INSTRUCTION MANUAL

ROUTINE MONITORING OF GAUGED WETLANDS

WATERBIRD RESEARCH - DEPARTMENT OF FISHERIES AND WILDLIFE

JULY 1982

ROUTINE MONITORING OF GAUGED WETLANDS

INSTRUCTIONS FOR CONTRIBUTORS

A. PROCEDURES

1. Until further notice, monitoring of wetland depth and salinity will be at two monthly intervals, i.e. January, March, May, July, September and November. A nine-day period is allocated during each of the sampling months for the collection of data. It is most important that readings and samples are collected within these nine-day periods. The nine days are calculated from (and including) the second Saturday of the month in all instances except for the month of November. Monitoring for this month is conducted during the nine day period from the first Saturday of the month. Note that each period includes two weekends in order to provide flexibility for contributors who collect data in their own time.

2. For routine monitoring purposes, only one water sample should be taken on each gauged wetland. The measurement or sample should be taken from the water surface (top 10 cm of water) adjacent to the depth gauge. If it is not possible to sample at the gauge, it should be taken as near as practicable. Always collect a sample regardless of how shallow the water may be. Reasonably clean samples can be collected from a depth of 2 cm or less by forming a depression and/or using the container lid as a scoop.

3. Containers used for collection of water samples should be of the open neck type (85 mm) and have a volume of 500 ml. Ideally, use A.C.I. (P.V.C.) container no. Y23-3067, supplies of which are obtainable from Don Munro, Fisheries and Wildlife or the W.A.F.G.A Co-ordinator. Containers and their lids must be clean and thoroughly rinsed with water from the near vicinity of the sample site. Use stick-on labels preferably adhered to the container lid. Refrain from writing on the container itself. Do not use felt pens. Print the wetland name and date of collection (and the sample site if more than one is collected from the same wetland). Containers must not leak or lose water through evaporation.

4. A number of wetlands have more than one gauge. In such cases all gauges have been set relative to the deepest point in the wetland. There is no need, therefore, to record which gauge was used to determine water depth. Where the circumstances require a comment in respect to a gauge, refer to

each gauge as either the "first" (one nearest the wetland perimeter) second, third, etc. Such a comment might be - "2nd gauge needs replacing, damaged by shot", or "Sample taken 100 m beyond 3rd gauge".

5. When a comment is required on the data sheet, make the entry along the next line or lines following the coded details for the particular wetland it refers to. Do not write on the back of the data sheets as this information may be overlooked or lost during subsequent photocopying of data.

6. Data and samples should be sent to Don Munro, Department of Fisheries and Wildlife as soon as practicable after collection. W.A. Field and Game Association members should send their data and samples to the W.A.F.G.A. Co-ordinator; he will then forward them to Fisheries and Wildlife.

7. Data will be stored on computer at Fisheries and Wildlife with printouts being made available periodically to contributors.

8. Reference material has been included in this manual to provide further assistance to contributors.

   (a) List of Wetlands gauged - Ensure that spelling of wetland name and spacing conform exactly with those on this list.
   (b) Examples of gauge situations and interpretation of depth readings.
   (c) A data sheet with examples of how to record data according to various circumstances likely to be encountered.

B. DATA SHEETS

1. GENERAL

(a) Print all letters in BLOCK CAPITALS
(b) Do not use "dittos"
(c) Ignore all shaded areas.

2. GROUP

Tick the appropriate box.

3. SURNAME

Print the surname of the person who collected the field data. Note that only the first eight letters will be used for computing purposes.

4. FIRST INITIAL

Print the first initial only.

5. WETLAND NAME

Print the name of the wetland as given in the accompanying list. Note that un-named wetlands are identified by Shire and reserve number (e.g. GINGIN 31241).

6. DATE

Print two numerals for the day - e.g. 01, 15, 30; followed by the first three letters of the month - e.g. JAN, MAY, JUL; followed by the year - 82, 83, etc.

7. TIME

Use the 24 hour clock - e.g. 0530, 1250, 2350, etc.

8. WETLAND DRY

Tick if the wetland is inspected and found to be dry. (For the purposes of the monitoring programme a wetland which contains no free water is considered dry even if its bed is damp or muddy). If this column is ticked, leave DEPTH GAUGE READING column blank.

9. LESS THAN

Tick if the wetland contains free water but the water level does not reach the depth gauge, read the lake bed level at the gauge and record this figure in the DEPTH column.

