NATIONAL RIVERS AUTHORITY SOUTH WESTERN REGION

RIVER OTTER ENVIRONMENTAL STUDY - 1993/94

CONSULTANTS REPORT : RIVER OTTER : ENVIRONMENTAL DATA REVIEW

W S Atkins February 1994

Volume 4 : Appendices

WS Atkins Water
a division of WS Atkins Consultants Limited
Kings Wharf
The Quay
Exeter EX2 4AN

DOCUMENT CONTROL SHEET

Client: **National Rivers Authority**

Project: **River Otter Environmental Data Review**

Title: **ENVIRONMENTAL DATA REVIEW**

Date: **February 1994**

VOLUME 4 : APPENDICES

COPY NO: ~~02~~ V4/1

COPY HOLDER: ~~NRA (Exeter)~~ LIBRARY COPY

25.2.94 CDNT

Revision	Purpose	Originated	Checked	Reviewed	Authorized	Date
2	Final Draft	J. Wright	H. Westbrook	M Chorley	J. Wright	18/02/94
.1	Draft	J Wright	H Westbrook	-	-	15/2/94

CONTENTS

List of Appendices

APPENDICES

APPENDIX A
Questionnaire

RIVER OTTER DATA REVIEW QUESTIONNAIRE

1. Please enter your name, address and telephone number:

.....

.....

.....

2. Do you have evidence, photographic or written, that is in addition to that already held by the NRA on the following issues:

a)	Fisheries/Fishing	YES / NO
b)	Water Quality	YES / NO
c)	Aquatic Biology	YES / NO
d)	Ecology	YES / NO
e)	Abstraction	YES / NO
f)	Groundwater Level	YES / NO
g)	River Flows, Velocity and Stage	YES / NO
h)	Sedimentation	YES / NO
i)	Eutrophication	YES / NO
j)	Drainage Regimes	YES / NO

Please enclose evidence that is additional to that already held by the NRA with this questionnaire. Please ensure that your name and address is clearly written on evidence so it can be returned.

3 Do you have evidence, photographic or written, that is in addition to that already held by the NRA on the following issues:

a)	Pollution Incidents	YES / NO
b)	Outfalls	YES / NO
c)	Abstractions	YES / NO
d)	Flood Frequency	YES / NO
e)	Changes in Erosion/Sedimentation Regime	YES / NO
f)	Changes in Recreational Usage	YES / NO
g)	Changes to Spawning Grounds	YES / NO
h)	Changes in Land Usage	YES / NO
i)	Changes in Water Courses and Natural Standing Water other than River Otter	YES / NO
j)	Tree die-back	YES / NO
k)	Aquatic Plant Growth	YES / NO

continued/..2

../2

Please ensure evidence that is additional to that already held by the NRA is enclosed with this questionnaire. Please ensure your name is clearly written on evidence so it can be returned. If the data is substantial please contact the undersigned to make suitable arrangements.

Please return to: Dr J M Wright
WS Atkins
Curzon House
Southernhay West
EXETER
EX1 1JG

Tel: (0392) 423000

APPENDIX B
Data Sources For River Otter Environment Data Review

APPENDIX B

Data sources for River Otter Environmental Data Review

Biology Data

From NRA Archive	–	Routine biological monitoring results for Otter catchment 1990-92.
From NRA Files	–	Historical biological survey results for Otter catchment 1968-89;
	–	Historical biological survey results for Axe Catchment 1968-93;
	–	Phase I Habitat Survey, NRA 1983
	–	Aerial Photographic Survey, NRA 1992
	–	Comparative rod catches for salmon and sea trout 1966-92;
	–	Trout densities for River Otter 1983-92;
	–	Fisheries survey of the River Otter 1978 - Technical Report;
	–	Fisheries survey of River Otter at Newton Poppleford - date unknown.
From River Otter Association	–	Report on decline of the River Otter;
	–	Fisheries data for Honiton.

Water Quality Data

From NRA Archive	–	Routine monitoring data for Otter catchment 1974-93;
	–	Effluent and discharge impact assessment data 1974-93;
	–	Routine monitoring data for Axe Catchment 1974-93.

