ 1\frac{1}{2} \\ 14\frac{3}{4} \\ 2$	1½ 2½ 7 2	1 3 3 1
Cooroibah, salt Section of the cooroibah salt Sect	26 24 26 27	153 2 153 2 153 5	" " " " " " " " " " " " " " " " " " "	4	1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

⁽¹⁾ Salt bush flats around lake. (2) Large tracts of polyguum swamp with sheets of water; enclosed by sand hills formed by strong winds. (3) Blue bush, yapunyah and mulga scrub. (4) Mulga scrub. (5) Cotton bush flats around lake. (6.) Cotton bush, salt bush, blue bush and cane grass. (7) Coolibah, beef wood, spinifex and deadfinish. (8) Coolibah, spinifex and deadfinish. (9) Gidya and coolibah. (10) Gidya, etc. (11) Gum and beef wood. (12) Porcupine grass surrounding the lake. (13) Desert country; naturally supplied by artesian water. (14) Gidya. (15) Box, ironbark and gum. (16) Cotton bush and saline herbs; clayey loam, putty soil full of holes and deep cracks when dry. (17) Tropical scrub; extinct crater. (18) Navigable for small craft.

5. South Australia.—The information in the tabular statement hereunder has been furnished by the Crown Lands Department of South Australia.

LAKES IN SOUTH AUSTRALIA.

ng. 7. 26 18	O 9 20 Approx. Are Sq. Miles.	Length (Appro	Breadth (Appro	oot 1 Water,	or below Sea Level.
26 18	66	14	8	5 to 10	
18	66	14	8	5 to 10	
10	l 220	93			
				5 to 15	A few ft. below s.l.
57	340	76	12	Shallow	
27	61	4	11/2	2 to 10	26 ft. above.
40	215	25	10	Shallow	150 ft
46		1,			68 ft. above.
					About sea level
	-0				I Bour sea level
	21	31	î		!
			Ĝ		
		40 40 0 2 2 34	40 40 17 0 2 21 2 31 32	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	40 40 17 3 8 to 15 0 2 21 1 Shallow 2 31 32 1

