

Department of Fisheries and Wildlife
Western Australia

1984 REVIEW OF RAINFALL AND WETLANDS IN THE SOUTH-WEST
OF WESTERN AUSTRALIA

By J.A.K. Lane and D.R. Munro

November 29, 1984.

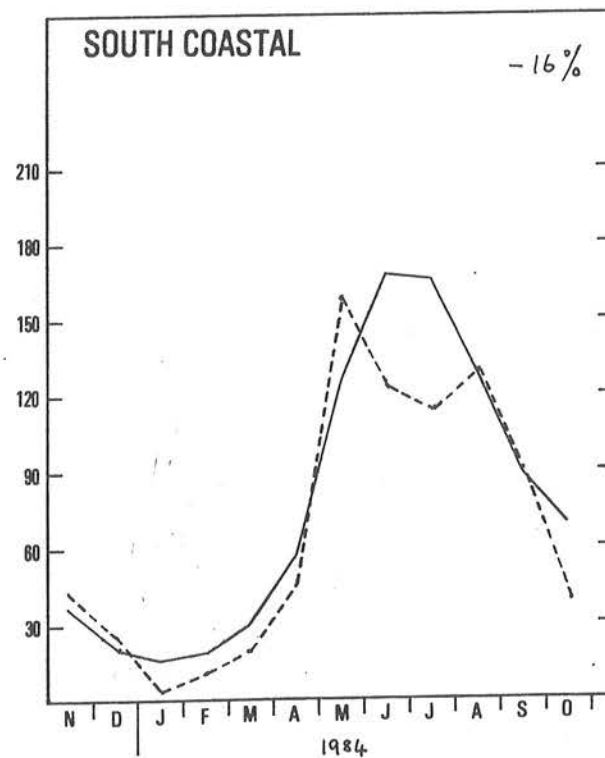
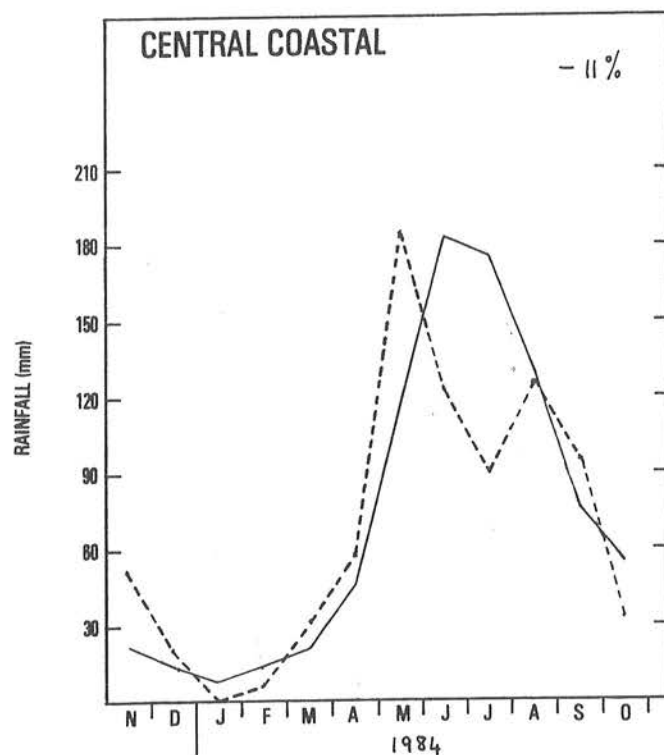
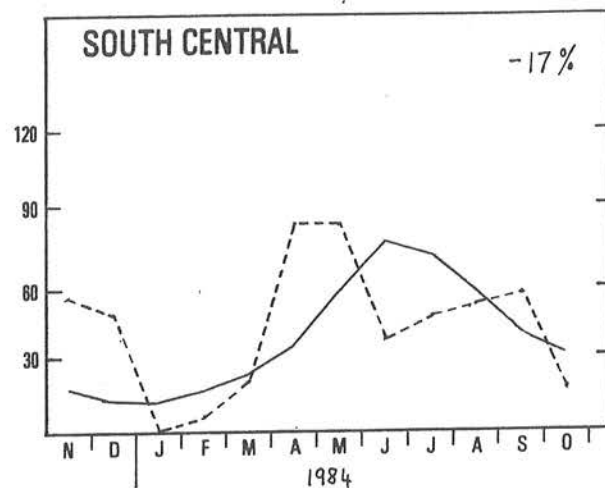
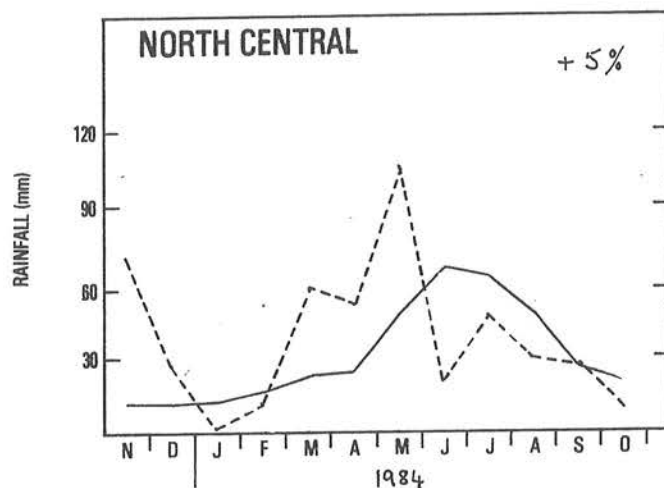
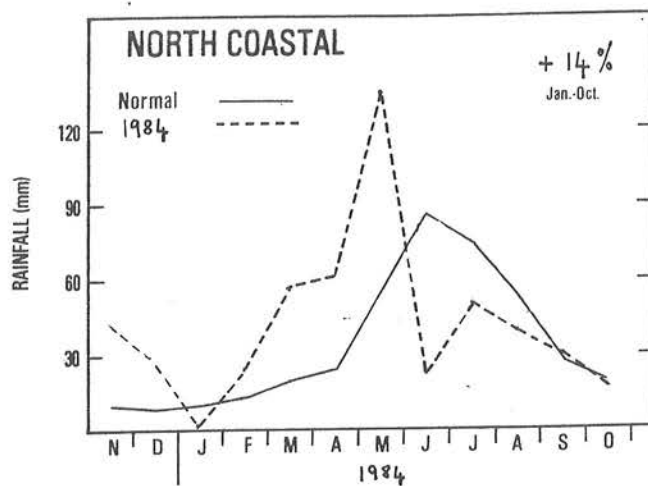
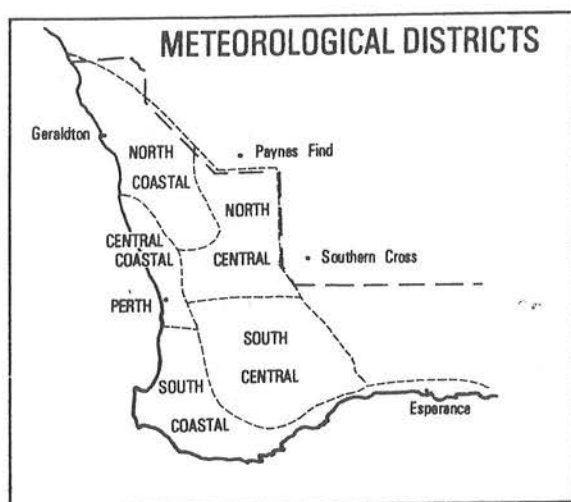


FIGURE 1 Rainfall recorded monthly in each of the five Meteorological Districts of the south-west, November 1983 to October 1984, and November to October Normal. Percentage departures from Normal (Jan.-Oct.) for each Meteorological District are also shown.

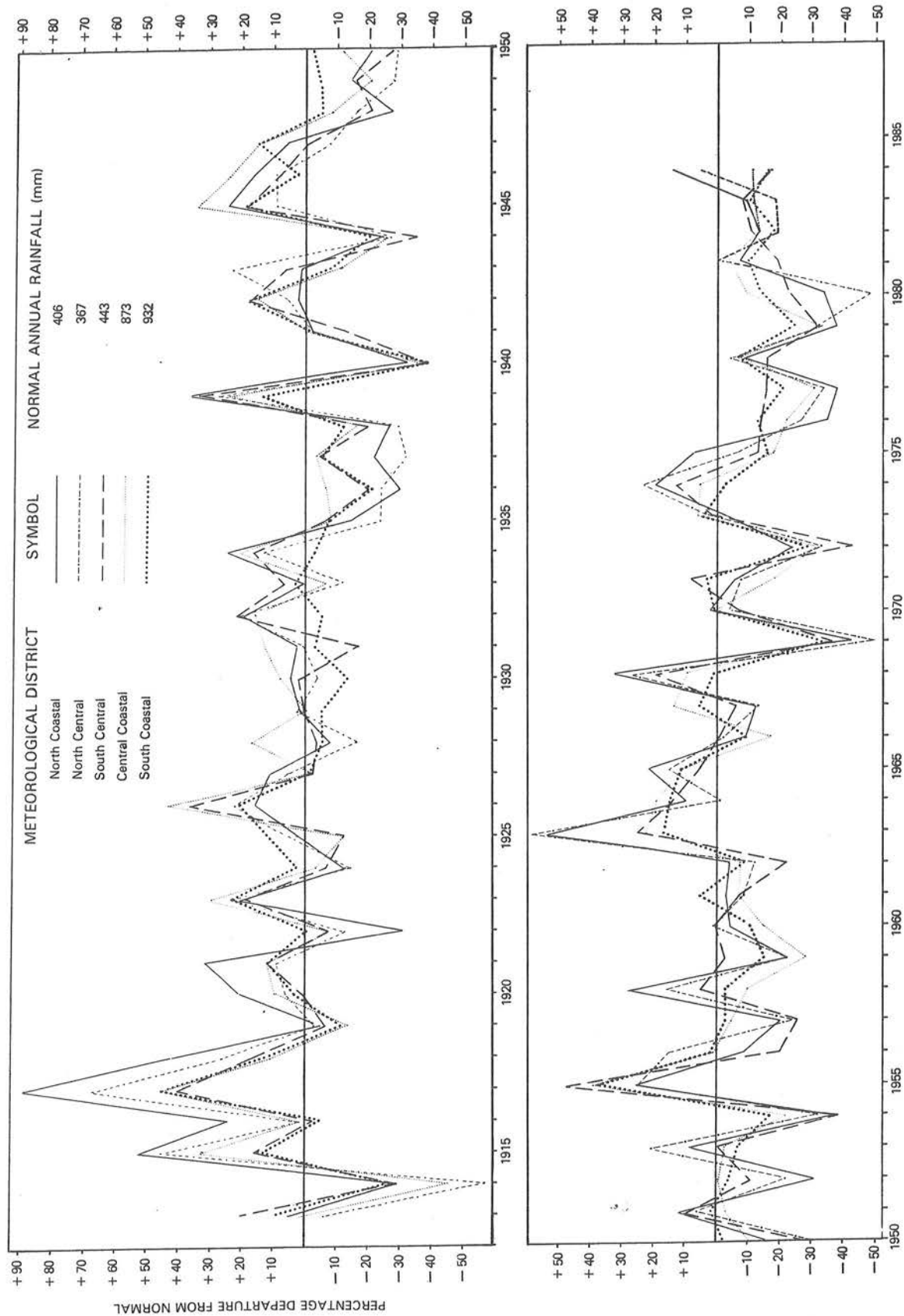
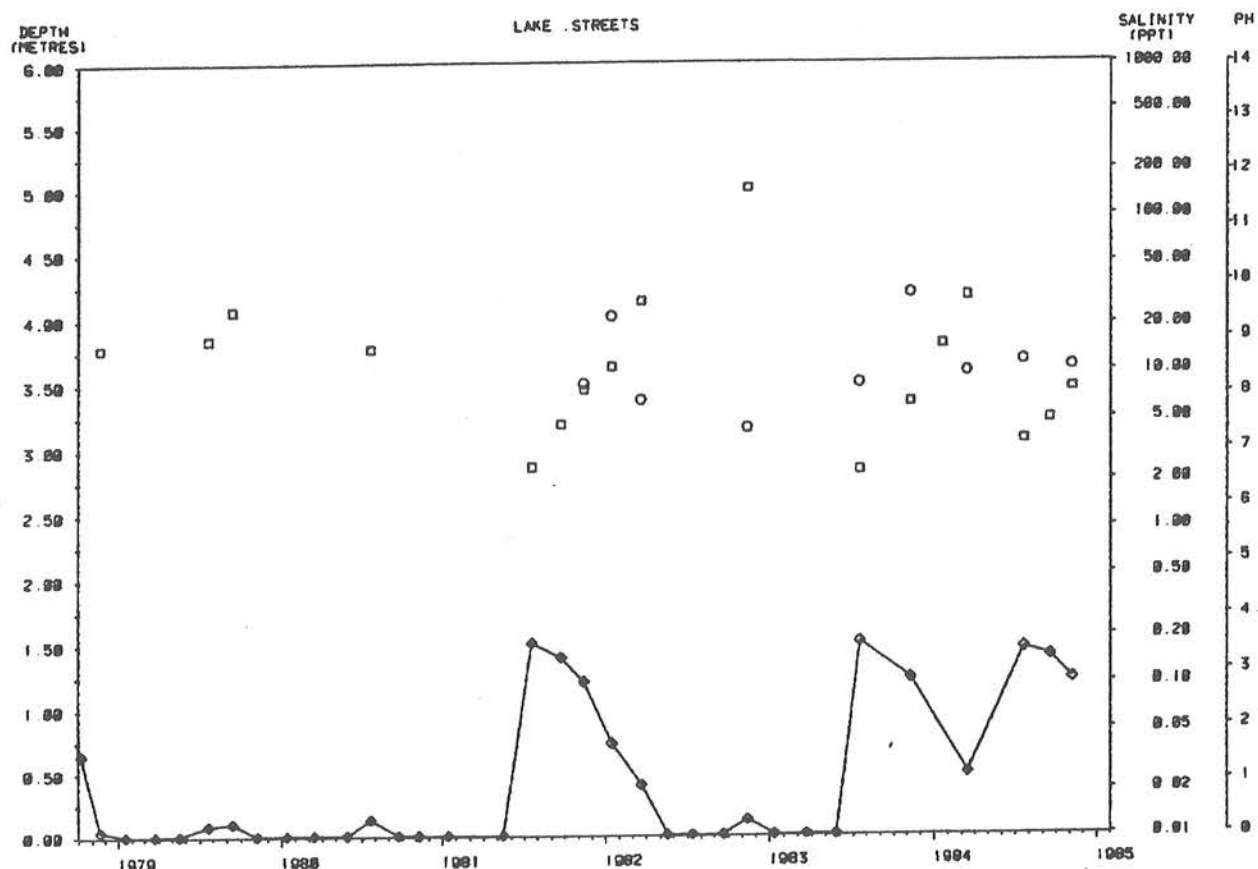
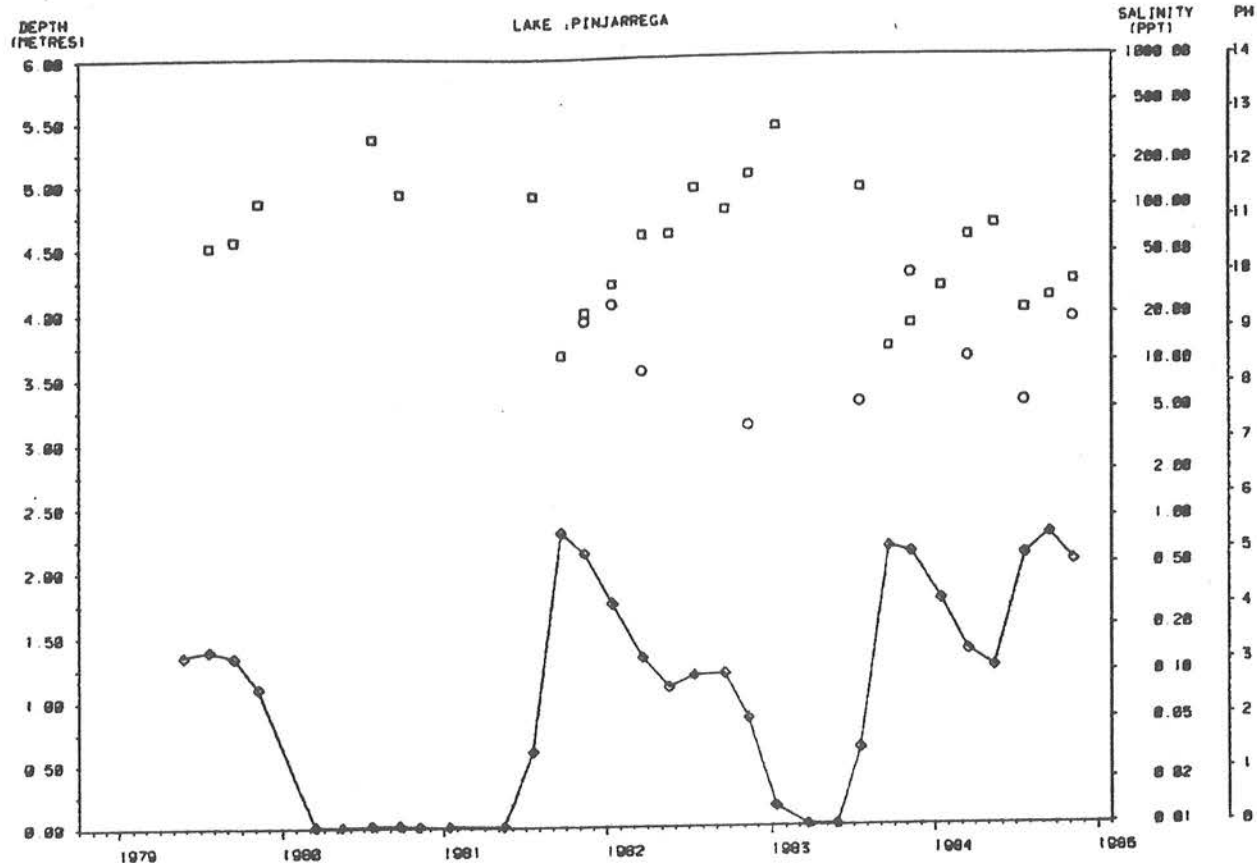