1. The Otter Valley Catchment Study, Vol 3, Executive Report, draft final Report August 1989.

2. The Otter Valley Catchment Study, Vol 3, Landuse & Farming Practices, draft Final, August 1989.

3. The Otter Valley Catchment Study, Vol 5, Environmental Studies, draft Final, August 1989.

4. Otter Valley Catchment Study, Report on Test Pumping carried out at Greatwell and Dotton, April 1989.

5. 'Study of 1989 Drought in SW England' Halcrow, Draft Report, Vol 1 main report (March 1990), Vol 2 (annexes).

6. Groundwater Report no. N410C, March 1990. Marcus Hodges Environmental.

7. New Agricultural Landscapes 1974, Countryside Commission.

8. A Second Look 1984, Countryside Commission.

9. Water Resource Development in East Devon, The Otter Valley Catchment Study, vol 2, Resource Modelling. MRM Final Draft Report August 1989.

Available Aquatic Invertaebrate Data:

1968: – Laboratory sorting (biological audit samples). Numbers of individual species.

1973: – Laboratory sorting (biological audit samples). Numbers of individual species.

– Field sheets showing abundance of main families.

1977: – Field data showing abundance of individual species.

1978: – Field data showing abundance of main families/groups.

1979: – Laboratory sorting (biological audit samples) giving numbers of individual species.

– Field data showing abundance of main families/groups.

1980: – Laboratory sorting (biological audit samples) giving numbers of individual species.

– Field data showing abundance of main families/groups.

1981: – Laboratory sorting (biological audit samples) giving numbers of individual species.

– Field data showing abundance of main families/groups.

1982: – Laboratory sorting (biological audit samples) giving numbers of individual species.

– Field data showing abundance of main families/groups.

1983: – Field data showing abundance of main families/groups.

1985: – Field data showing abundance of main families/groups.

1986: – Field data showing abundance of main families/groups.

1990: – Laboratory sorting giving abundance of main groups.

1991: – Laboratory sorting giving abundance of main groups.

1992: – Laboratory sorting giving abundance of main groups.

The abundance scale used for the 1990-1992 samples collected using a 3 minute kick and 1 minute search is as follows:

1	=	1 - 9 individuals
2	=	10 - 99 individuals
3	=	100 - 999 individuals
4	=	1000 - 9999 individuals
5	=	10,000+ individuals

Between 1978 and 1989 invertebrate samples were taken by 2 minute kick with older surveys using a 5 minute kick; the abundance scale used is not recorded on the information provided.

Biologists in the NRA (pers com.) indicate that kick samples prior to 1990 were recorded using the following scale:

1 - 2	=	Rare
3 - 10	=	Occasional
11 - 100	=	Common
101+	=	Abundant

The older records using Chandler's Biotic Score and the Trent Biotic Index presumably used Chandler's definition of frequency ie. number of individuals in a 5 minute 0.1 m^2 sample:-

1 - 2	=	Present/Rare
3 - 10	=	Occasional
11 - 50	=	Common
51 - 100	=	Abundant
> 100	=	Very abundant

APPENDIX C

Water Quality Sampling Sites and Parameters available

NATIONAL RIVERS AUTHORITY-SOUTH WEST REGION
ROUTINE MONITORING OF RIVER WATER QUALITY
Sampling & Analysis Schedule