	Posit	aphical ion of ntre.	H 26	Miles rox.)	eadth Miles (Approx.)	Depth Feet.	Height of Bed above
Name.	Lat. S.	Long. W.	Approx. A Sq. Mile	Length Mile (Approx.)	Breadth (Appro	Average I Water, I	or below Sea Level.
Cadnite, fresh Callabonna, salt (1)	36 43 29 42	140 56 140 3	1 142 142	1 35	$\frac{1}{7\frac{1}{2}}$	2 to 8 Shallow	330 ft. above. 150 ., , (approx.)
Cockatoo, fresh (12)	36 46	140 34	2	효	1		,, (
Coongie, fresh Coogiecooginna, fresh (8)	27 12 27 38	140 13 139 34	6 6	47	3 1	Shallow Uncert'n	
Campbell, fresh (9) Coorong (coastal lagoon) brack. (10)	30 52 36 0	136 36 139 30	1 94	1 80	$\frac{1}{2^{\frac{1}{4}}}$	0 to 6 3 to 10	About sea level
Conway, fresh (6) De Burgh (N.T.), fresh (7)	28 16	135 34	30	11	4	Shallow	About sea level
De Burgh (N.T.), fresh (7) Dutton, salt	18 52 31 47	135 27 137 8	100* 22	13 7	9 6	**	
Eliza, salt	37 14	139 51	161	6	4	4 to 8	10 ft. below.
Etamunbanie, fresh Everard, salt (1)	26 16 31 30	139 43 135 0	20 310	$\frac{6}{32}$	4 15	Shallow	
Eyre (North), salt (11)	28 30 29 18	137 30 137 28	2970 460	90 38	40 16	1 to 4 1 to 4	39 ft. below.
Eyre (South), salt (11) Frome, salt (11)	30 44	139 48	930	60	28	1 to 4	160 ft. above.
Frome (S.E.), fresh Gairdner, salt (1)	37 33 31 30	140 9 130 0	1840	96	2 30	4 to 10 Shallow	About sea level.
George, fresh	37 58	140 0	191	9	3	6 to 12	6 ft. above.
Gilles, salt	32 50 27 0	136 45 140 11	70 17	30 9	8	Shallow	
Greenly, salt	34 20	135 26	81	4	21	,,	Sightly above.
Gregory, salt (1) Hamilton, salt	29 0 34 0	139 0 135 18	113 9	16 7	$\frac{9}{1\frac{1}{2}}$	2 to 6	130 ft. above. Slightly above.
Hanson, salt	31 0	136 15	24	13	4	Shallow	Sugnit, asove.
Harris, salt	31 4 31 9	135 15 136 24	115 60	20 12	10 7	"	
Harry, brackish (7)	29 24	138 18	12	7	21/2	,,	100 1
Hawdon, fresh Hope, fresh	37 8 28 24	139 55 139 18	53½ 13	16 8	5 3	4 to 8 2 to 8	18 ft. above.
Howitt, fresh (7)	27 38	138 42	24	10	5 5	Shallow	About sea level.
Kalamurra, fresh Kittakittaooloo, fresh	28 0 28 4	138 5 138 12	36 33	9 13	5	"	
Killapanninna, fresh	28 37	138 46	1	2	1	Variable	Slightly below.
Koolkootinnie, fresh Kopperamanna, fresh	28 0 28 37	138 0 138 41	36 1	$\frac{25}{2}$	4	Shallow Variable	Slightly below.
Leake, fresh (5)	37 37 32 0	140 35 136 44	150	37	15	33 Shallow	318 ft. above.
Macfarlane, salt Massacre, fresh (12)	27 23	140 5	3	21	2	No rec'rd	
McKinlay, fresh Marroopootanie, brackish	27 25 26 54	139 43 140 7	6	3 5	$\frac{1}{2}$	2 to 6 Shallow	
Nash (N.T.), fresh (13)	20 59	137 57	1	6	1/2	Deep	
Newland, salt (14) Noolyeana. salt	33 24 27 55	134 53 136 39	15 20	11 6	$\frac{1\frac{1}{2}}{6}$	Shallow	Slightly above.
Pantoowarinna, salt	27 28	137 47	20	14	2	"	
Pathraootara, fresh Peera Peera Poolana, brackish	27 24 26 42	138 14 137 42	7 150	5. 40	3 8	Uncert'n Shallow	
Perigundi, brackish	27 47	139 24	2	21	i	1 to 4	
Philbs, salt Phillipson, fresh (15)	29 33 29 28	137 10 134 27	6 3	$\frac{4}{2}$	$\frac{1}{2}$	Shallow "	
Poolowanna, salt	26 33	137 32	45	25	24	,,	
Poolyeruninna, salt Peer Mudla Yeppa, fresh	27 0 27 35	137 58 137 37	20 18	5 9	5 3	"	
Robe, salt	37 12	139 47	1 ¹ / ₄	14	1		Surface 2 ft. below.
Short, salt Sir Richard or Lipson, fresh (12)	26 10 27 1	139 48 140 23	5 8	4 5	2 31	Shallow No rec'rd	•
St. Clair, salt	37 20 27 2	139 54	78	4 21	3	3 to 10 No rec'rd	Surface 5 ft. below.
Strangways, fresh (12) Sylvester (N.T.), fresh (7)	18 50	140 0 135 38	100*	15	2 9	Shallow	
Tankamarinna, salt	29 0	138 23	5 22	5	2 4	,,	
Thomas, salt Torrens, salt (1)	31 0	137 58 138 0	2230	10 120	40	<u>"</u>	90 ft. to 112 ft. above.
Uloowaranie, iresh		139 28 140 10	. 24	11 5	3	Doubtful Shallow	
Wangary, fresh (1)	34 33	135 30	1	$1\frac{1}{2}$	11/2	,,	Slightly above.
Warandirinna, salt (7) Warrakalanna, salt (7)	27 28 28 11	138 0 139 18	73 8	28 3½	5 3	.,	
Weatherstone fresh (16)	30 17	138 8	2	2	1	,,	About 130 ft. above.
Windabout, salt (7) Woods (N.T.), overflow of New	31 20	137 6	21	13	4	,,	
Windabout, salt (7) Woods (N.T.), overflow of New castle Waters, fresh (6)	17 50	133 10	<u>+</u>	;	#	1 to 20	
Yaninee, salt Yandiya, fresh (8)	33 U	135 15 138 44	7	4 1½	3	Shallow	About sea level
Younghusband, salt	30 50		30	12	4	1	1

^{*}In wet seasons. † Sometimes covers hundreds of sq. miles. ‡ Uncertain.
(1) Partly dry in summer. (2) Navigable for boats of 50 tons. (3) Navigable for river boats of 200 tons; bed uneven. (4) Highest flood 60 feet above sea level. (5) Volcanic. (6) Occasionally dry. (7) Sometimes dry. (8) Overflow of Cooper's Creek. (9) Not permanent. (10) Partly navigable. (11) Fresh during floods, occasionally dry. (12) Permanent. (13) Part of Herbert River. (14) Partly dry in summer; contains fresh springs. (15) Occasionally dry; salt when low. (16) Dry in summer.