10. DEPTH

Record to the nearest centimetre (0.01 metres). Be sure to insert a numeral in each column, e.g. 0.19, 1.00, 1.01, etc. not .19, 1, etc.

11. SALINITY

Note that salinity is recorded on the data sheet in Parts per Thousand (P.P.T.) Analysis of water samples is normally conducted by Fisheries and Wildlife, under these circumstances leave the salinity column blank. If for any unavoidable reason the contributor finds it necessary (and is able) to have the sample analysed by another qualified agent, (e.g. Dept. Agriculture, Govt. Chemical Laboratories, etc.) obtain and return an analysis report with the data sheet to the W.A.F.G.A. Co-ordinator or Fisheries & Wildlife.

12. METHOD OF ANALYSIS CODE

If (as under normal procedures) the sample is returned to the W.A.F.G.A. Co-ordinator or Fisheries & Wildlife for analysis, leave the column blank. Where alternative methods or agents are employed (see 11. Salinity) insert 1,2,3 or 4 (see codes on data sheet).

13. SAMPLE SITE CODE

For routine monitoring purposes, samples should be taken at gauge sites, or as near as practicable. If a water sample is taken, insert 1 or 5 depending upon sampling location (see Codes on Data Sheet). If 5, specify the site in a remark on the following line and place a tick in the remark column.

14. SAMPLE DEPTH CODE

For routine monitoring purposes, samples should be taken from the surface (top 10 cm). Insert 1,2 or 3 depending upon the depth at which the sample is taken.

15. REMARKS

If a remark is necessary (e.g. "water sample taken at centre of lake", or "0.5 metre waves made gauge readings imprecise") insert a tick in this column and write the comment/s along the next line/s.

16. SHEET NUMBER

Leave blank.

W.A. DEPARTMENT OF FISHERIES AND WILDLIFE

LIST OF GAUGED WETLANDS - JULY 1982

WETLAND NAME	SHIRE	GRID REFERENCE	PHOTO WALLET NO.
ACE	LAKE GRACE	33°00'S, 119°46'E	156
ALBANY 26385	ALBANY	34°48'S, 118°10'E	90
ALBANY 27157	ALBANY	34°49'S, 118°18'E	122
ALTHAM	KENT	33°24'S, 118°27'E	81
ANDERSON	TAMBELLUP	34°10'S, 117°58'E	95
ANGOVE	ALBANY	34°47'S, 118°10'E	93
BAMBUN	GINGIN	31°26'S, 115°53'E	26
BEVERLEY	BEVERLEY	32°14'S, 117°09'E	58
BIDDY	LAKE GRACE	33°01'S, 118°57'E	219
BOKAN	NARROGIN	32°59'S, 117°32'E	38
BOYUP BROOK 18239	BOYUP BROOK	33°49'S, 116°40'E	128
BROWN	CORRIGIN	32°33'S 117°39'E	40
BRUCE ROCK 30969	BRUCE ROCK	31°55'S, 117°51'E	53
BRYDE	KENT	33°21'S, 118°50'E	116
BYENUP	MANJIMUP	34°28'S, 116°44'E	176
CAIRLOCUP	KENT	33°44'S, 118°45'E	113
CAMEL	CRANBROOK	34°17'S, 117°58'E	91
CAMPION	MERREDIN	31°09'S, 118°21'E	46
CAPAMAURA	CARNAMAH	29°54'S, 115°56'E	186
CASUARINA	KATANNING	33°39'S, 117°45'E	82
CHANDALA	CHITTERING	31°30'S, 115°58'E	243
CHITTERING	CHITTERING	31°27'S, 116°06'E	7
COBLININE	DUMBLEYUNG	33°23'S, 117°42'E	62
COOMELBERRUP	DUMBLEYUNG	33°24'S, 117°47'E	61
CORRIGIN 12900	CORRIGIN	32°35'S, 118°06'E	287
COYRECUP	KATANNING	33°43'S, 117°51 E	79
CRACKERS	DANDARAGAN	30°54'S, 115°35'E	153
CRANBROOK 25812	CRANBROOK	34°18'S, 117°48'E	105

cont'd...