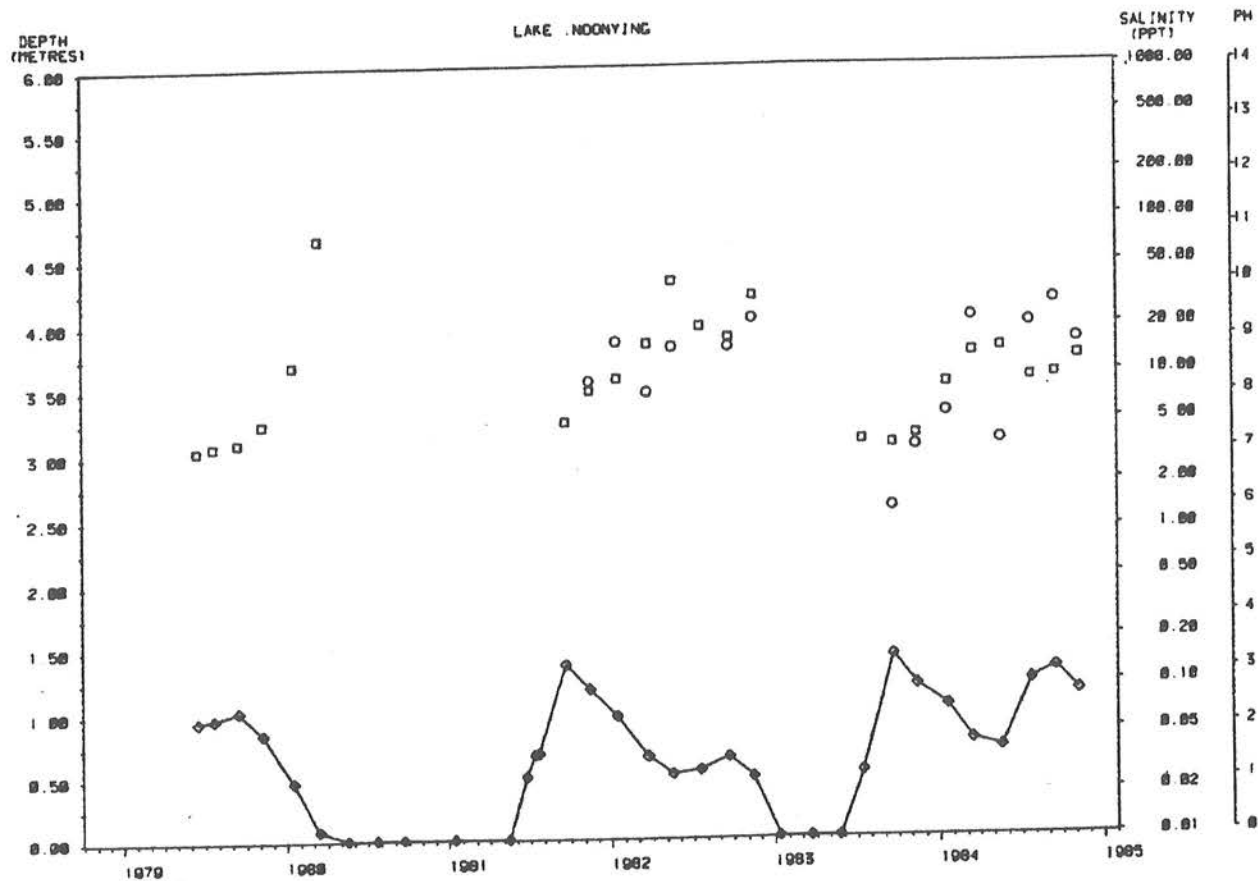
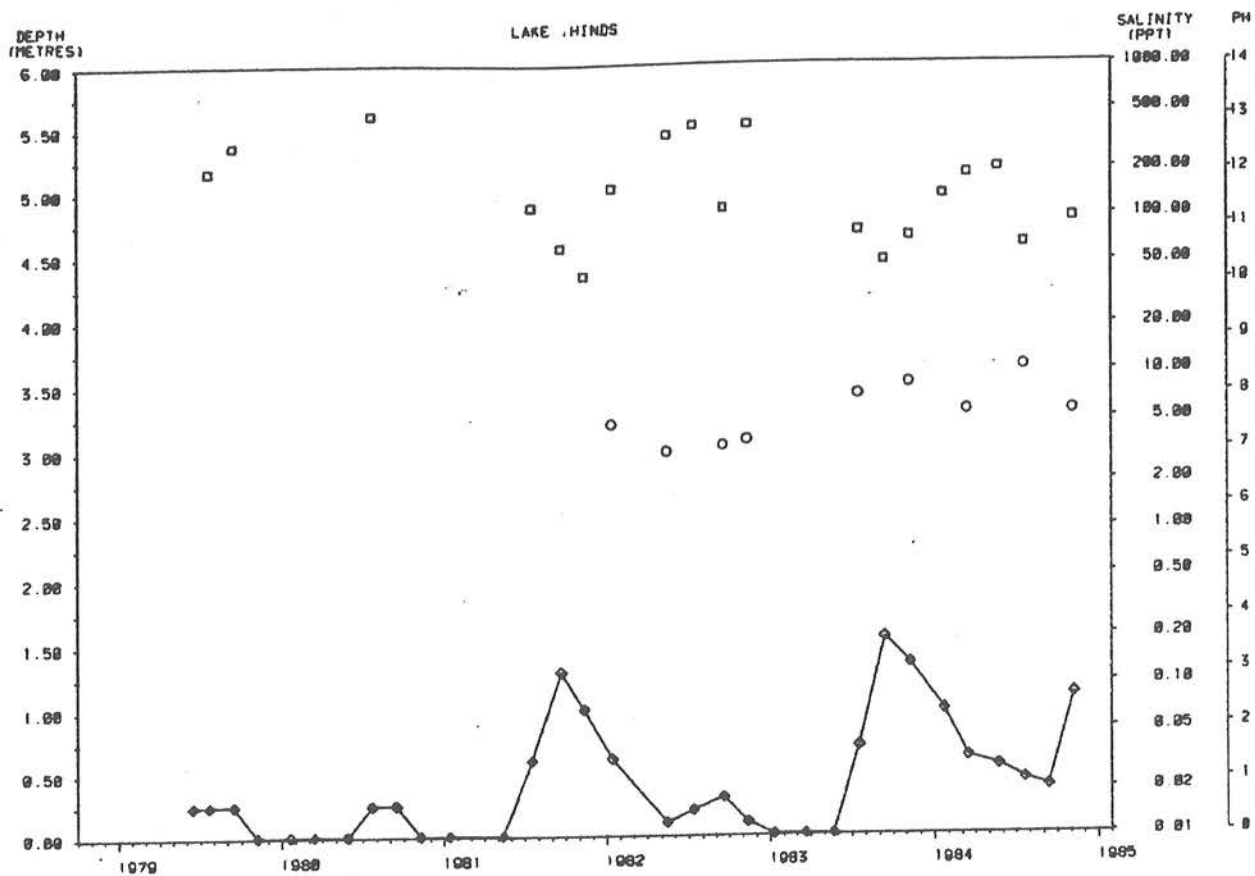
FIGURE 2 Rainfall recorded annually in each of the Meteorological Districts of the south-west, from 1913 to 1984, expressed as percentage departures from normal.

Percentage departures from normal for 1984 are based on January-October rainfall.
Normal rainfalls for this period are 93-96% of annual totals.



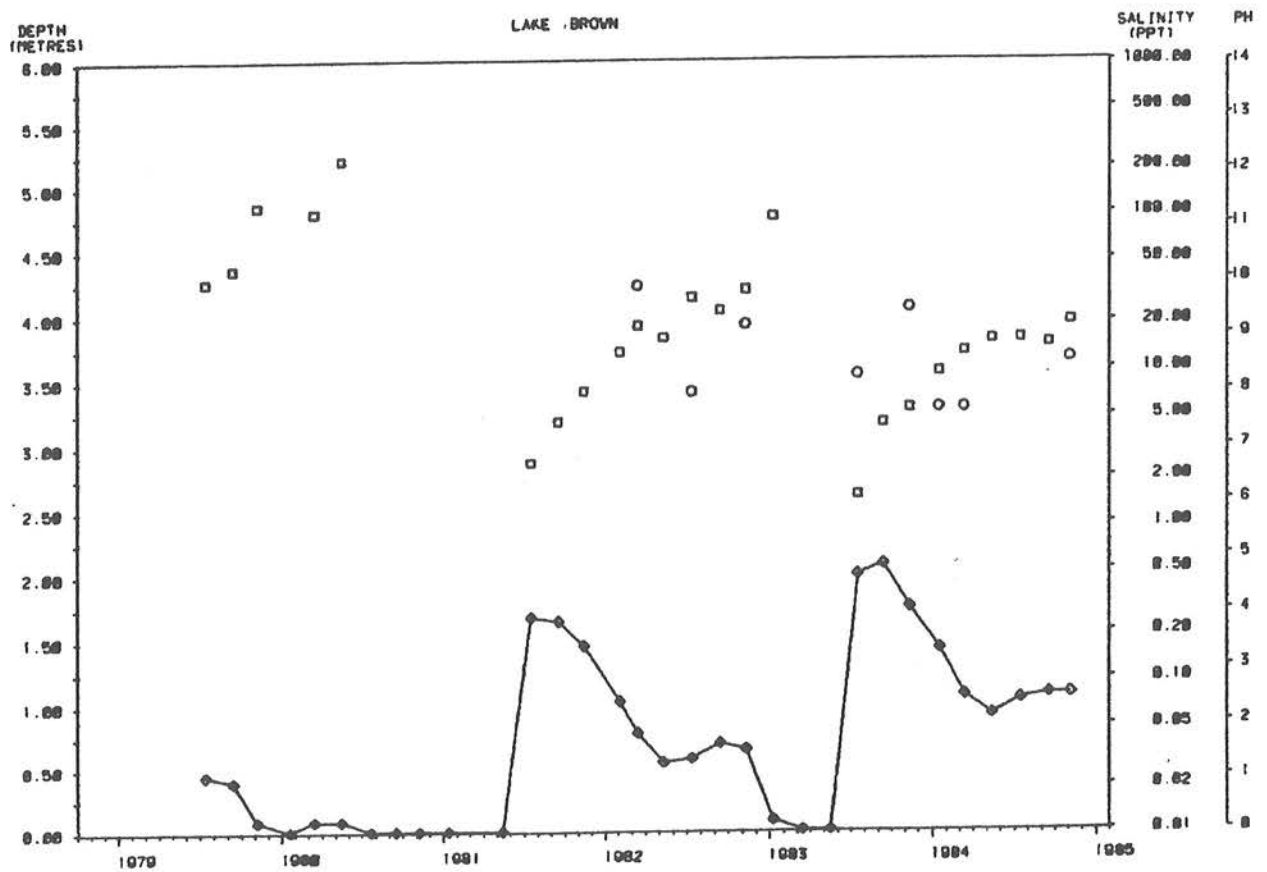
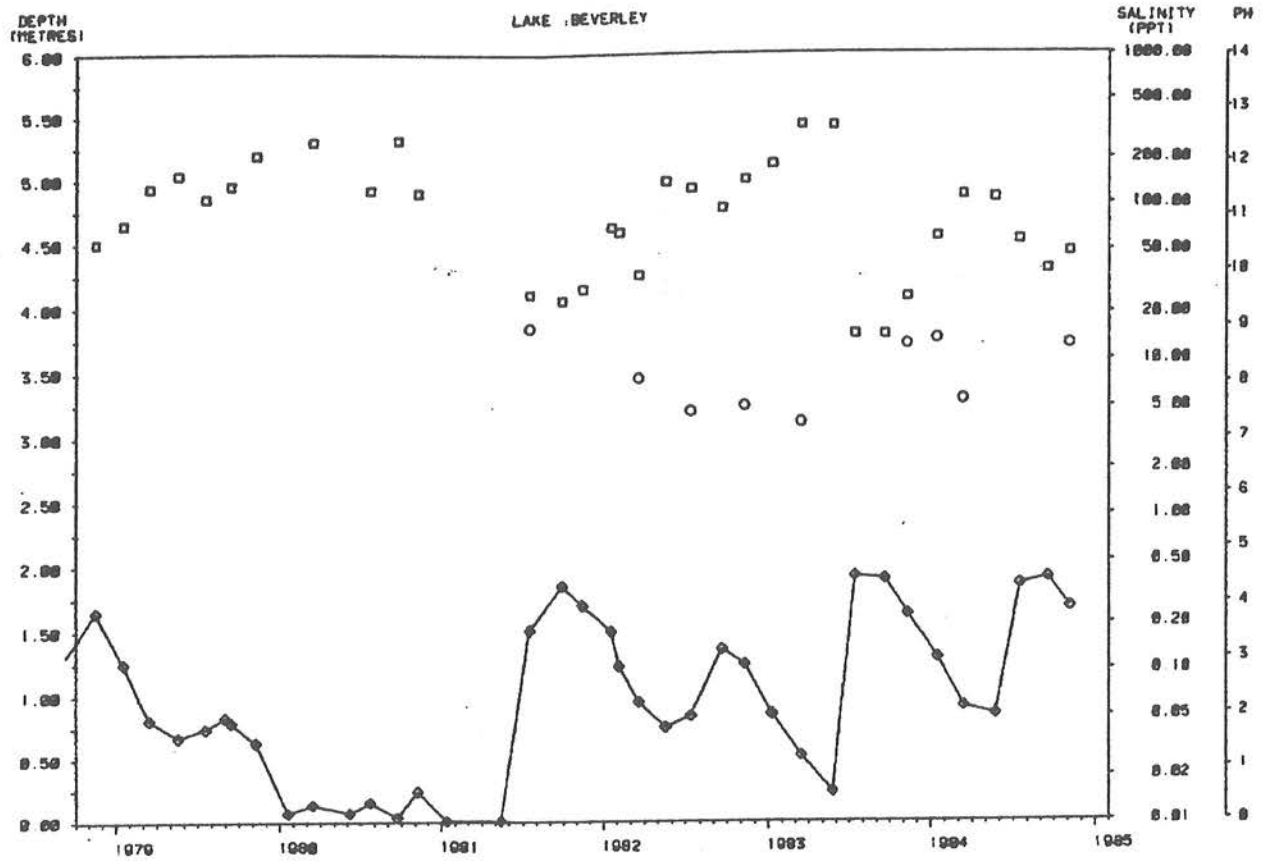
◊ DEPTH ◻ SALINITY ○ PH FACTOR