6. Western Australia.—Strictly speaking there are in Western Australia only a few lakes of small size, scattered along the coast, west of the Darling Range. The so-called lakes of the interior are merely immense clay-pans or salt marshes, covered with a few inches of water after heavy rains. The accompanying schedule, prepared from information supplied by the Lands Department of Western Australia, gives the whole of the available information in regard to the lakes of this State.

LAKES OF WESTERN AUSTRALIA.

Lake									Geographic	al Position.
Waukarlycarly (salt)		Lak	ke.			Greatest Length.	Greatest Breadth.		Latitude S.	Longitude E
Dora (salt)						Miles	Miles		1	. ,
Blanche	Waukarlycai	ly (sal	t)					17 sq. m.		
Winifred	Dora (salt)	•••					5,	40		
Disappointments								15		123 5
Buruside (fresh) 66t 3j 23 25 28 123 10 Kelsall 2 2 25 31 123 10 Kelsall 2 2 3 11 25 45 123 10 Kelsall 2 3 11 25 42 123 10 Kelsall 2 3 11 25 42 123 10 Kelsall 3 11 25 42 123 10 Kelsall 3 11 25 42 123 10 Kelsall 3 11 25 42 123 10 Gregory 6 6 12 25 40 120 5 120							2.5	100	93 40	123 0
Buchanan (fresh)							31	00	25 28	123 10
Anguska Clearey (brackish) Clear	Buchanan (f	resh)				7	5	28 ,,		
Clearey (brackish)							8			
King Gregory 6 3 3 11 25 40 120 0 Gregory 6 6 2 12 25 40 110 55 Nabberu (chain of lakes) 6 0 25 40 110 55 Nabberu (chain of lakes) 6 0 25 40 110 55 Auld 25 50 120 55 120 50 120 5	Augusta				•••		28	77		
Gregory Nabberu (chain of lakes) 60						21	, 1	44 "	25 40	
Nabberu (chain of lakes)	Gregory							10 "	25 40	
Teague	Nabberu (ch						_	- ;;	25 40	120 30
Nell 5	Teague					6		15 ,,	25 50	120 55
Tobin										
Macdonald 20 12½ 250 23 30 128 30 Hopkins 15 5 75 94 15 128 45 Christopher 6½ 1½ 9 94 50 127 40 Salt Lake 65 25 900 24 0 113 50 Budall 7½ 3½ 25 25 58 122 18 Carnegie 50 2½ 125 26 1 122 32 Dorothea 1½½ 3½ 40 26 15 123 12 Bedford 17 1½ 18 26 5 123 16 Wels 46 6 140 26 42 123 29 124 8 Lakes N. Throssell — — 1½ 23 23 16 124 8 Lakes N. Throssell — — 1½ 23 23 18 121 82 Way — 26 2½ 61 25 42 121 12 Way — 26 2½ 61 25 5	Nell						14	1.0		
Hopkins	TODIII	•••					191	1 0-0		
Christopher	Honkins							-	24 15	
Salt Lake 65 25 900 24 0 113 50 Rudall 71 36 25 25 58 122 18 Carnegie 50 25 125 26 1 122 32 Dorothea 124 35 40 26 15 123 12 18 Bedford 17 14 18 26 5 123 16 Wells 46 6 140 26 42 123 30 First 20 3 50 27 38 124 8 Lakes S.W. Throssell — — — 11 27 38 124 8 Lakes S.W. Throssell — — — 12 23 22 18 121 28 Darlot 11 4 39 27 40 121 12 48 120 12 12 18 <								0 "		
Rudall	Salt Lake					65	25	900	24 0	113 50
Dorothea 12t				• • •			35	25 .,	25 58	122 18
Bedford 17							24	1 40 "		122 32
Throssell					• • • •	125	35	1 10 "		
Throssell					•••	46				
Lakes S.W. Throssell — 11 27 46 123 58 Salt Lake N. of Lake Carey 121 2 23 28 18 121 15 Darlot 11 4 39 27 40 121 12 18 19 19 14 14 37 30 12 11 40 30 0 121 10 12 10 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 </td <td>Throssell</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>I = 0</td> <td>27 38</td> <td></td>	Throssell							I = 0	27 38	