-CRONIN	KONDININ	32°22'S, 119°48'E	259
DOBADERRY	BEVERLEY	32°13'S, 116°38'E	14
-DULBINNING	WICKEPIN	32°55'S, 117°37'E	37
-DUMBLEYUNG	WAGIN	33°22'S. 117°38'E	62
DUNDAS 33113	DUNDAS	32°57'S, 121°50'E	155
-EGANU	COOROW	30°00'S, 115°53'E	152
ENEMINGA	DANDARAGAN	30°47'S, 115°31'E	132
ESPERANCE 21640	ESPERANCE	33°45'S, 120°53'E	217
ESPERANCE 27768	ESPERANCE	33°16'S. 121°50'E	200
ESPERANCE 27985	ESPERANCE	33°22'S, 121°46'E	202
ESPERANCE 32128	ESPERANCE	33°39'S. 122°43'E	210
ESPERANCE 32776	ESPERANCE	33°30'S. 122°19'E	201
-FLAGSTAFF	WOODANILLING	33°31'S. 117°16'E	63
FORRESTDALE	ARMADALE/KELMSCOTT	32°09'S, 115°56'E	17
GARDNER	ALBANY	34°58'S. 118°09'E	93
GINGIN 31241	GINGIN	31°25'S, 115°49'E	8
GNOWANGERUP 26264	GNOWANGERUP	34°22'S, 118°29'E	106
GNOWANGERUP 26569	GNOWANGERUP	33°49'S. 118°28'E	80
-GORE	ESPERANCE	33°46'S, 121°32'E	208
GOUNTER	KONDININ	32°24'S, 118°51'E	143
-GUNDARING	WAGIN	33°18'S, 117°30'E	72
HARVEY 12632	HARVEY	35°59'S, 115°48'E	22
-HINDS	WONGAN-BALLIDU	30°46'S, 116°34'E	248
JANDABUP	WANNEROO	31°45'S, 115°50'E	4
-JERDACUTTUP	RAVENSTHORPE	33°56'S, 120°14'E	190
JOONDALUP	WANNEROO	31°45'S, 115°47'E	2
KARAKIN	GINGIN	31°04'S, 115°29'E	246
KENT 29020	KENT	33°22'S, 118°54'E	111
KONDININ	KONDININ	32°30'S, 118°12'E	221
KWOBRUP*	KENT	33°44'S, 118°01'E	
KWORNICUP	PLANTAGENET	34°33'S, 117°26'E	101
-LITTLE WHITE	NARROGIN	33°01'S, 117°26'E	87
-LOGUE	CARNAMAH	29°51 S, 115°08'E	149
-MARTINUP	WOODANILLING	33°32'S, 117°10'E	64
-MEARS	BROOKTON	32°14'S. 117°21'E	43
MIRIPIN	WOODANILLING	33°32'S, 117°12'E	85
MOATES	ALBANY	34°57'S, 118°06'E	93
MOLLERIN	KOORDA	30°30'S, 117°34'E	164

cont'd...

MT MARSHALL 26687	MOUNT MARSHALL	30°55'S, 117°38'E	140
-MUIR	MANJIMUP	34°26'S, 116°40'E	176
MULLET	ESPERANCE	33°49'S, 121°57'E	206
MUNGALA	GINGIN	31°27'S. 115°53'E	26
-MURAPIN	WOODANILLING	33°32'S. 117°11'E	89
MURRAY 24739	MURRAY	32°41'S, 115°42'E	21
NAMBUNG	GINGIN	31°27'S, 115°53'E	26
-NINAN	WONGAN-BALLIDU	30°57'S, 116°39'E	139
NINE MILE	MURRAY	32°44'S, 115°45'E	263
-NONALLING	CORRIGIN	32°32'S, 117°37'E	40
-NOONYING	TAMMIN	31°40'S, 117°27'E	236
PALLARUP	LAKE GRACE	33°13'S, 119°45'E	117
-PARKEYERRING	WAGIN	33°22'S 117°20'E	71
-PINJARREGA	COOROW	30°05'S. 115°55'E	152
PLANTAGENET 25386	PLANTAGENET	34°32'S, 118°04'E	104
-PLEASANT VIEW	ALBANY	34°50'S, 118°11'E	110
POORGINUP	MANJIMUP	34°32'S. 116°44'E	176
POWELL	ALBANY	35°02'S, 117°44'E	27
-QUEEREARRUP	WOODANILLING	33°31'S. 117°44'E	
RED BRUCE ROCK	BRUCE ROCK	32°12'S, 118°05'E	42
RED MANJIMUP	MANJIMUP	34°26'S. 116°40'E	
SHARK	ESPERANCE	33°47'S, 121°52'E	207
-SHASTER	RAVENSTHORPE	33°52'S, 120°42'E	189
STREETS*	MOORA	30°36'S, 115°58'E	
-TAARBLIN	NARROGIN	32°59'S. 117°33'E	222
THOMSONS	COCKBURN	32°09'S. 115°49'E	15
TOOLIBIN	WICKEPIN	32°55'S, 117°37'E	37
TORDIT GARRUP	MANJIMUP	34°30'S, 116°45'E	176
-TOWERINNNG	WEST ARTHUR	33°35'S, 116°48'E	127
-UNICUP	CRANBROOK	34°21'S, 116°43'E	172
VARLEY	KULIN	32°41'S. 119°22'E	160
-WAGIN 2088	WAGIN	33°20'S, 117°22'E	65
-WALBYRING	WICKEPIN	32°56'S. 117°36'E	36
WALLERING	GINGIN	31°27'S, 115°53'E	244
-WALYORMOURING	GOOMALLING	31°08'S. 116°51'E	11
-WANNAMAL	GINGIN	31°08'S, 116°03'E	12
WARDEN	ESPERANCE	33°50'S, 121°53'E	204
WARDERING	WOODANILLING	33°32'S. 117°15'E	68