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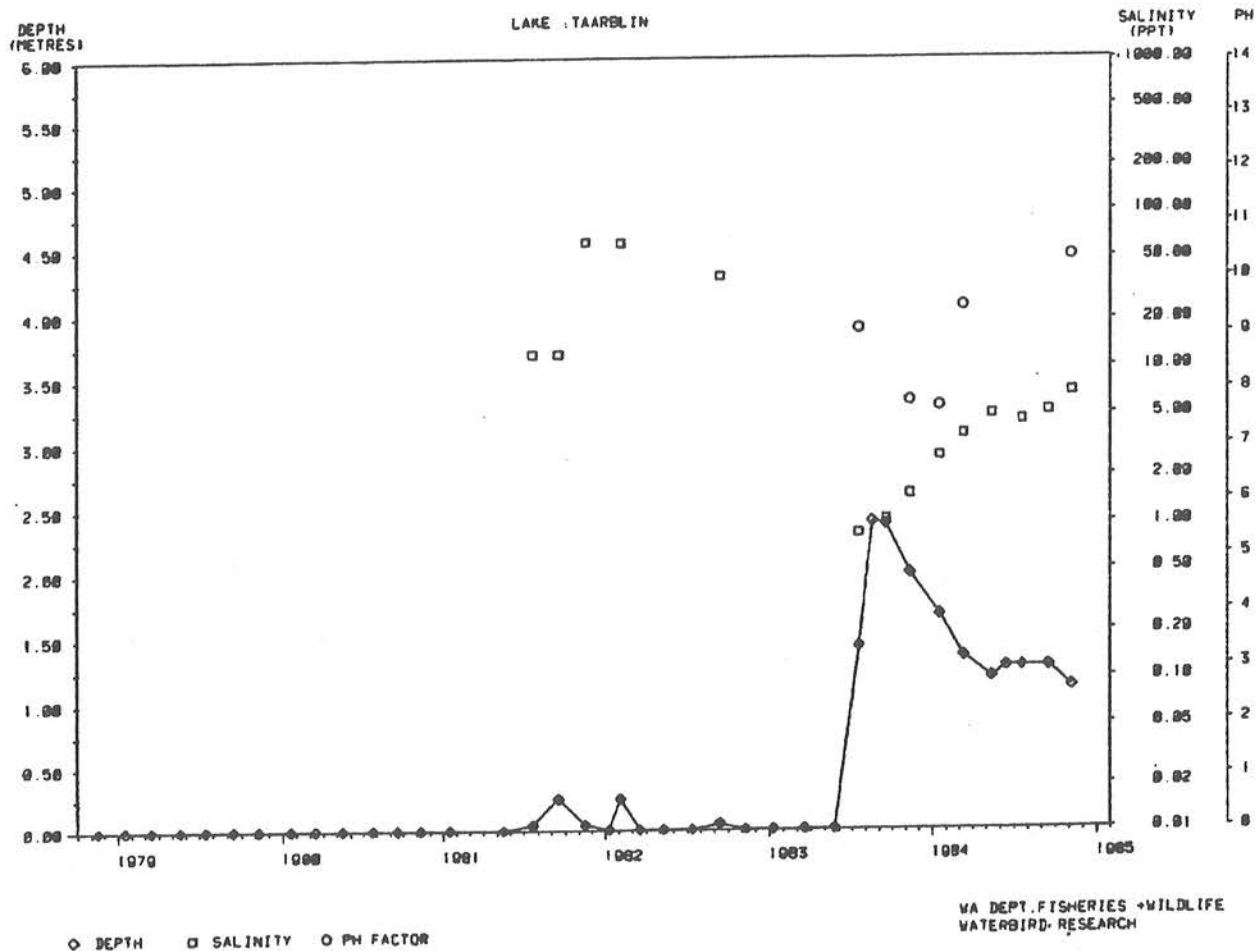
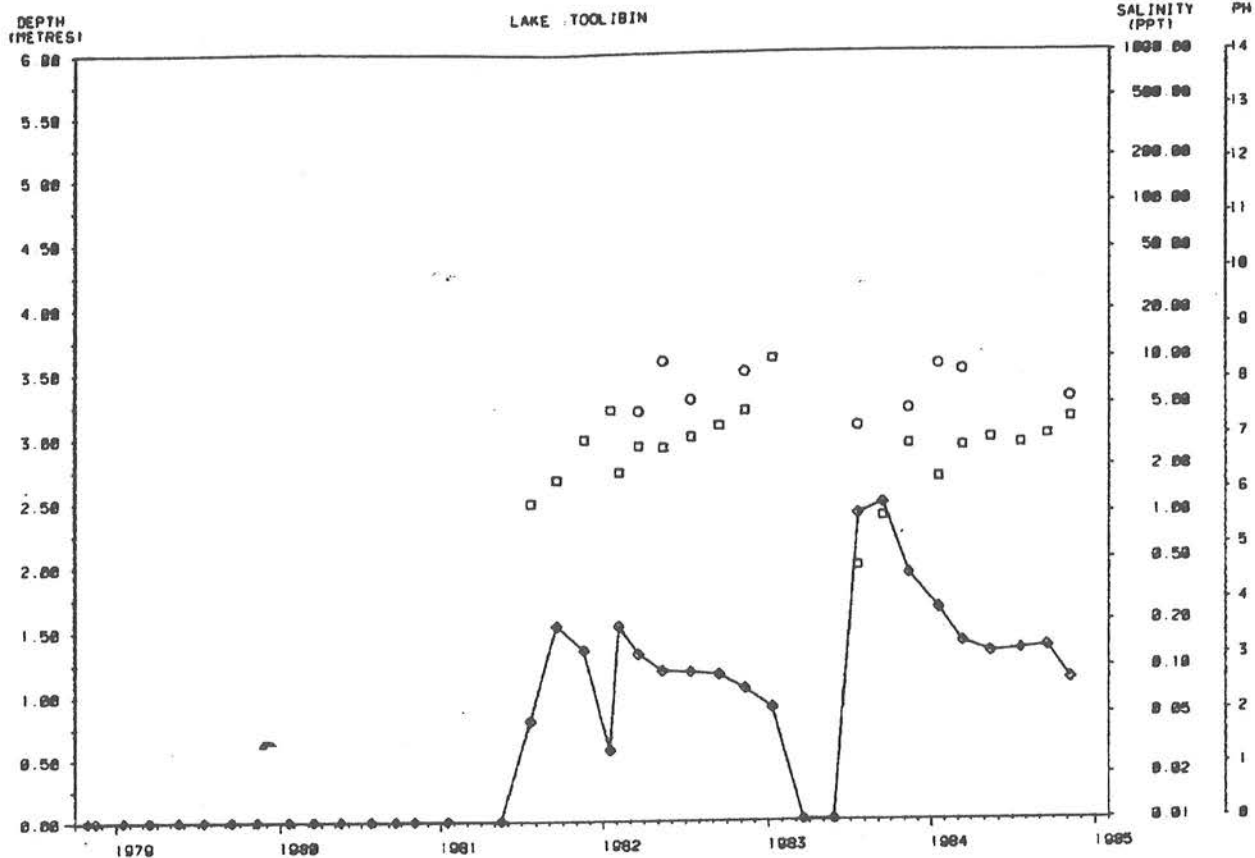
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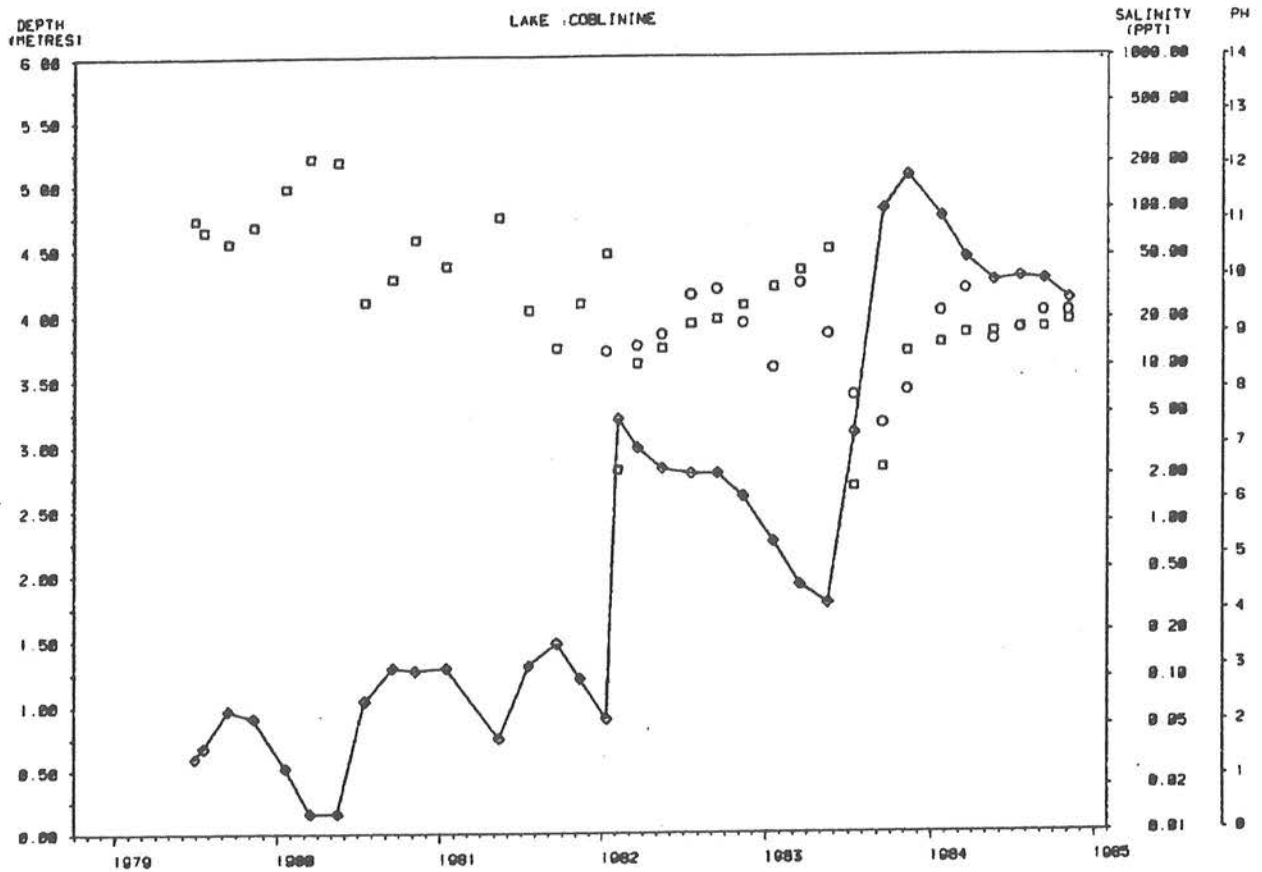
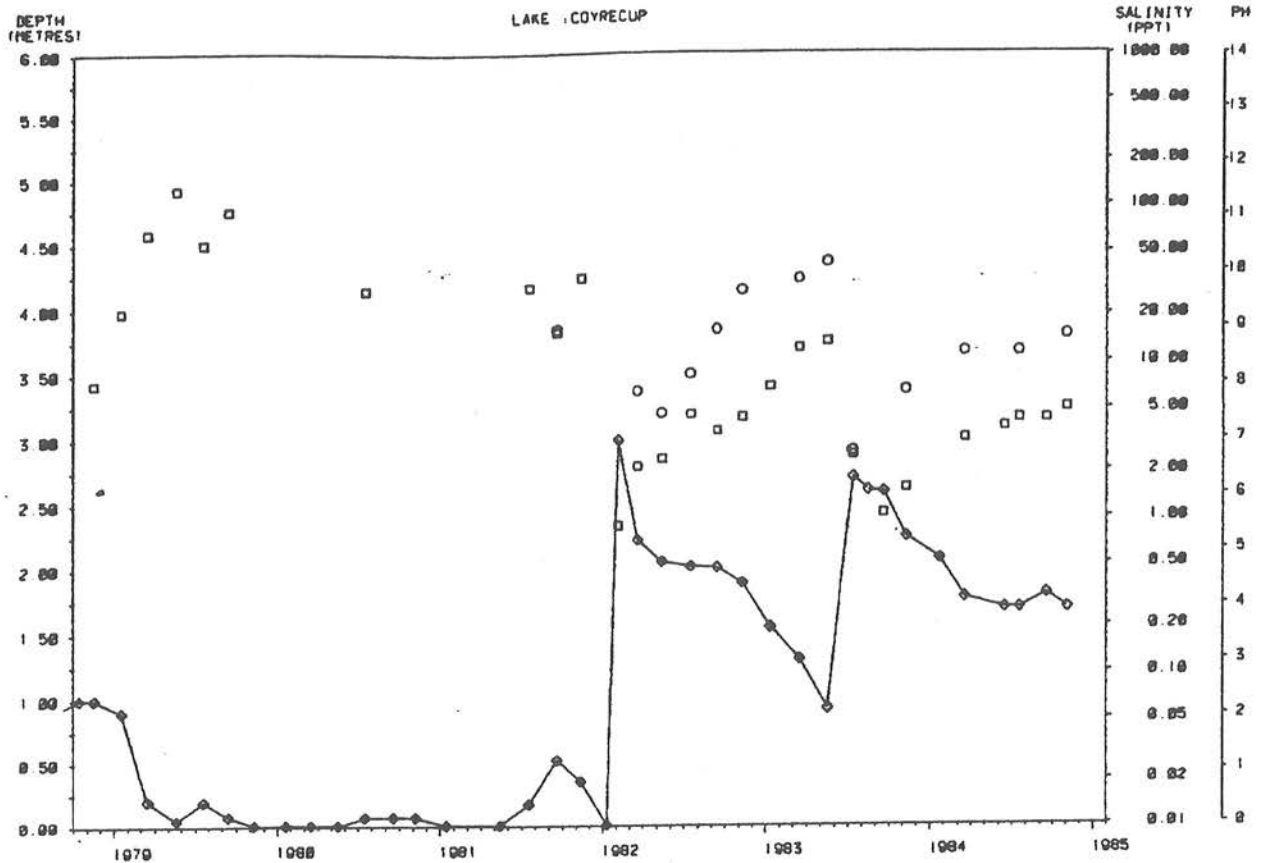
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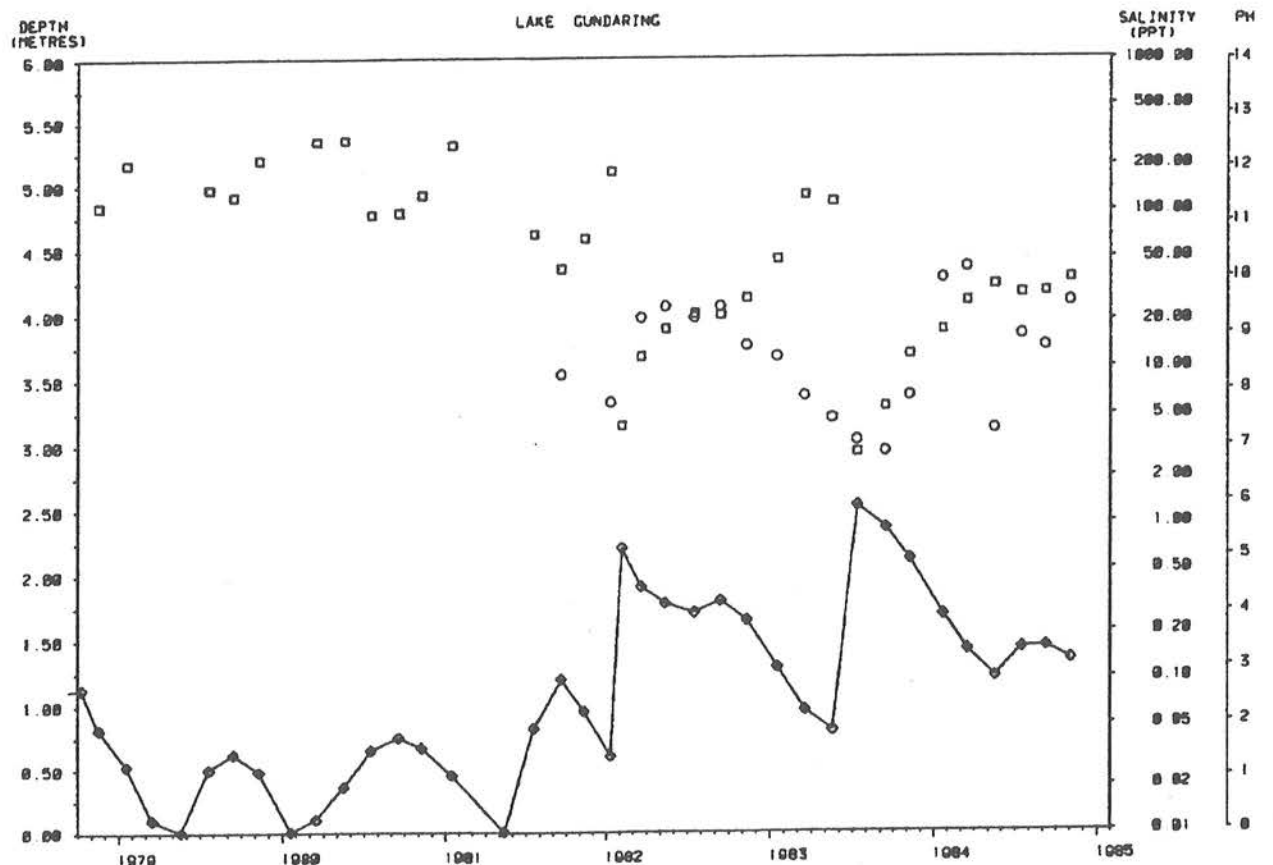