Salt Lake N. of Lake Carey 12	Lakes S.W.	Chrosse	ell		•••	_		l 1 1		
Way 26 21 61 26 48 120 15 Maitland 25 10 -225 27 0 121 10 Breaden 15 15 7 72 31 0 121 10 Breaden 15 7 72 31 0 119 40 Lefroy 30 9 173 31 15 121 45 Goongarrie 11 6 47 30 0 121 10 Lakes W. Goongarrie (salt) 11 4 37 30 5 121 2 Cowan 52 11 400 31 55 121 45 Cowan 52 11 400 31 55 121 45 Le Page 17 5 30 30 35 122 10 Roe 4 1 2 30 40 122 42 Lake E. Yindarlgooda 7 3 21 30 45 122 10 Raeside 133 2 170 29 20 120 20 Raeside <td>Salt Lake N</td> <td>. of La</td> <td>ake Cai</td> <td>ey</td> <td>• • • • • • • • • • • • • • • • • • • •</td> <td></td> <td></td> <td></td> <td>28 18</td> <td>121 55</td>	Salt Lake N	. of La	ake Cai	ey	• • • • • • • • • • • • • • • • • • • •				28 18	121 55
Maitland 25 10 -225 27 0 121 10 1225 27 0 121 10 125 25 55 55 55 55 55 525 55 55 525 55 55 525 55 525 55 52 55 55 125 35 56 66 119 40 40 31 50 121 40 40 30 0 121 10 10 40 40 31 35 121 12 <t< td=""><td></td><td></td><td></td><td></td><td></td><td>11</td><td></td><td></td><td>27 40</td><td>121 12</td></t<>						11			27 40	121 12
Breaden	Waitland					25		005		
Seabrook							19	1 2		
Lefroy 30 9 173 31 15 121 45 Goongarrie 11 6 47 30 0 121 10 Lakes, W. Goongarrie (salt) 11 4 37 30 5 121 25 Cowan 52 11 400 31 55 121 45 Yindarlgooda 9 9 47 30 45 121 52 Le Page 17 5 30 30 35 122 10 Roe 4 2 30 40 122 42 Lake E. Yindarlgooda 7 3 21 30 45 122 10 Raeside 133 2 170 29 20 120 20 Salt Lake (salt) 73 15 920 24 0 113 40 Austin 43 6 320 27 40 118 0 Muir 7 7 2½ 15 34 29 116 41 Wagin 7 3 25 0 acres 33 19 117 21 Goondaring 1½ 1½ 1½ 13, 32 117 17 Parkeyerring 2½ <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>l - "</td> <td></td> <td></td>								l - "		
Lakes, W. Goongarrie (salt). 11 4 37 30 5 121 2 Cowan 52 11 400 31 55 121 45 Yindarigooda 9 9 47 30 45 121 52 Le Page 17 5 30 30 30 35 122 12 Roe 4 4 2 30 40 122 42 Lake E. Yindarlgooda 7 3 21 30 45 122 10 Raeside 133 2 170 29 20 120 90 Salt Lake (salt) 73 15 920 24 0 113 40 Austin 43 6 320 27 40 118 0 Wagin 7 7 2½ 15 34 29 116 41 Wagin 8 8 250 acres 33 19 117 21 Goondaring 1½ 1½ 1	Lefroy						9	173		
Cown					•••					
Yindarlgooda 9 9 47 30 45 121 52 10 Roe 17 5 30 30 35 122 10 10 122 42 12 122 42 12 122 10 122 42 12 122 10 122 42 12 122 10 122 12 12 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>100</td> <td></td> <td></td>								100		
Le Page 17 5 30 30 35 122 10								477	30 45	121 52
Roe	Le Page							90		
Raeside	Roe					4		2		
Salt Lake (salt) 73 15 920 24 0 113 40 Muir 43 6 320 27 40 118 0 Muir 7 2½ 15 34 29 116 41 Wagin \$ \$ \$ 250 acres 33 19 117 21 Goondaring 1½ 1½ 1½ 1, sq. m. 33 17 117 10 Parkeyerring 2½ 1 1½ 33 21 117 10 Quarbing 1 ½ 352 acres 33 24 117 19 Norring 2½ 1½ 1 512 acres 33 24 117 19 Norring 1½ 1 512 acres 33 25 117 17 Little Norring 1½ 1 524 33 31 117 17 Little Norring 1½ 1 524 33 31 117 17 Charlie 1½ 1 524 33 31 117 17 Charlie 1½ 1½ 1½ 50		larlgoo								
Austin		127						000		