cont'd...

WARRINUP	CRANBROOK	34°21'S, 117°16'E	102
-WEST ARTHUR 5456	WEST ARTHUR	33°30'S. 116°58'E	119
-WHITE ALBANY	ALBANY	34°46'S. 118°11 E	255
-WHITE NARROGIN	NARROGIN	33°01'S, 117°27'E	86
-WHITE WATER	CORRIGIN	32°32'S, 117°39'E	40
WILD HORSE	WEST ARTHUR	33°40'S, 116°44'E	123
YAALUP	KENT	33°45'S, 118°34'E	262
-YARNUP	CRANBROOK	34°23'S, 116°51'E	174
YARRA YARRA	CARNAMAH	29°35'S, 115°46'E	183
YEALERING	WICKEPIN	32°36'S. 117°38'E	
YURINE	GINGIN	31°15'S. 115°47'E	245

*Kwobrup Swamp, Streets Lake and Red Lake (Manjimup) are on Private Property. Landholders permission is required for entry.

— WETLAND MONITORING PROGRAMME —

DEPARTMENT OF FISHERIES AND WILDLIFE

SHEET NO.

F.W. / MARGA / OTHER: ✓ PLEASE TICK ✓

NOTE - SHADED COLUMNS FOR USE BY F.W RESEARCH STAFF ONLY

SAMPLER SURNAME: HEATHERINGTO INITIAL: R

WETLAND NAME	SURVEY NOT ROUTINE	DATE eg. 16 DEC 79	BD	TIME eg. 1330	WETLANDS DRY	DEPTH GAUGE READING LESS THAN	DEPTH m	SALINITY ppt.	TEMP °C	pH	LAKE BED LEVEL AT GAUGE NEAR SHORE GAUGE	LAKE BED LEVEL AT GAUGE OFF SHORE GAUGE	METHOD OF ANALYSIS CODE	SAMPLE SITE CODE	SAMPLE DEPTH CODE	REMARKS PLEASE TICK ✓	SHEET NO. (FOR RESEARCH ONLY)
TOORDALUP		09JAN82		0900			1.54	1.54					1	1	1		
LOGUE		21MAR82		2100		✓	0.08							5	1	✓	
				SAMPLE TAKEN FROM CENTRE of LAKE													
WINDS		10MAY82		0815 ✓													
NGIN 31241		15JUL82		1445			1.65							1	1	✓	
				0-10m WAVES MADE GAUGE READING IMPRECISE													
BEVERLEY		25SEP82		1630			0.82						3	1	1		
T MARSHALL 26687		11NOV82		0915									4	1	1	✓	
				No DEPTH RECORDED - GAUGE MISSING - EST 0.25m DEEP													
				SAMPLE ANALYSED BY NARROGIN DEPT. AGRICULTURE - REPORT ATT.													
NJARREGA		21JAN83		1525			1.43	2530					2	5	1	✓	
				SAMPLE TAKEN FROM PERIMETER -													
				GAUGE PLATE ON 2ND GAUGE RUSTED - DIFFICULT TO READ													
				SAMPLE ANALYSED BY SELF													