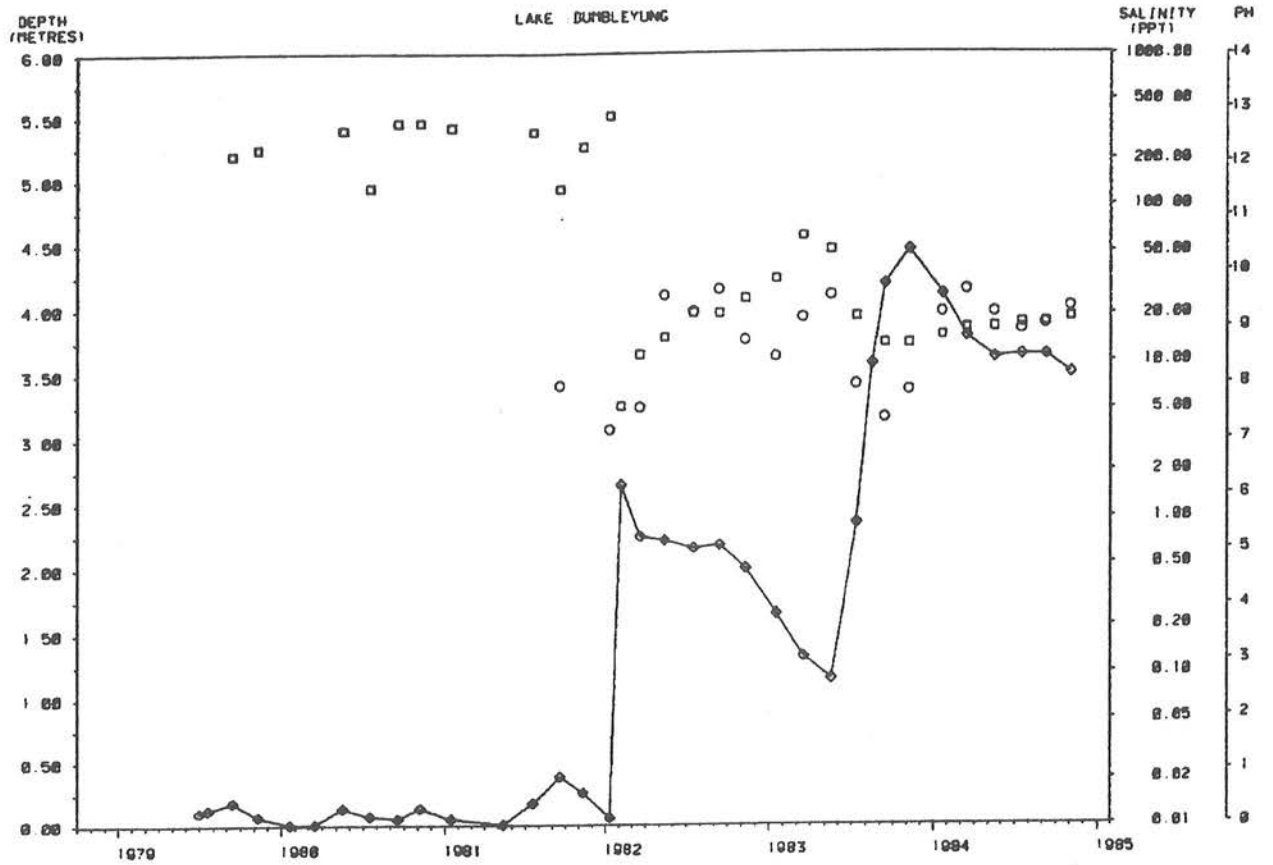
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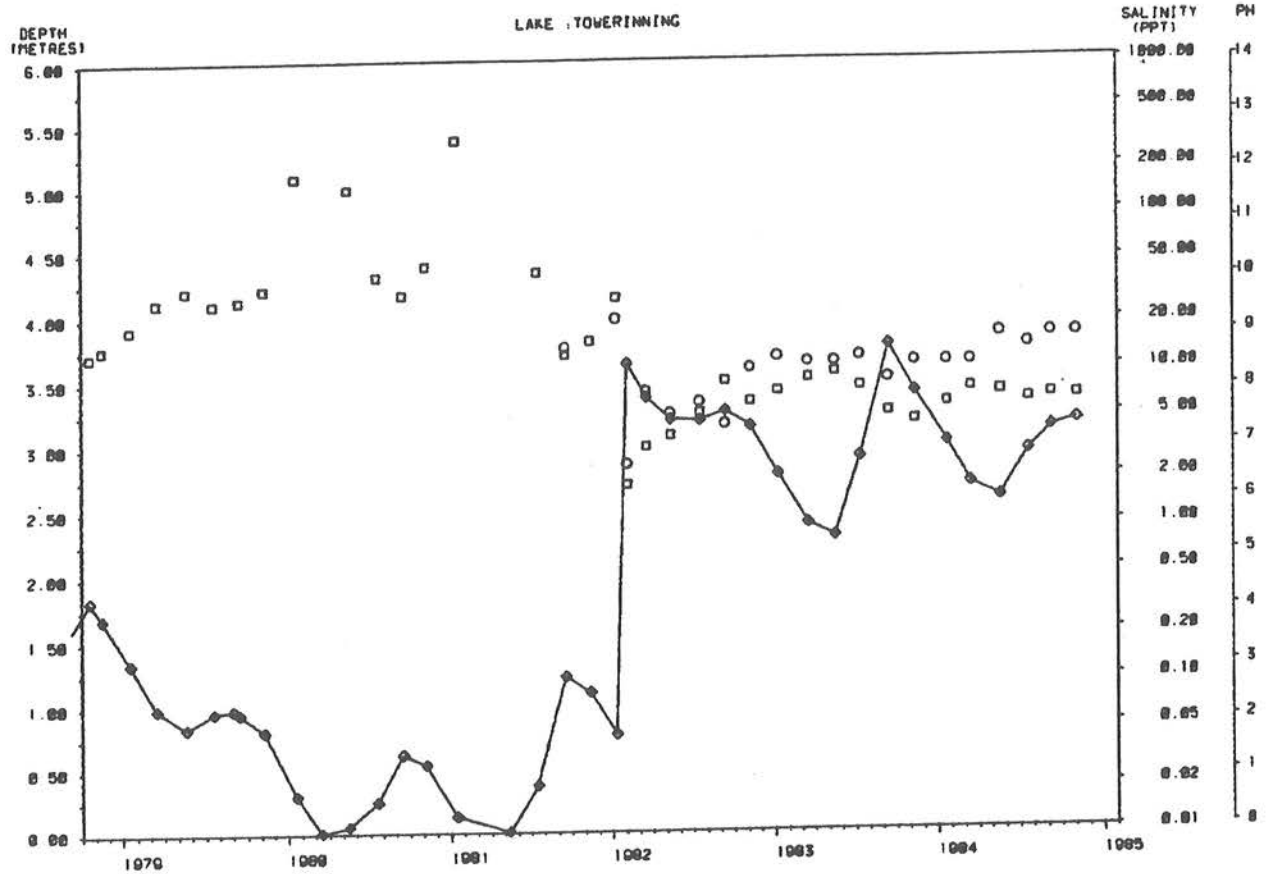
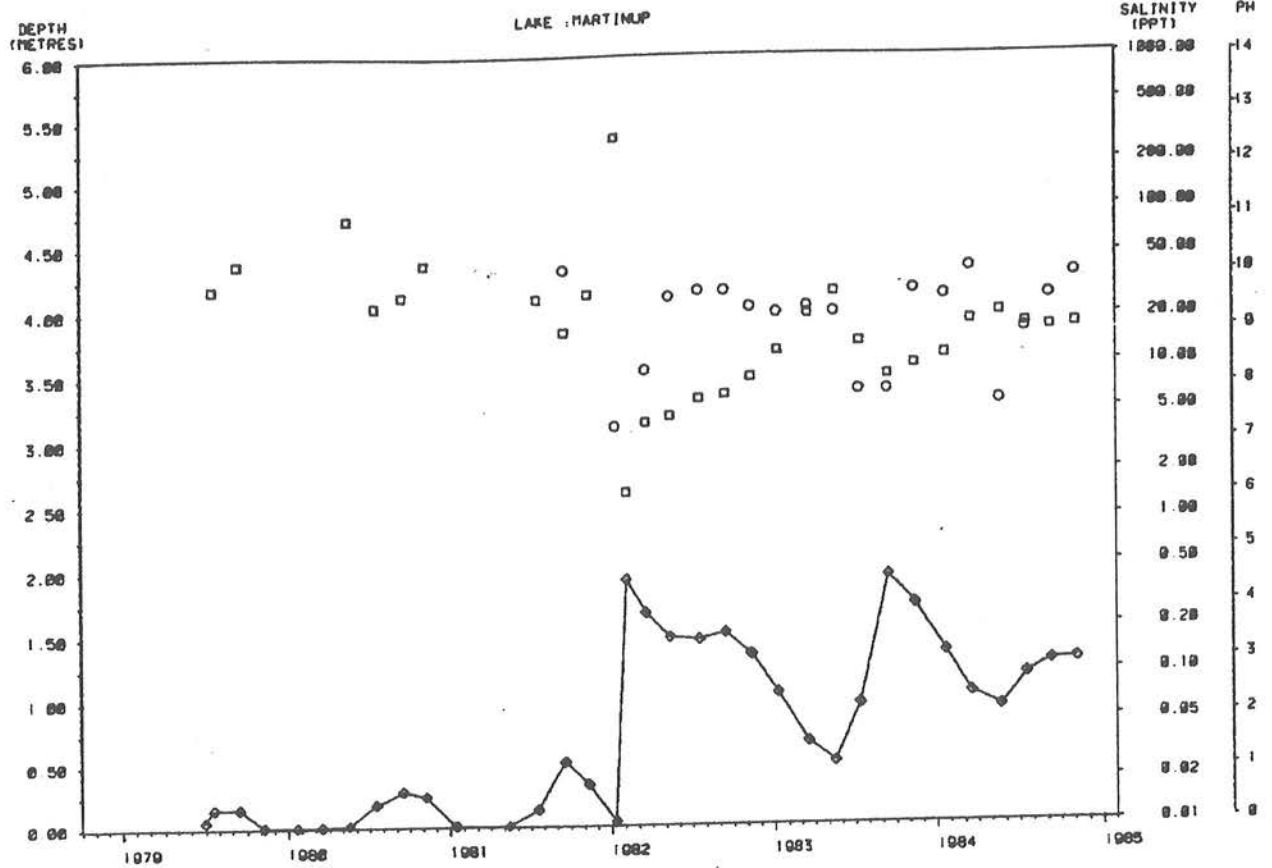
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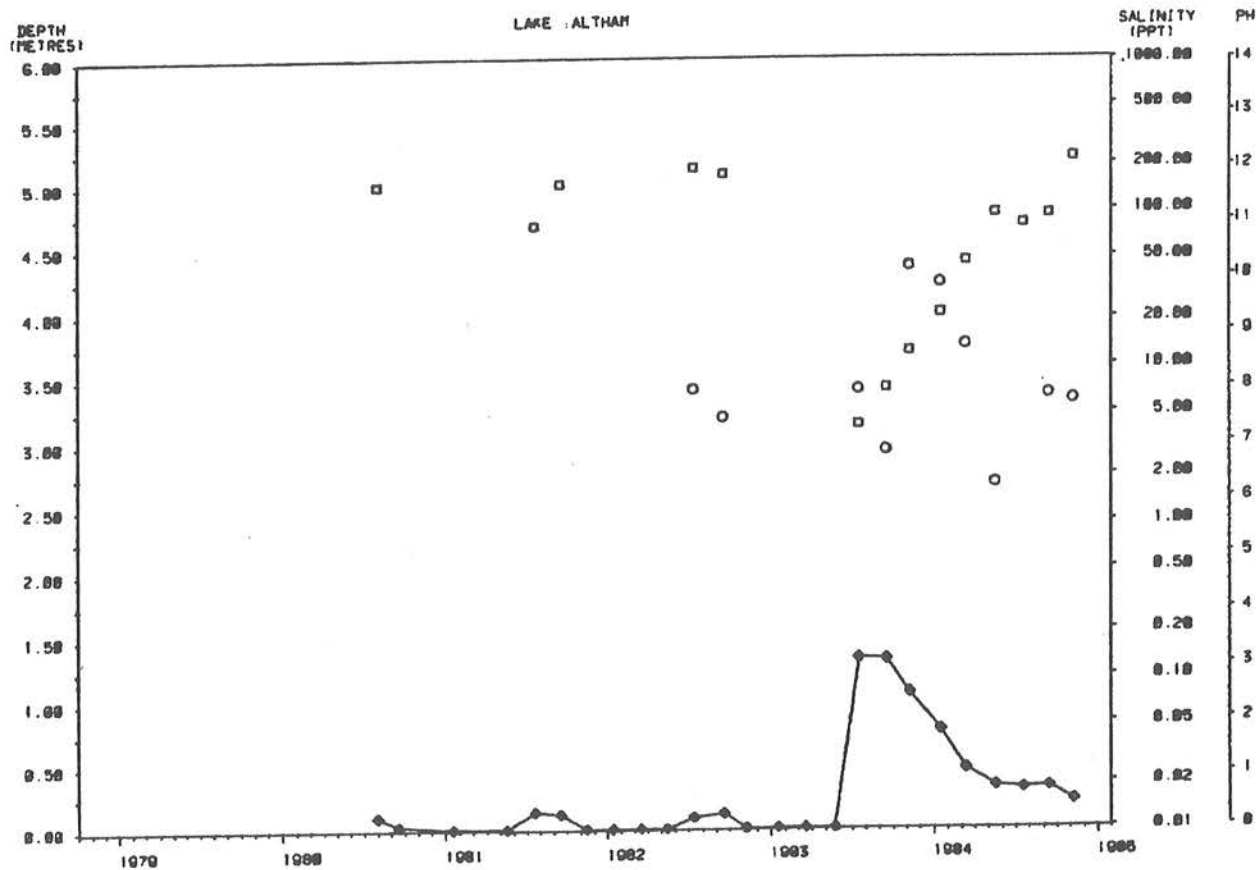
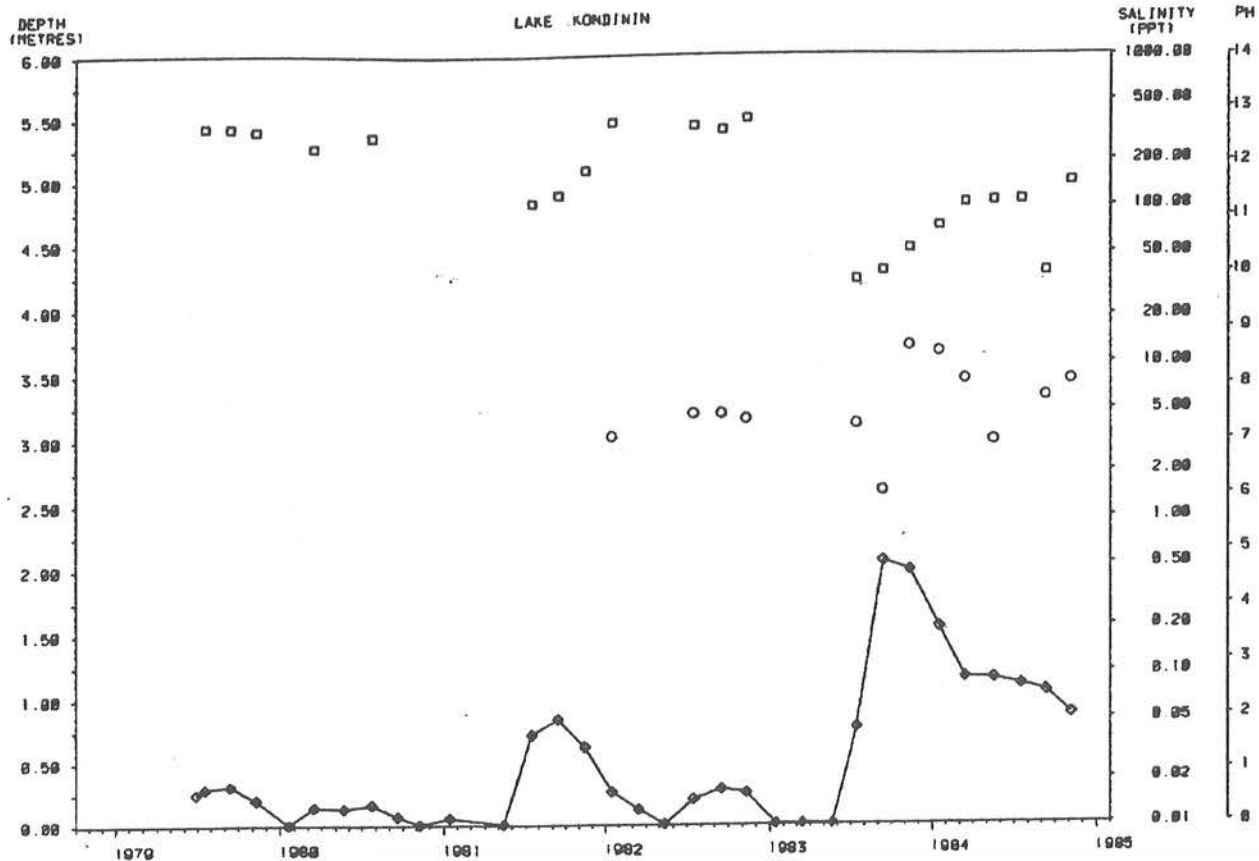
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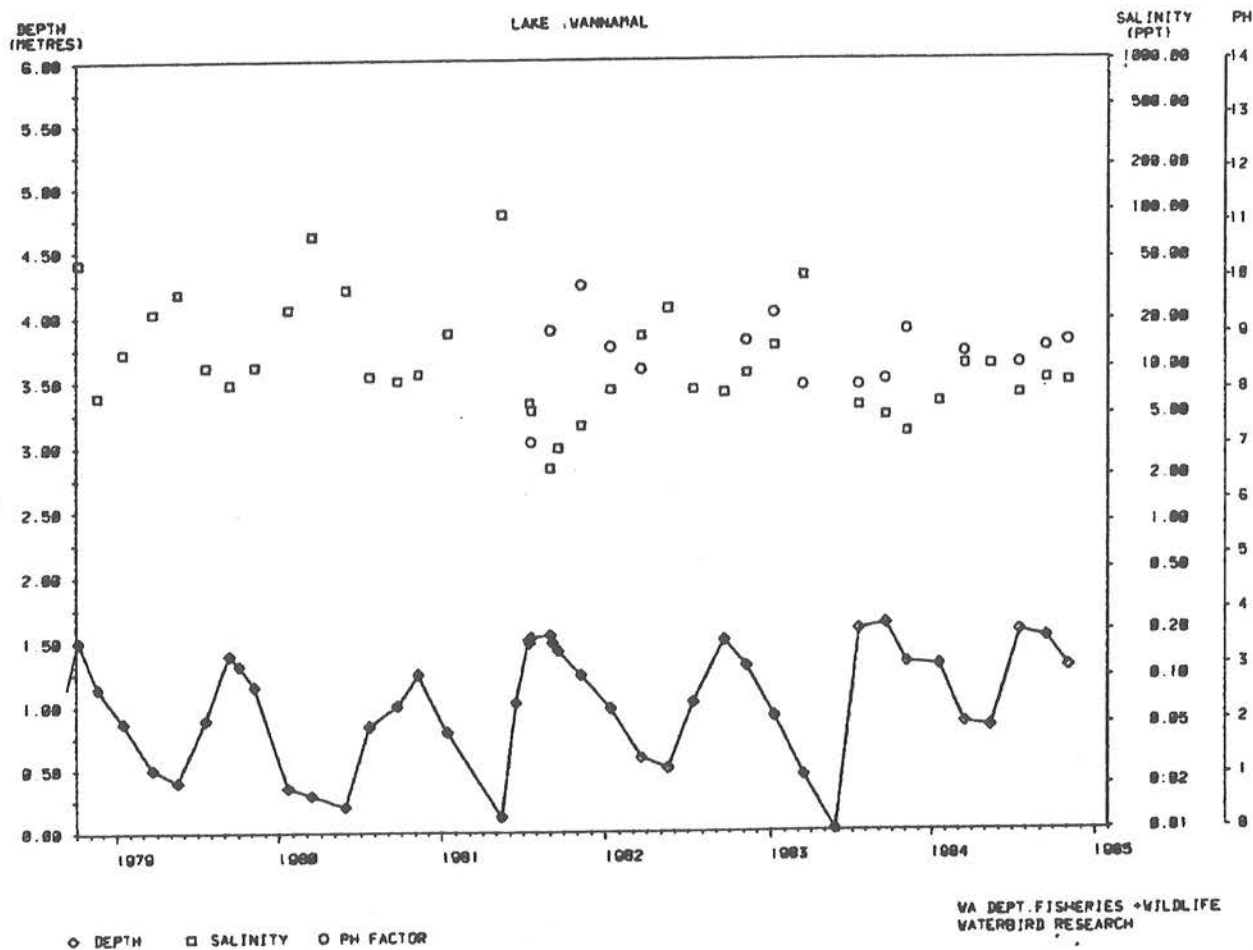