Muir 7 21/4 15 34 29 116 41 250 acres 33 19 117 21 250 acres 33 19 117 21 250 acres 33 19 117 21 23 1 11 1 33 17 117 20 23 1 11 1 33 21 117 21 117 11 11 33 21 117 11 11 11 33 21 117 11 11 11 33 21 117 11 11 11 11 11 11 11 11 11 12 24 33 24 117 18 11 1					•••	40		1 000 "	27 40	
13						7				
13	Wagin	•••				ğ	1 8	250 acres	33 19	117 21
Quarbing 1 \$\frac{1}{2}\$ doces 33 24 117 19 Norring 9\$\frac{1}{2}\$ 1\$\frac{1}{2}\$ sq. m. 33 26 117 17 Little Norring 14 1 512 acres 33 25 117 18 Flagstaff 14 1 524 m. 33 31 117 15 Queerearrup 12 14 1 580 m. 33 31 117 15 Charlie 14 1 580 acres 33 31 117 13 Charlie 14 1 580 acres 33 31 117 13 Salt Lake 10 1 14 sq. m. 33 22 117 25 Murdalmurrin 1 1 56 acres 33 32 117 25 Lime 1 64 acres 33 22 117 25 Dumbleyung 7 3 20 sq. m. 33 20 117 40 Taaribin 6 2 33 0 117 33 117 33 Grace 19 1 59 33 10 118 28 Pingrup 2 1 2 33 26 115 30 Chinocup 6 2 11 4 33 30 118 28						1 12	1 1 5	1 sq. m.		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Parkeyerring						1 3			
Charlie	Quaroing Norring					1	,1			
Charlie 14 1 580 acres 33 31 117 11 Salt Lake 1a 1 1 sq. m. 33 22 117 22 Murdalmurrin 1a	Little Norrin	 Id				14				
Charlie	Flagstaff	· o				11			33 31	
Charlie	Queerearrup					12		1 1 sq. m.		117 13
Murdalmurrin \$\frac{1}{8}\$ \$\frac{1}{9}\$ \$64 acres 33 22 117 25 Lime \$\frac{1}{8}\$ \$\frac{1}{9}\$ \$224 \$\tau\$ 33 24 117 25 Dumbleyung 7 3 20 sq. in. 33 20 117 40 Faaribin 6 2 33 0 117 33 20 117 33 Grace 19 1 59 33 10 118 28 Pingrup 2 1 2 33 26 115 30 Chinocup 6 24 11 33 30 118 28 Lake N. Grace 6 1 4 33 30 118 36 Condinin 24 23 44 33 20 118 0 Lake S.E. Condinin 2 12 23 42 33 20 118 10	Charlie					14	1			
Dumbleyung 7 3 20 sq. in. 33 20 117 40 Faarlbin 6 — 2 33 0 117 33 Grace 19 1 59 33 10 118 28 Pingrup 2 1 2 33 30 118 30 Chinocup 6 24 11 33 30 118 28 Lake N. Grace 6 1 4 33 0 118 36 Condinin 24 23 43 32 20 118 0 Lake S.E. Condinin 2 14 2 32 30 118 10						18	1 3			
Dumbleyung 7 3 20 sq. in. 33 20 117 40 Taarlbin 6 — 2 33 0 117 33 Grace 19 1 59 33 10 118 28 Pingrup 2 1 2 33 26 115 30 Chinocup 6 24 11 33 30 118 28 Lake N. Grace 6 1 4 33 0 118 36 Condinin 24 23 43 32 20 118 0 Lake S.E. Condinin 2 14 2 32 30 118 10	muraaimurri Lime	ın				7	ă			
Taarlbin 6 — 2 33 0 117 33 Grace 19 1 59 33 10 118 28 Pingrup 2 1 2 33 26 115 30 Chinocup 6 2½ 11 33 30 118 28 Lake N. Grace 6 1 4 33 0 118 36 Condinin 2½ 4½ 2 32 20 118 10 Lake, S.E. Condinin 2 1½ 2 32 30 118 10	Dumbleving					7 ⁸	3,4			
Grace 19 1 59 33 10 118 28 Pingrup 2 1 2 33 26 115 30 Chinocup 6 2½ 11 33 30 118 28 Lake N. Grace 6 1 4 33 0 118 36 Condinin 2½ 2½ 4½ 32 20 118 10 Lake S.E. Condinin 2 1½ 2 32 30 118 10							<u> </u>	2 .		
Pingrup	Grace					19	1	59 .,	33 10	118 28
Chinocup 6 24 11 , 33 30 118 28 Lake N. Grace 6 1 4 33 0 118 28 Condinin 24 22 44 32 20 118 0 Lake S.E. Condinin 2 14 2 32 30 118 10	D* .						1	2 .,		
Lake N. Grace 6 1 4 33 0 118 36 Condinin $2\frac{1}{2}$ $2\frac{3}{2}$ 4 $\frac{3}{4}$ 32 20 118 10 Lake S.E. Condinin 2 1 $\frac{3}{4}$ 2 32 30 118 10	Chinocup							11 ,,		
Lake, S.E. Condinin 2 14 2 ,, 32 30 118 10	Lake N. Grad	ce				6	1 1 1	4.3		
	Joudinin Laka S.E. C.	 ondivi	•••			28.	13	0	32 20	
							17	44		
		•••	•••	•••		_	1	** "		