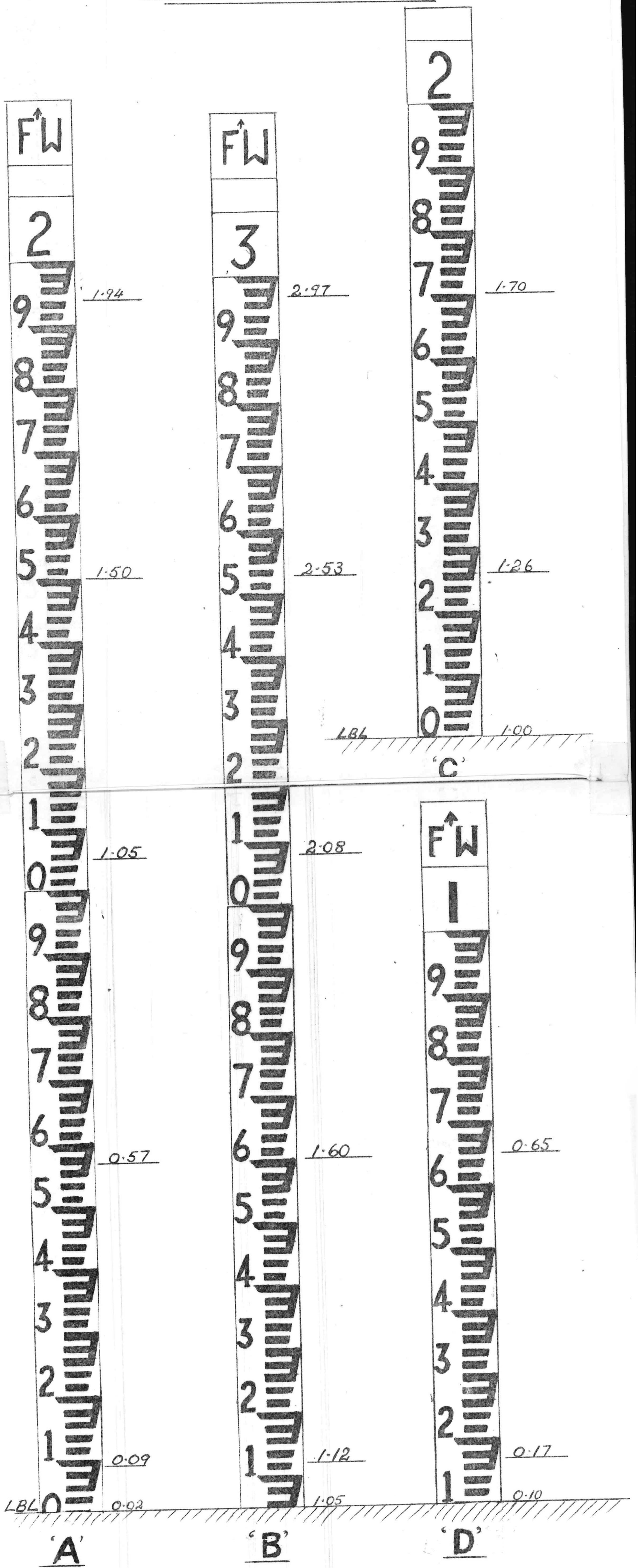
CODES:

METHOD OF ANALYSIS
1. HAMON SALINITY BRIDGE
2. ALE CONDUCTIVITY METER
3. GOVERNMENT CHEMICAL LABORATORIES
4. OTHER (SPECIFY IN A REMARK)

SAMPLE SITE
1 Within 50m of a Gauge
5 Other (specify in a remark)

SAMPLE DEPTH
1. SURFACE (TOP 10cm)
2. BOTTOM
3. OTHER (SPECIFY IN A REMARK)

EXAMPLES of DEPTH GAUGE SITUATIONS & INTERPRETATION of DEPTH READINGS.



IN MANY INSTANCES WHERE TWO GAUGES ARE INSTALLED ONLY THE INSHORE GAUGE HAS A 'METER' NUMERAL ie 1, 2 etc.

LBL. = LAKE BED LEVEL

NOT ALL GAUGES HAVE F↑W PLATES.