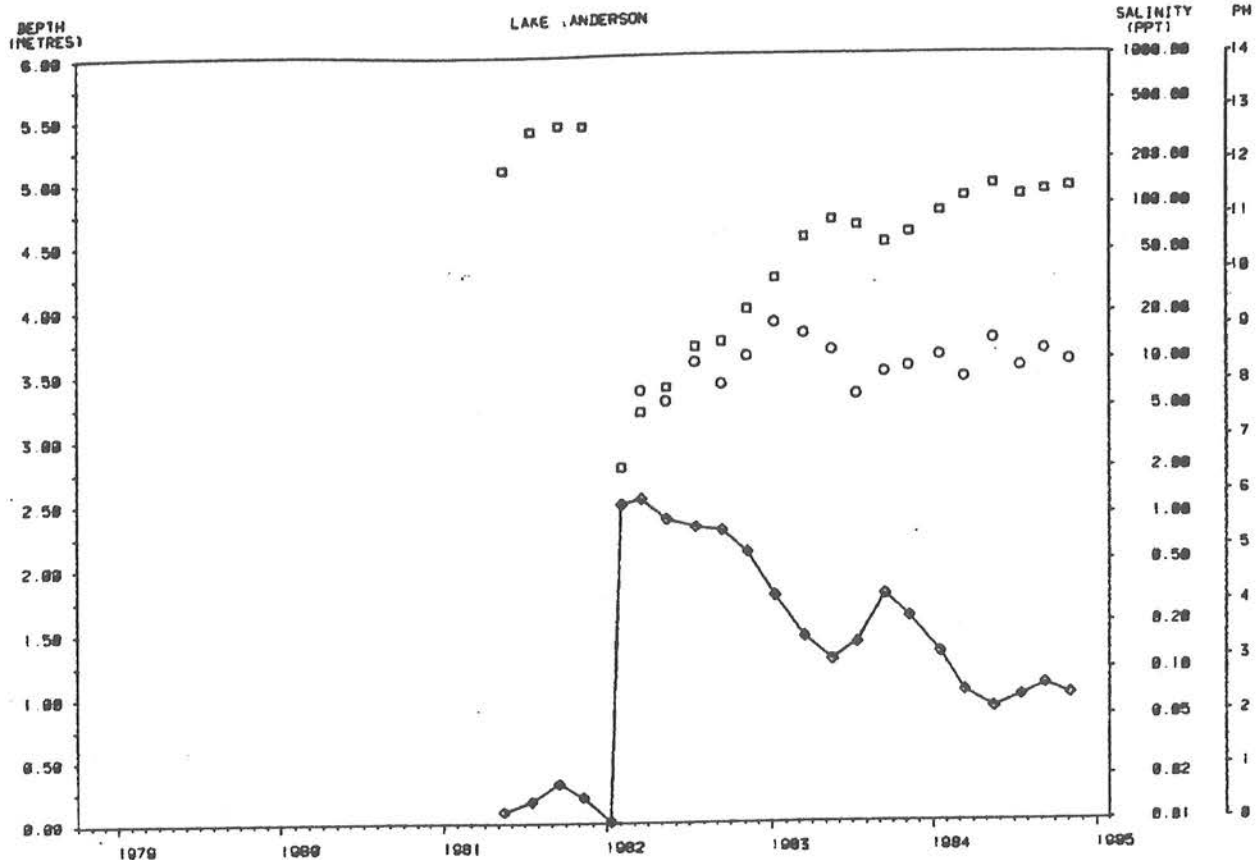
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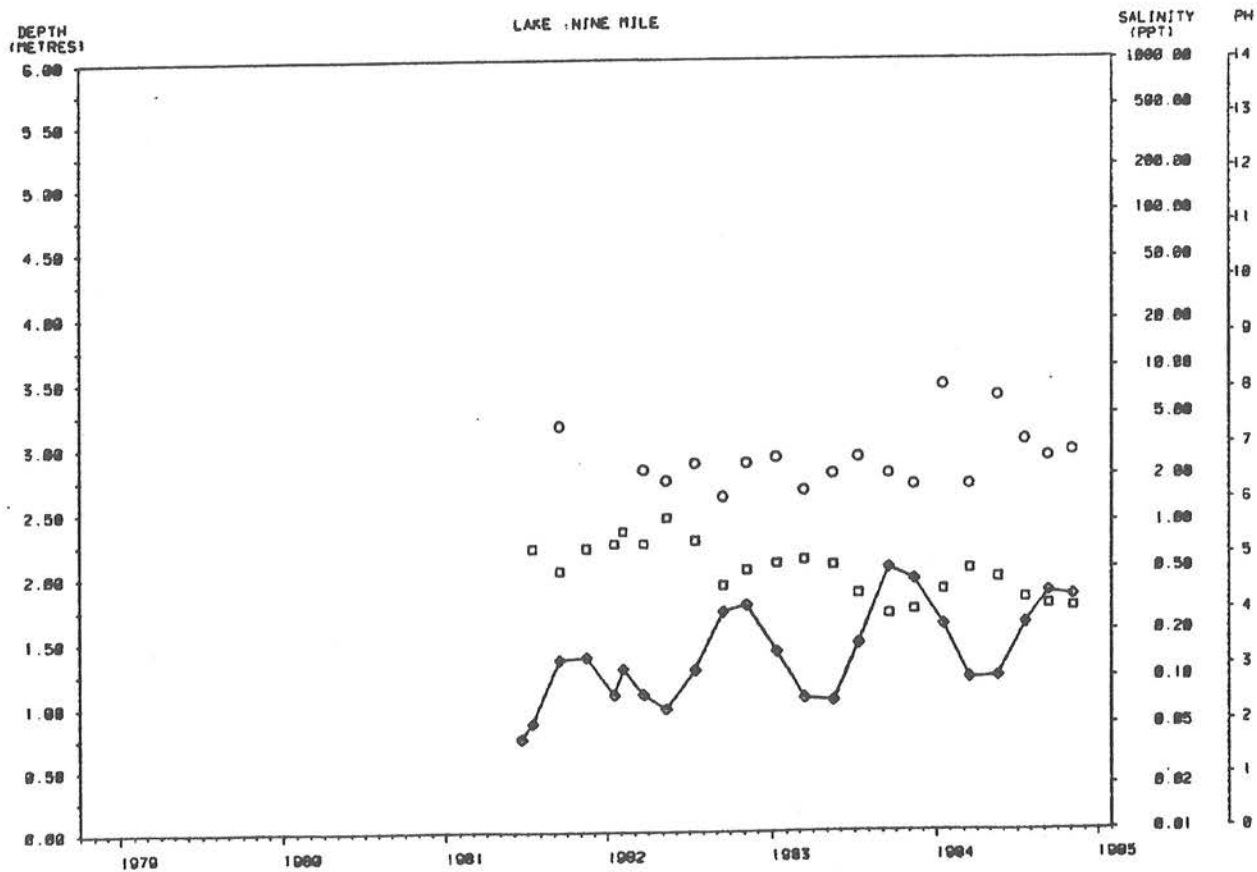
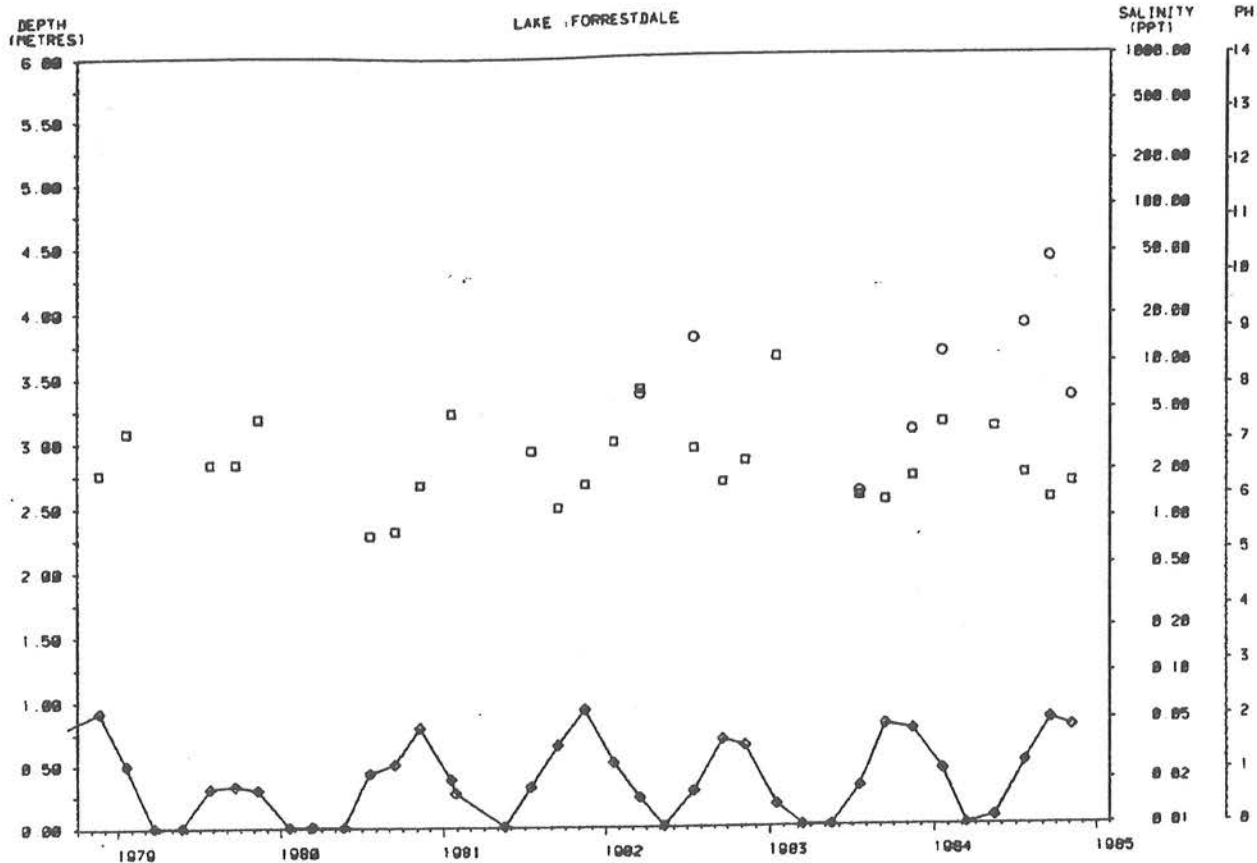
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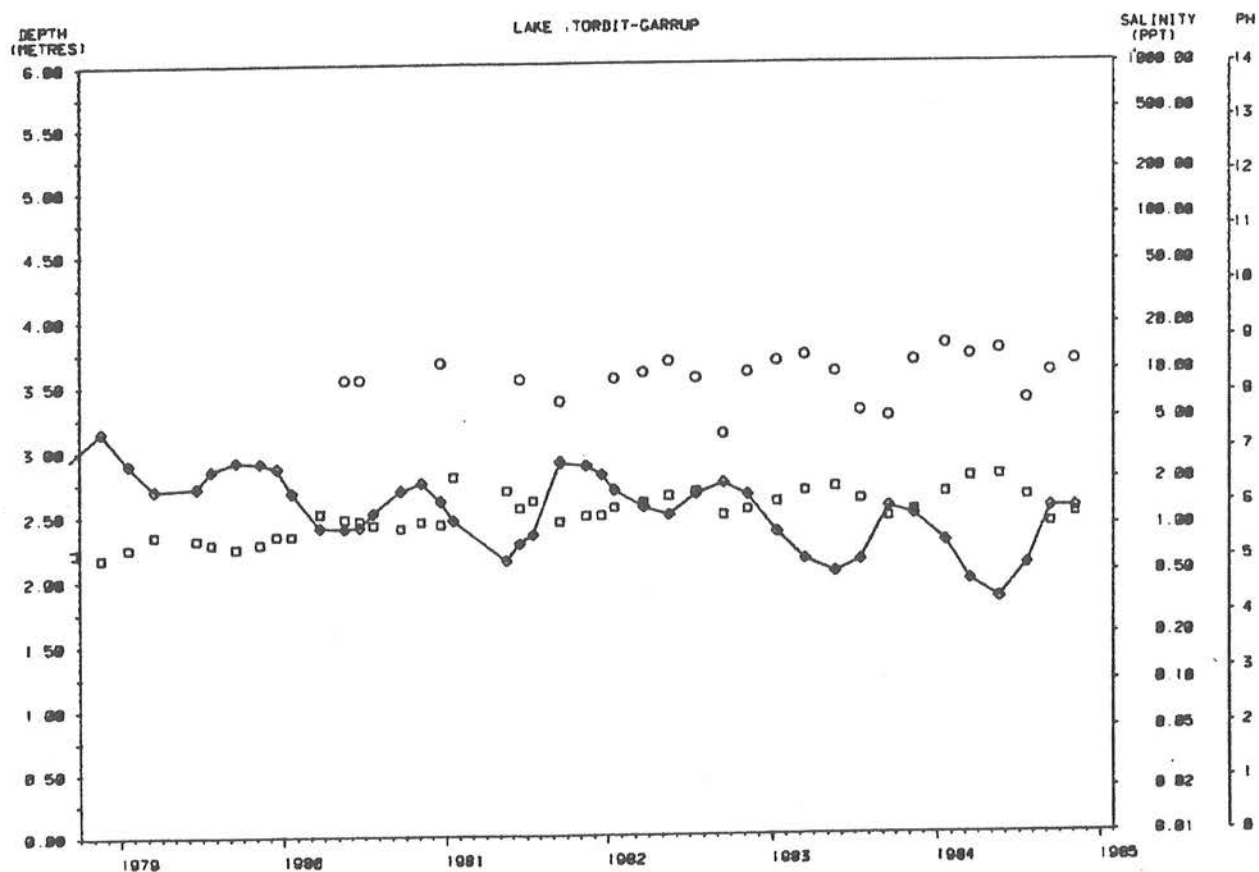
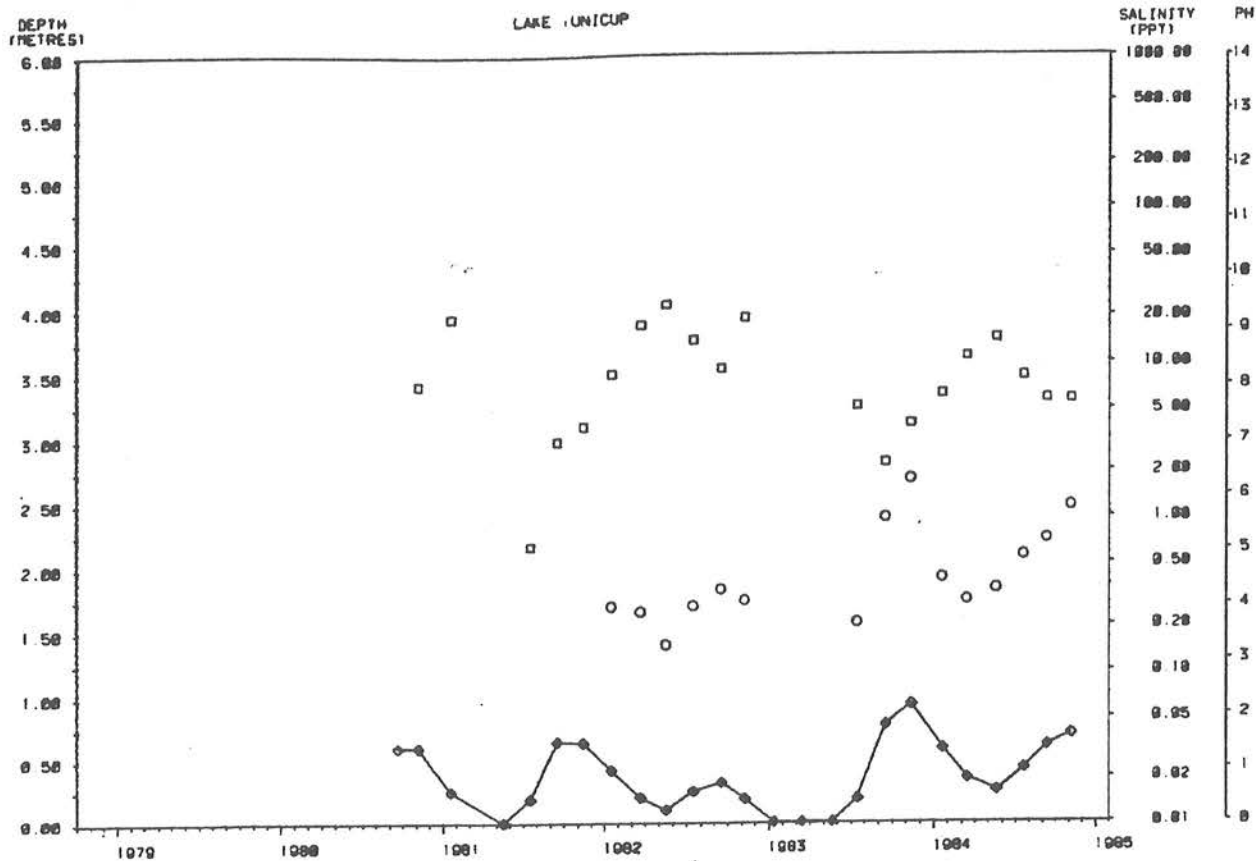
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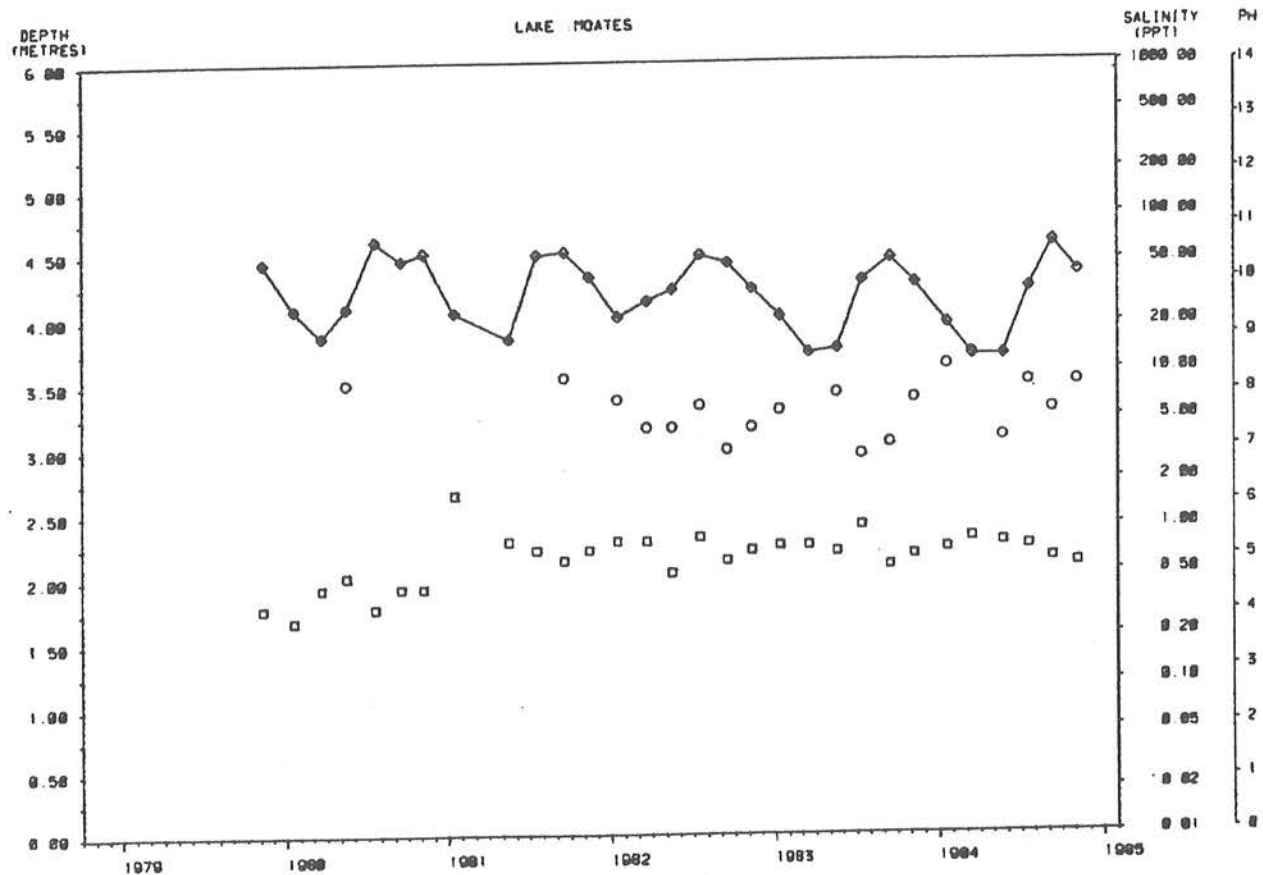