LAKES OF WESTERN AUSTRALIA-(Continued).

	·				Grantost	Greetest	Annrovimate	Geographi	cal Position.
	Lak	e.				Breadth.	Approximate Area.	Latitude S.	Longitude E
Yeo					Miles 20	Miles 5	90 sq. m.	28 0	124 30
Baker (salt)					74	3 1 7 2	22 ,,	26 55	126 10
Rason	, .		•••		30	7‡	220 ,,	28 40	124 30
Lakes N. Eucl			•••	•••	80	_	190	29 10	128 30
	•••	•••	•••	•••	60		150 449	29 20 29 30	117 10
			•••		71	5	97	29 10 29 10	117 40 116 30
Yarra Yarra			•••		16	5	51	29 44	115 48
Neakarling or					3	14	4 ,,	30 45	116 30
Cowcowing .		•••	•••	•	16	3	45	31 0	117 10
Ninan .	••	•••	•••	•••	5 1 ³ / ₄	2	9 .,	31 0	118 22
Dalaroo . Gundoralcarra	ä			•••	1 1	1 .	1	30 55 30 37	116 40 115 56
Nullewa .					1 1	ories in	100 acres	30 37	115 57
Burrillgabby .			•••		2 1 1	2	4 sq. m.	29 7	116 12
Pinjarrega .		•••	•••		13	1	430 acres	29 2	116 21
Eganu .		•••	•••	•	1,	1 1	275 ,,	30 4	115 8
To	••	•••	•••		31	1	70 "	30 0 31 4	115 6
Koomberkine	••	•••			13/16	3 4	3 sq. m. 400 acres	31 4 31 0	115 30 117 4
		•••				- 1	2½ sq. m.	30 56	117 0
Bidaminna .			•••		11	A	350 acres	31 8	115 33
Mason .		•••	•••		25	14	42 sq. m.	27 35	120 40
Barlee .		•••			70	8 93	550 ,,	29 5	119 30
Giles Ballard .	••	•••	• •••		25 70	83 10	179 220	29 40 29 24	119 48
Lake E. Ballai	rd				81	4	30	29 40	120 50 121 25
A					30	11	350 sq. m.	29 0	122 20
Deborah .					22	5	46 ,,	30 50	119 5
Lakes N. Debo	rah				 ,		6 ,,	30 25	119 0
Preston . Martin Tank	••	•••	•••		17Å 13	CHOLINE THE SHEET OF SHEET	13	33 0	115 42
Martin Tank . Clifton .	••	•••			12	* 1	300 acres 7½ sq. m.	32 50 32 48	115 42 115 42
	••				14	<u>ş</u>	500 acres	32 42	115 42
Mears .					1	7	400	32 14	117 20
	••				15	ŧ	500	32 10	115 56
	••	•••	••• .		2	# #	250	32 10	115 48
		• • • • • • • • • • • • • • • • • • • •		•••	92	18	650 1100	$\frac{32}{32} \frac{20}{21}$	115 46 115 46
					22		110 .,	32 19	115 43
Munster .					1 1	à l	140 ,,	32 8	115 46
		•••			1 3 -	1	256	32 6	115 48
Ewlyamartup Shaster .		• • • •	•••	•••	31/2	15	250 ,,	33 42 33 52	117 44 120 43
a		•••			31	300.14-14-320.14634-11-14-034-11-14-034-11-14-034-11-14-034-11-14-034-11-14-034-11-14-034-11-14-034-11-14-034-	4 sq. m. 5 ,,	33 50	120 45
					2	îij	21 .,	33 50	121 44
					11	t 1	428 acres	33 50	121 56
Gaze .		•••	•••	•••	2	2	3 sq. m.	33 46	121 25
		•••	•••		3 21/2	12	800 acres	34 6	119 25
					2 2	13 1	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	34 12 34 14	117 40 117 41
			•••		1000	- <u>a</u>	130 acres	34 15	117 38
Barracup .			•••		3	34	½ sq. m.	34 10	117 48
Racecourse .		•••			11	1 choolester-ferfer-no-no stosso	1 "	34 8	117 40
		•••	•••		11	14	1½ 80 acres	34 14 34 8	117 48 116 50
		•••		:::	3/20	1	100 ,,	34 5	117 48
				-:::		i i	236	34 48	118 18
Comorup .		•••	•••		242244	8	204 ,,	34 49	118 15
Nukennullup .		• • • •			1		180 ,,	34 23 34 24	117 17 117 14
Poorrarecup I Nuniup .	wR001		•••	:	15 5	1	1 sq. m. 150 acres	34 24 34 24	117 14 117 24
Dowerin Lakes	 3			:		_ 1	500 acres	31 16	117 5
		٠			ì	3	100 .,	34 25	117 35
Loch Ellen .					7/40	3/40	8 ,,	34 24	117 36
Torditgurrup .		•••			3	• 12	2½ sq. m.	34 31	116 43
			•••		$\frac{1}{2}$		300 acres 2 sq. m.	34 33 34 29	116 44 116 44
Lake N.E. All	any (fres	h)		14	-4	384 acres	35 0	117 46
	(brac	kish)		î l	7	440	35 0	117 46
Corimup				•	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Totalical	300	34 29	116 44
Nunnarup (fre		•••		•…	, B	,#	64 "	34 22	116 45
	••		·		2 7 7 8 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1,	1 ³ / ₄ sq. m. 200 acres	34 24 34 24	115 41 115 36
	••				7/16	1 1	70 acres	32 50	116 23
Salt Lake, N. I	Barlee				54	12.	500 sq. m.	28 30	119 40
,, N.E.	,,	•••	•		24	5	120 ,,	28 25	120 30
Johnston Lake		•••	•••		~	71	225 190	32 20 32 30	120 45 122 0
Dundas		•••			35	7#	190 ,,		