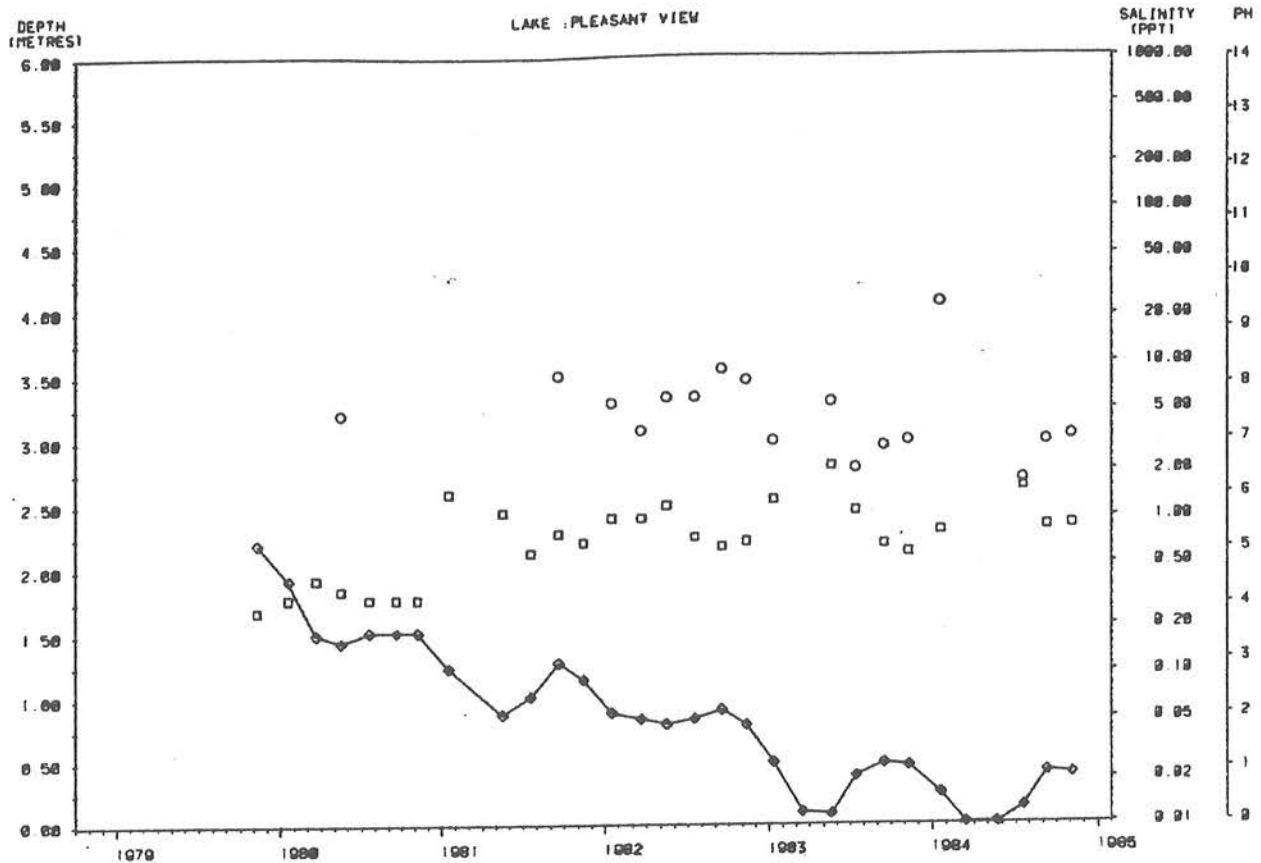
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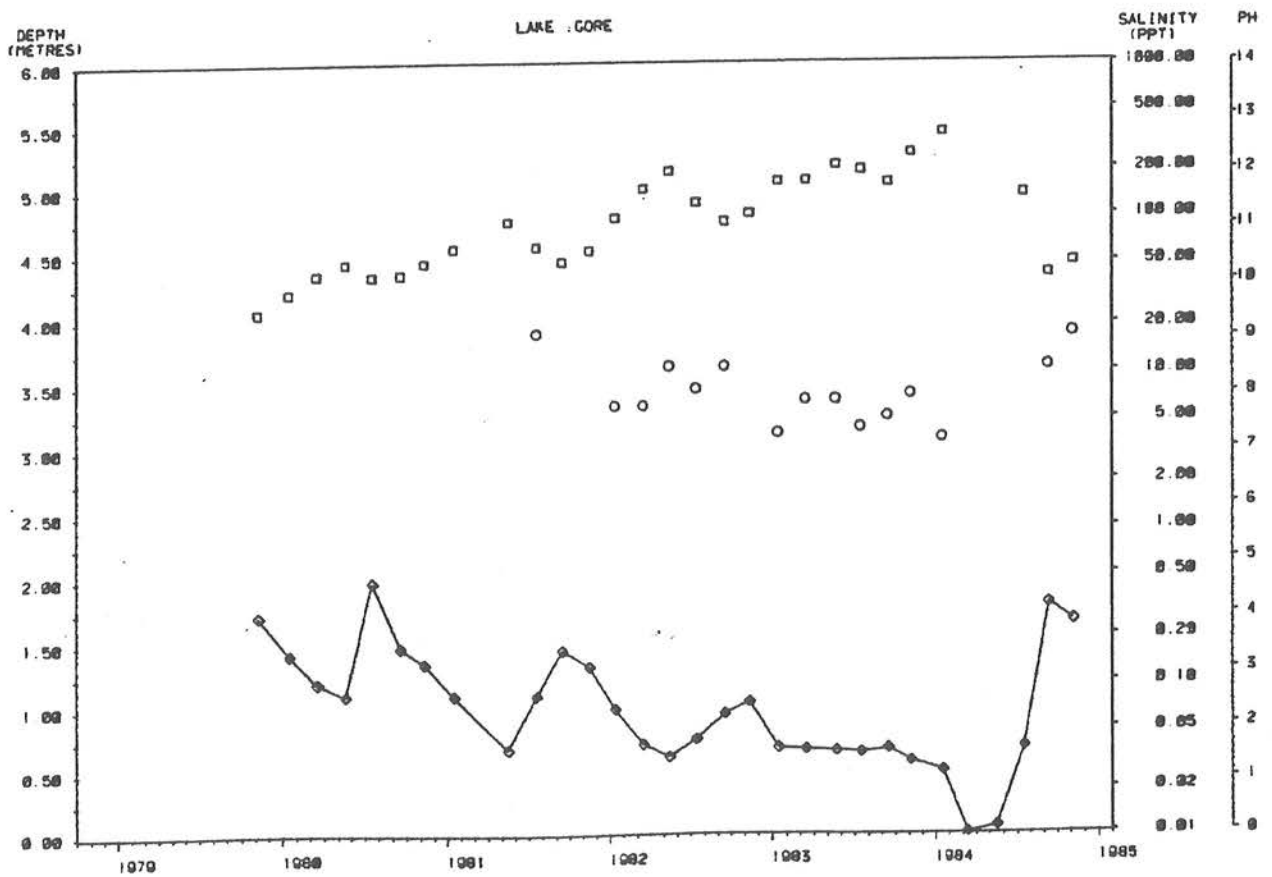
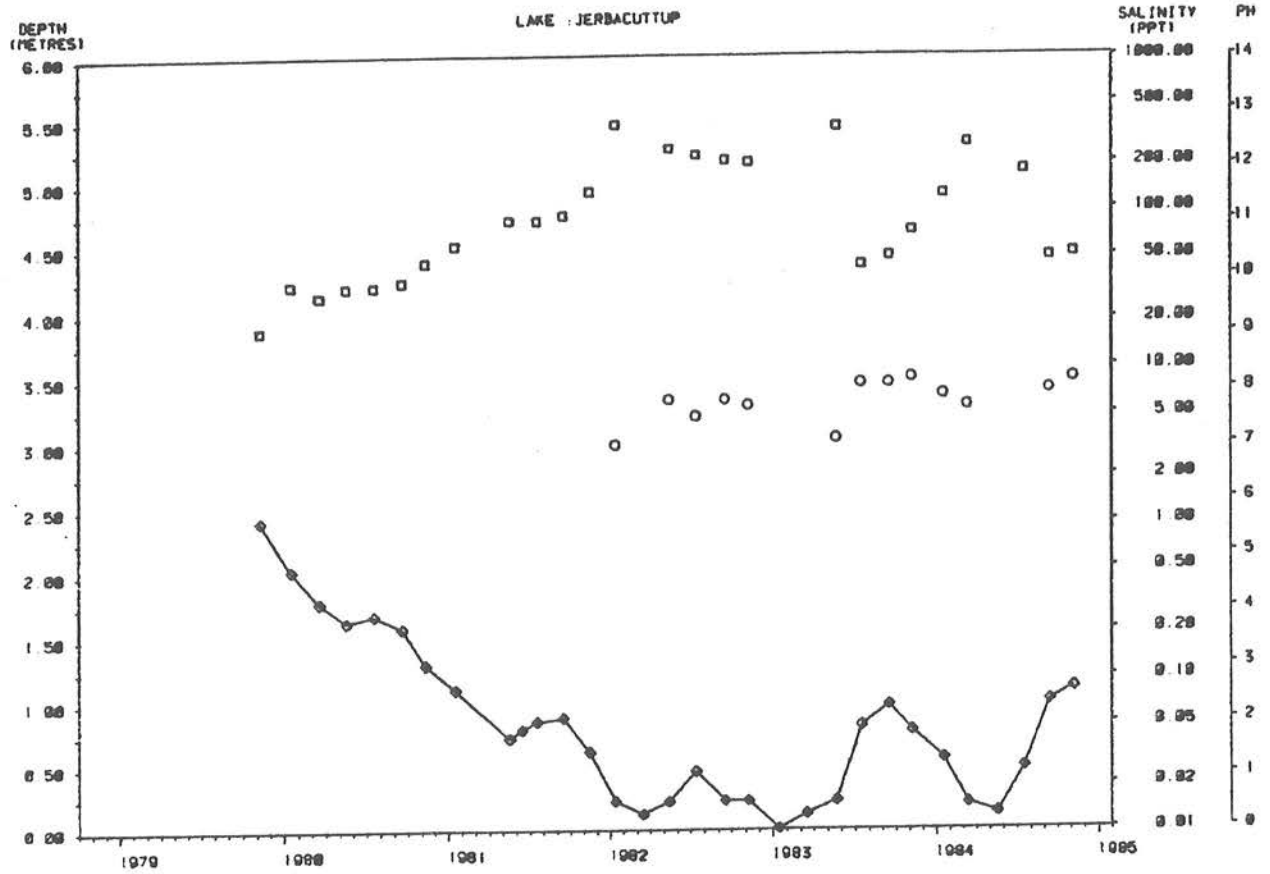
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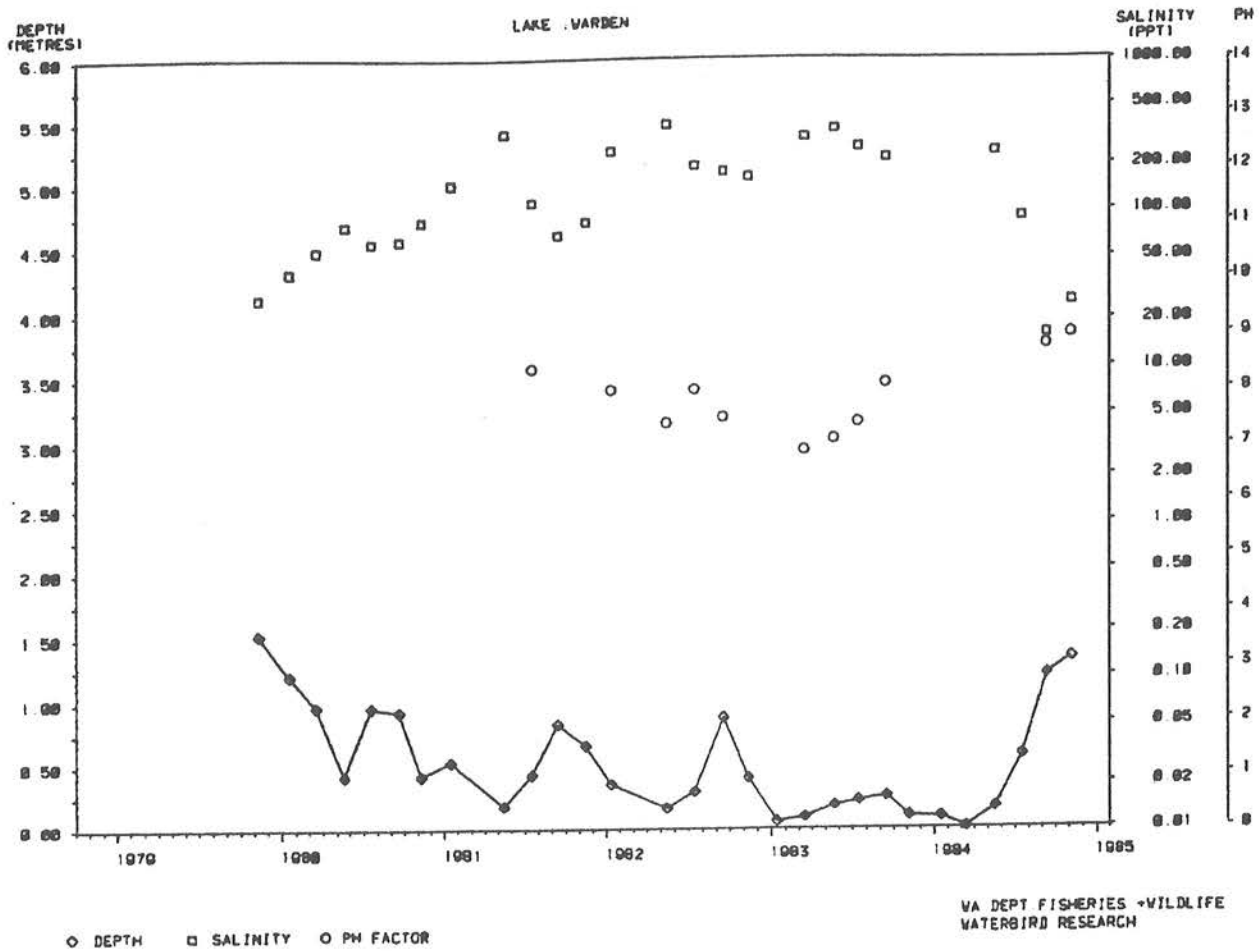
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◇ DEPTH □ SALINITY ○ PH FACTOR

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SUMMARY OF NOV 1983 TO NOV 1984 DEPTH CHANGES

OF 116 MONITORED WETLANDS

11 Increased in depth by 0.25m or more.
 39 Decreased in depth by 0.25m or more.
 66 Varied in depth by less than 0.25m.

<u>DEPTH INCREASES</u>	<u>NO. OF WETLANDS</u>	<u>WETLAND NAMES</u>
1.00-1.49m	2	Gore, Warden
0.50-0.99m	4	Campion, Mullet, Red Manj., Shark

<u>DEPTH DECREASES</u>	<u>NO. OF WETLANDS</u>	<u>WETLAND NAMES</u>
0.50-0.99	27	-
1.00-1.49	3	Eneminga, Kondinin, Yealering

SUMMARY OF NOV 1982 TO NOV 1984 DEPTH CHANGES

OF 116 MONITORED WETLANDS

36 Increased in depth by 0.25m or more.
 16 Decreased in depth by 0.25m or more.
 64 Varied in depth by less than 0.25m.

<u>DEPTH INCREASES</u>	<u>NO. OF WETLANDS</u>	<u>WETLAND NAMES</u>
1.50-1.99m	2	Coblinine, Dumbleyung.
1.00-1.49m	4	Hinds, Pinjarra, Streets, Taarblin.
0.50-0.99m	14	Bryde, Crackers, Gore, Jerdacuttup, Kondinin, Logue, Mears, Ninan, Noonying, Red Manj., Unicap, Warden, White Narr., White Water.

<u>DEPTH DECREASES</u>	<u>NO. OF WETLANDS</u>	<u>WETLAND NAMES</u>
0.50-0.99m	7	Biddy, Flagstaff, Gingin 31241, Murapin, Wildhorse, Yealering.
1.00-1.49m	1	Anderson.