LAKES OF WESTERN AUSTRALIA-(Continued).

								Geographic	al Position.
	Lake	э.			Greatest Length.	Greatest Breadth.	Approximate Area.	Latitude S.	Longitude E
					Miles	Miles		,	. ,
Carmondy					11	1	1 sq. m.	32 37	119 20
Hurlstone					3	2 4 14	5 ,,	32 40	119 30
Varley	•••				31	11/2	5 ,,	32 42	119 28
O'Connor					31	11/2	5 ,,	32 28	119 8
Hutt Lagoon					25	3	10	288	114 16
Piniar			•••		54	11	71	31 40	115 48
Jeerabub	•••				2	7/16	500 acres	31 42	115 44
onderup	•••			1	-4	1	83	31 32	115 42
lanchen				•••	4°	1	12 sq. m.	31 31	115 42
arabooda			•••	•••	13	5/16	1	31 38	115 44
Nowergup	•••	•••		•••	11		1 ₃	31 39	115 44
Coogee	•••	•••			8 .	70-017-44-40-40-4070070-44		31 36	115 42
lindaree	•••	•••	•••	• • • •	14	ę.	100	31 36	115 42
	•••	•••	•••	••••	1	₹		31 34	
Vilgarup	•••	•••	•••		- - 4	Ş	20 ,.		115 42
Beonaddy	•••			•••	- 1	\$	40	31 35	115 41
Pindinny	•••		•••		9/16	₹	40	31 35	115 41
Banban	•••				\$	į į	105	31 26	115 53
lambung	•••				5/16	曹	70 ,,	31 26	115 53
Aungala	• • •				5/16		38 .,	31 27	115 53
Catambo					8	9/40	51	31 30	115 56
osephine					9/40	1/16	. 9 .,	33 6	115 35
Vomans					1	2	420	33 0	117 30
ukin					7/16	7/16	120	33 0	117 30
Bokan	•••		•••		å		90	33 0	117 31
Billy					*	TE COME	80	33 0	117 31
bis					<u>s</u>	3/16	40 .,	33 0	117 30
White					1 §	J, I	F00 "	33 0	117 28
Zeticup					19	ĭ	150	34 15	116 23
Codarup	•••	•••	•••		7/16	ı	0.4	34 17	116 20
Dalialup			•••		7/10 8	5/16	60	34 17	116 20
Varjaiup Vonalling	•••		•••		1 ⁸		185	32 32	117 37
Whitewater	•••	•••		•••	13/16	2314	004	32 32 32 32	
	(do	•••				₹	294		
ake, South		•••	•••		11/16		153	32 33	117 38
Zealering (fr	esn)	•••	• • •		957 8	9/16	172 ,,	32 36	117 37
Barnes		•••		• • • •	Ė	7/16	185	34 45	117 39
[erdacuttup]		•••			_	_	43 sq. m.	33 50	120 18
alt Lakes ne	ear Port	: Culver	(salt)			_	34	33 10	124 0
Barragoon	•••				1	8	166 acres	31 6	115 38
undalup					3_	3107-15	2 sq. m.	31 45	115 47
andabup					11	1 1	11/2 ,,	31 45	115 51
Iarginiup					13/16	£ .	ž .,	31 44	115 49
nangara		•••			1	l 🖁	288 acres	31 47	115 52
Terdsman					14	14	13 sq. m.	31 54	115 48
Monger					î"	-7	340 acres	31 55	115 50
		•••	•••	•••	•	u	010 actos	01 00	1 110 00

^{7.} Tasmania.—(i.) General. The tabular statement given below on the authority of the Tasmanian Lands Department shews particulars of the principal lakes in Tasmania; there are, however, a large number of other lakes of smaller dimensions. Those shewn are situated near the middle of Tasmania and towards the south-east end of a basaltic tableland, which stretches away from the district of Bothwell north-westerly to Mount Bischoff. The lake district is confined to a radius of about 30 miles, and commands an elevation ranging from 2700 feet at Lake Sorell to 3800 feet above sea level at the Great Lake. The lakes form the source of all the more important rivers (with the exception of the Tamar) in the island, viz.:—the Mersey, Forth, Leven, Pieman, King, Gordon and Derwent rivers. The lakes are all freshwater and are becoming well stocked with English and Californian trout; they form natural breeding grounds for swan and wild duck of various kinds. None of the lakes are of crater formation.

⁽ii.) Names, Positions, and Special Features of Tasmanian Lakes. The subjoined statement gives particulars of the principal lakes in Tasmania. With the exception of Lake St. Clair, whose greatest depth is 550 feet, the Tasmanian lakes are shallow, ranging from 6 to about 20 feet in depth.

PRINCIPAL LAKES IN TASMANIA.

	Name.		 Area in Acres.	Length. Miles.	Breadth. Miles.	Special Remarks. (See Foot- note.)	
Great Lake		•••	 28,400	12	7	(1)	
St. Clair		• • • •	 9,500	8 3	$2\frac{3}{4}$	(2)	
Echo			 7,400	$6\frac{1}{2}$	3 1	<u> </u>	
Arthur		•••	 9,000	4	3	_	
Woods			 2,500	3	13	l —	
Sorell		• • • •	 12,200	5	6	(3)	
Crescent			 4,000	$3\frac{1}{2}$	$2\frac{1}{2}$	(3)	

^{(1).} The Great Lake, which is a favoured resort of tourists, is accessible by vehicle from the railway stations at Apsley, Parattah, and Tunbridge, and is distant 48 miles from the two first-named places, and 41 miles from the last-named.

§ 3. The Fauna of Australia.

1. Introduction.—An authoritative article describing in some detail the principal features of the Fauna of Australia was given in Year Books No. 1 (see pp. 103 to 109) and No. 2 (see pp. 111 to 117), while a synoptical statement appeared in No. 3 (see pp. 73 to 76). Considerations of space will, however, preclude the inclusion in this issue of more than a passing reference to the subject.

§ 4. The Flora of Australia.

1. Introduction.—In Year Books No. 1 (see pp. 109 to 114) and No. 2 (see pp. 117 to 122) a fairly complete though brief account was given of the Flora of Australia, and in Year Book No. 3 similiar information in a greatly condensed form will be found on pp. 76 to 78. Space in this issue will not permit of more than a mere reference to preceding volumes.

§ 5. Seismology in Australia.

1. Introduction.—The following brief notes regarding the present position of Seismology in Australia have been compiled from data furnished by the Government Astronomer of Victoria (P. Baracchi, Esquire) and the Director of the private observatory attached to Riverview College (Revd. E. Pigot, S.J.), Sydney.

^{(2).} Lake St. Clair, from which the River Derwent takes its rise, is about 120 miles from Hobart by road, and 80 miles from the Macquarie Plains railway station. It stretches along the eastern base of Mount Olympus, and is fringed by a dense growth of mountain foliage.

^{(3).} Lakes Sorell and Crescent lie along the routes to Great Lake, being 24 miles from Parattah and 13; miles from Tunbridge.