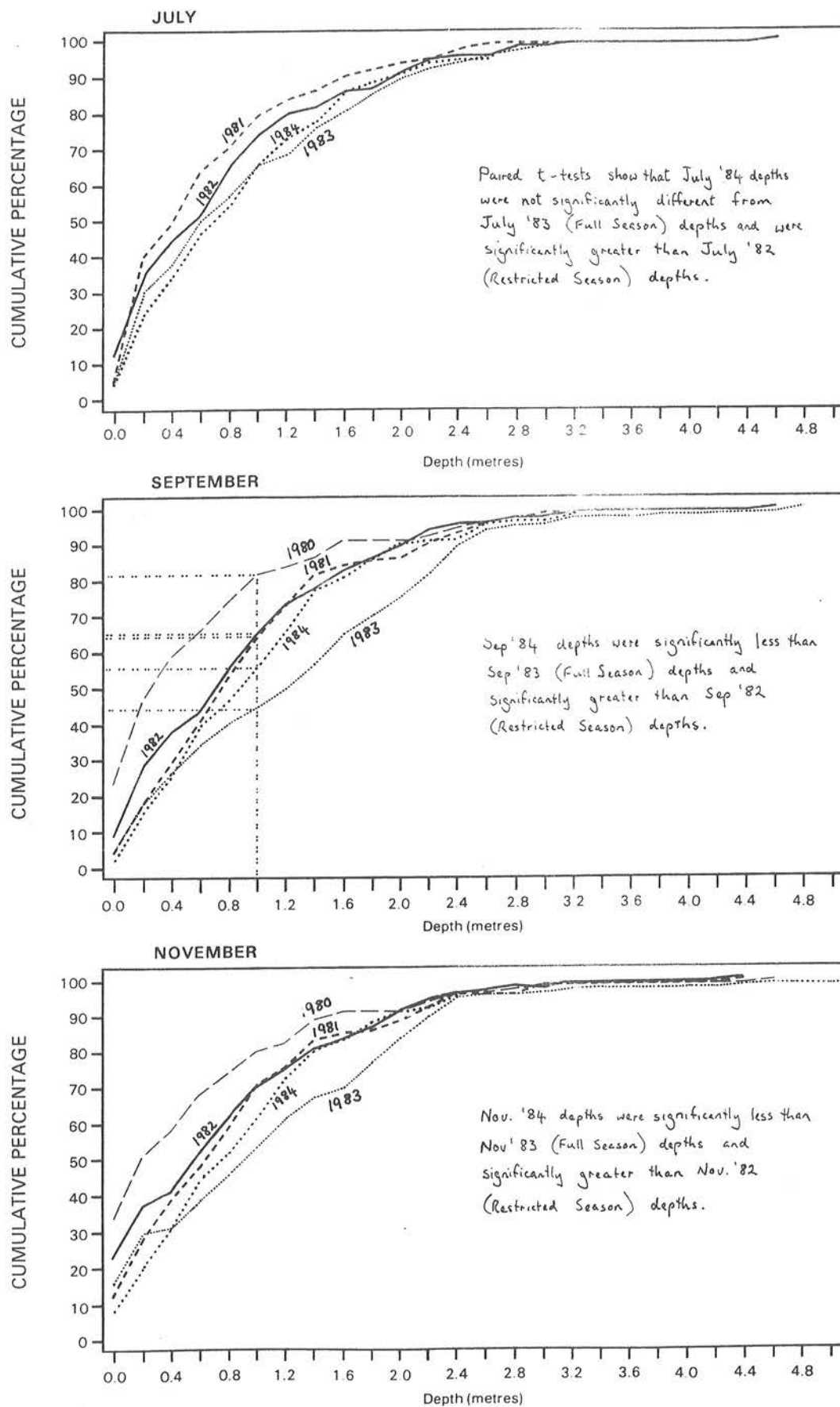


FIGURE 3. CUMULATIVE PERCENTAGES OF WETLAND DEPTHS

This figure shows, for example, that in September 1980 82% of monitored wetlands had depths less than 1.0 m whereas in Septembers of 1981, 1982, 1983 and 1984 65%, 64%, 44% and 56% respectively were less than 1.0 m deep. Thus water levels were higher in Sept. 1984 than in 1980, 1981 and 1982 but lower than in 1983. Similar comparisons may be made for other months and depths.

STANDARDISED SEASONS

	<u>FULL SEASON</u>	<u>RESTRICTED SEASON</u>	<u>NO SEASON</u>
Opening Date	2nd weekend in January	2nd weekend in January	-
Opening Day	Saturday	Sunday	-
Opening Time*	6.00 <u>PM</u>	6.00 <u>AM</u>	-
Season Length	10 weeks	4 weeks	-
Bag Limit	10 birds of any game species	5 birds of any game species	-

* Western Standard Time

TABLE 1 : NOVEMBER DEPTHS OF MONITORED WETLANDS; 1978-1984.

Unnamed Wetlands are referred to by Shire and Reserve Number (eg.
Wetland No. 10 : Mt Marshall 26687)

WET- LAND No.	WETLAND NAME	DEPTH (metres)							MAXIMUM RECORDED NOV-JAN DEPTH DECREASE * (metres)
		NOV 1978	NOV 1979	NOV 1980	NOV 1981	NOV 1982	NOV 1983	NOV 1984	
1	YARRA YARRA				0.09	<0.10	DRY	0.03	0.09
2	LOGUE		DRY	DRY	1.55	0.48	2.00	1.24	0.65
3	CAPAMAURA			DRY	0.70	DRY	0.55	0.36	0.47
4	EGANU	1.78	0.20	DRY	2.28	2.00	2.33	2.24	0.46
5	PINJARREGA		1.10	DRY	2.14	0.85	2.13	2.06	0.55
6	STREETS	0.04	DRY	DRY	1.21	0.12	1.23	1.22	0.48
7	HINDS		DRY	DRY	1.00	<0.20	1.34	1.10	0.39
8	NINAN	0.25	0.23	DRY	1.96	0.78	2.13	1.72	0.58
9	MOLLERIN			DRY	<0.01	DRY	DRY	DRY	-
10	MT MARSHALL 26687				0.03	DRY	DRY	DRY	0.03
11	WALYORMOURING	0.03	0.03	DRY	0.51	<0.08	0.63	0.51	0.41
12	CAMPION		DRY	DRY	0.65	0.21	DRY	0.63	0.57
13	NOONYING		0.85	DRY	1.18	0.48	1.19	1.13	0.48
14	BRUCE ROCK 30969					1.07	1.02	1.08	0.26
15	DOBADERRY			DRY	0.49	0.14	0.58	0.48	0.58
16	BEVERLEY	1.65	0.63	0.24	1.70	1.24	1.63	1.68	0.50
17	MEARS	1.74	0.72	DRY	1.00	0.66	2.03	1.58	0.54
18	NONALLING*		DRY	0.88	0.75	0.71	0.77	0.68	0.43
19	WHITE WATER				1.08	DRY	1.70	0.66	0.35
20 *	BROWN		<0.16	DRY	1.46	0.65	1.75	1.08	0.49
21	YEALERING	1.67	0.56	0.32	1.94	1.61	2.15	1.08	0.56
22	DULBINNING		DRY	DRY	0.70	0.37	0.71	DRY	0.37
23	TOOLIBIN	DRY	DRY	DRY	1.35	1.05	1.93	1.11	0.27
24	WALBYRING		DRY	DRY	0.37	0.60	0.96	0.41	0.37
25	TAARBLIN	DRY	DRY	DRY	<0.08	DRY	2.00	1.12	0.32
26	BOKAN		DRY	0.02	0.39	0.20	1.34	0.11	0.39
27	WHITE NARROGIN				0.05	DRY	1.88	0.95	0.33
28	LITTLE WHITE		DRY	0.47	0.81	0.81	1.30	0.69	0.33
29	KWOBRUP		0.14	DRY	DRY	0.71	1.06	0.33	0.35
30	COYRECUP	1.00	DRY	<0.13	0.35	1.89	2.24	1.69	0.35
31	CASUARINA	DRY	DRY	<0.49	0.90	0.60	0.94	0.95	0.40
32	COOMELBERRUP	0.53	DRY	DRY	0.36	0.89	1.27	0.96	0.36
33	COBLININE		0.91	1.27	1.21	2.60	5.06	4.11	0.39
34	DUMBLEYUNG		<0.13	0.13	0.25	2.00	4.46	3.51	0.35
35	GUNDARING	0.82	0.48	0.67	0.95	1.65	2.12	1.34	0.48
36	WAGIN 2088					0.55	1.20	0.25	0.52
37	PARKEYERRING	0.49	DRY	<0.10	0.60	1.28	1.84	1.06	0.43
38	FLAGSTAFF		DRY	0.14	0.26	0.64	1.62	0.90	0.36
39	WARDERING	0.82	0.24	0.66	0.99	0.70	1.02	1.03	0.40
40	QUEEREARRUP	0.34	DRY	0.30	0.57	1.78	2.34	1.75	0.34
41	MIRIPIN				0.43	0.66	1.06	0.74	0.46
42	MURAPIN				0.18	1.01	1.15	0.47	0.40
43	MARTINUP		DRY	0.24	0.33	1.34	1.72	1.28	0.37
44	WEST ARTHUR 5456			DRY	0.80	0.51	0.82	0.85	0.37
45	TOWERINNING	1.69	0.81	0.54	1.10	3.14	3.40	3.17	0.51
46	RED BRUCE ROCK				0.04	DRY	DRY	DRY	0.04
47	CORRIGIN 12900					0.19	1.20	0.59	0.26
48	KONDININ		0.20	DRY	0.62	0.25	1.99	0.87	0.44
49	GOUNTER			DRY	0.10	0.10	DRY	0.18	0.18
50	VARLEY				DRY	DRY	DRY	0.04	0.04
51	ACE			DRY	<0.02	DRY	DRY	0.03	0.03
52	PALLARUP			DRY	<0.07	DRY	DRY	DRY	-
53	BIDDY					0.74	<0.09	0.11	0.46
54	KENT 29020			DRY	DRY	DRY	DRY	DRY	-
55	BRYDE		DRY	DRY	DRY	DRY	1.54	0.81	0.22
56	ALTHAM				DRY	DRY	1.07	0.21	0.29
57	CAIRLOCUP			DRY	DRY	DRY	DRY	DRY	-
58	YAALUP					1.28	1.69	1.33	0.34

* Allows prediction of possible depth at commencement of 1985 Duck Shooting Season (ie. second full weekend of January 1985)

TABLE 1 - cont'd...

WET- LAND NO.	WETLAND NAME	DEPTH (metres)							MAXIMUM RECORDED NOV-JAN DEPTH DECREASE (metres)
		NOV 1978	NOV 1979	NOV 1980	NOV 1981	NOV 1982	NOV 1983	NOV 1984	
59	GNOWANGERUP 26569					DRY	0.16	DRY	0.16
60	GNOWANGERUP 26264			0.07	DRY	0.84	0.10	<0.06	0.45
61	ANDERSON				0.20	2.12	1.61	1.00	0.34
62	CAMEL			0.19	DRY	0.17	0.14	0.31	0.14
63	CRANBROOK 25812			0.20	0.06	0.02	0.11	0.34	0.20
64	ENEMINGA			DRY	2.42	1.39	2.52	1.35	0.44
65	GURAGA					2.14	2.40	1.85	0.39
66	CRACKERS			DRY	0.05	DRY	0.96	0.96	0.29
67	KARAKIN		0.55	0.82	0.98	0.72	0.92	0.83	0.98
68	WANNAMAL	1.14	1.15	1.24	1.23	1.30	1.32	1.28	0.45
69	YURINE		1.01	0.66	2.20	1.42	1.75	1.50	0.60
70	GINGIN 31241		2.08	2.14	2.07	2.03	2.01	1.48	0.60
71	BAMBUN		2.27	2.31	2.32	2.26	2.35	2.25	0.50
72	NAMBUNG		DRY	0.07	0.49	0.20	0.37	0.31	0.41
73	MUNGALA		0.10	0.12	0.70	0.29	0.57	0.38	0.57
74	WALLERING				0.97	0.47	0.96	0.59	0.49
75	CHANDALA		0.74	0.82	0.70	0.81	0.79	0.73	0.44
76	CHITTERING	1.39	1.38	1.45	1.31	1.42	1.42	1.44	0.45
77	TWIN SWAMPS		DRY	DRY	DRY	DRY	DRY	DRY	-
78	ELLEN BROOK		0.12	0.28	0.18	0.10	0.13	0.23	0.28
79	JANDABUP	1.35	1.25	1.22	1.27	1.15	1.12	1.11	0.39
80	JOONDALUP	3.01	2.87	2.88	2.92	3.03	3.02	3.02	0.35
81	THOMSONS	0.94	0.17	0.86	0.90	0.92	0.78	1.03	0.44
82	FORRESTDALE	0.92	0.30	0.79	0.93	0.64	0.76	0.78	0.47
83	MURRAY 24739			0.57	0.32	0.41	0.45	0.44	0.57
84	NINE MILE				1.37	1.77	1.96	1.83	0.36
85	HARVEY 12632			1.16	1.08	1.47	1.38	1.05	0.54
86	WILD HORSE				0.21	1.17	0.92	0.45	0.31
87	BOYUP BROOK 18239			<0.05	DRY	DRY	0.65	0.13	0.37
88	UNICUP			0.60	0.64	0.19	0.94	0.70	0.35
89	RED MANJIMUP				0.29	DRY	0.02	0.52	0.28
90	MUIR		0.14	0.17	0.52	<0.02	0.42	0.26	0.42
91	BYENUP	2.40	2.27	2.14	2.38	2.12	2.33	2.38	0.36
92	TORDIT-GARRUP	3.15	2.91	2.75	2.88	2.65	2.49	2.54	0.29
93	POORGINUP	0.55	0.53	0.55	0.54	0.44	0.50	0.47	0.24
94	YARNUP			0.80	0.94	0.80	0.94	0.95	0.22
95	WARRINUP			0.21	0.12	DRY	0.14	0.19	0.21
96	KWORNICUP		0.41	0.26	0.39	<0.09	0.14	0.51	0.33
97	POWELL				0.96	0.94	0.69	1.00	0.23
98	PLANTAGENET 25386		0.73	0.48	0.41	0.51	0.38	0.56	0.73
99	WHITE ALBANY				0.23	<0.09	DRY	<0.06	0.18
100	ALBANY 26385				0.84	0.64	<0.35	0.61	0.22
101	PLEASANT VIEW		2.20	1.52	1.15	0.79	0.46	0.39	0.30
102	ANGOVE				1.81	1.81	2.11	2.10	0.22
103	MOATES		4.44	4.51	4.32	4.22	4.26	4.34	0.46
104	GARDNER				2.08	2.00	2.03	2.02	0.17
105	ALBANY 27157			1.10	0.84	0.77	0.59	0.76	0.23
106	METTLER					0.44	0.11	0.15	0.21
107	JERDACUTTUP		2.41	1.30	0.62	0.43	0.78	1.11	0.38
108	SHASTER		1.04	0.17	0.20	DRY	0.20	0.40	0.37
109	ESPERANCE 21640				DRY	DRY	DRY	0.14	-
110	GORE		1.72	1.35	1.32	1.04	0.58	1.67	0.36
111	SHARK		2.40	2.25	2.29	2.22	1.66	2.34	0.32
112	WARDEN		1.53	<0.84	0.66	0.40	<0.19	1.34	0.35
113	MULLET			0.57	0.53	0.58	0.05	0.56	0.41
114	CRONIN				0.18	DRY	DRY	DRY	0.18
115	DUNDAS 33113		0.34			DRY	DRY	<0.34	0.34
116	ESPERANCE 27768				DRY	DRY	DRY	<0.01	-
117	ESPERANCE 27985				DRY	DRY	DRY	<0.02	-
118	ESPERANCE 32776				DRY	DRY	DRY	<0.02	-
119	ESPERANCE 32128					DRY	DRY	0.24	-