Responsible Officer A.TAYLOR

VERSION NO. 2.0 LAST UPDATE 6/2/91

OUTCHEM	RIVER	REACH UPSTREAM OF	REVISED DISTANCE REACH LENGTH KM	REVISED DISTANCE FROM SOURCE KM	U.R.N.	N.G.R.	SAMPLE PURPOS CODE	EC OBJECTIVE SAMPLING POINT F	EC OBJECTIVE SAMPLING POINT DS	HM POINT	AFOs AND RESPECTIVE SAMPLING FREQUENCY ARG	FREQ.	ARG	FREQ.	ARG	FREQ.	ARG	FREQ.	SED. ARG	FREQ.	TOTAL NUMBER OF VISITS	FOOTNOTE
OTTER - 04B	OTTER	HOLMORE FARM	6.1	6.1	RO4B001	ST 2210 1035	RM				S182	12									12	
	OTTER	RAWRIDGE	5.1	11.2	RO4B042	ST 1983 0625	RM				S182	12									12	
	OTTER	HONITON	4.1	15.3	RO4B035	ST 1836 0306	RM				S182	12									12	
	OTTER	CLAPPERLANE BRIDGE	3.1	18.4	RO4B002	ST 1633 0120	RM		DS*		S182	8	S184	4							12	
	OTTER	COTTONSON FARM	2.2	20.6	RO4B014	ST 1480 0075	RM	F*	DS		S387	8	S192	4					S186	1	12	
	OTTER	WESTON	1.2	21.8	RO4B003	ST 1430 0009	RM				S182	12									12	
	OTTER	PENNY BRIDGES	3.8	25.6	RO4B019	SY 1148 9858	RM				S182	12									12	
	OTTER	B3176 BRIDGE OTTERY ST MARY	3.8	29.4	RO4B004	SY 0935 9606	RM				S182	12									12	
	OTTER	TIPTON ST JOHN	5.0	34.4	RO4B005	SY 0901 9180	RM				S182	12									12	
	OTTER	COTTON MILL	4.2	38.6	RO4B006	SY 0873 8853	RM	F*	DS	HM	S193	14	S388	8	S202	4			S189	1	26	
	OTTER	OTTERTON	3.9	42.5	RO4B007	SY 0791 8529	RM				S182	12									12	
OTTER - 04B	KNOWLE BROOK	SQUABMOOR RESERVOIR	1.5	1.5	RO4B041	SY 0400 8393	RM	F			S181	12									12	
OTTER - 04B	OTTER	DANES MILL	6.0	6.0	RO4B008	ST 0782 0329	RM				S182	12									12	
	OTTER	OTTERFORD	6.9	12.9	RO4B009	SY 0899 9684	RM				S182	6	S190	6							12	
OTTER - 4B	WOLF	WINNIFORD FARM	5.9	5.9	RO4B011	ST 1433 0057	RM				S182	6	S190	6							12	
OTTER - 04B	KERSCAGE	PRIOR TO RIVER OTTER	5.9	5.9	RO4B023	ST 1533 0115	RM				S182	12									12	
OTTER - 04B	WICK STREAM	MILL HOUSE NURSERY	7.2	7.2	RO4B010	ST 1689 0288	RM				S182	6	S190	6							12	

SUITE Z	DET.	TITLE	UNITS
1	0061	pH	pH UNITS
2	0076	TEMPERATURE	CEL
3	0081	OXYGEN DISSOLVED	% SATN
4	0085	BOD ATU 5 DAY TOTAL	mg/l O
5	0111	AMMONIA TOTAL	mg/l N
6	0119	AMMONIA UNIONISED	mg/l N
7	0135	SUSPENDED SOLIDS 105°C	mg/l
8	0215	COPPER TOTAL	mg/l Cu
9	0245	ZINC TOTAL	mg/l Zn
10	0180	ORTHOPHOSPHATE	mg/l P
11	0117	NITRATE	mg/l N

SUITE 7	DET.	TITLE	UNITS
1	0105	MERCURY TOTAL	µg/l
2	0269	MERCURY TOTAL	mg/l
3	0108	CADMIUM TOTAL	µg/l
4	0253	CADMIUM TOTAL	mg/l
5	0326	LEAD TOTAL	mg/l
6	0373	CHROMIUM TOTAL	mg/l
7	0429	NICKEL TOTAL	mg/l
8	0421	IRON TOTAL	mg/l
9	0356	ARSENIC TOTAL	mg/l
10	7356	ARSENIC TOTAL	µg/l
11	0158	HARDNESS TOTAL	mg/l

APPENDIX D
List of Hydrological Monitoring Sites and Available Data

List of Available Information for Otter Environmental Data Review

Groundwater Sites

Station Name		HIPS No.	Archive Start Date
Alfington	No.1	SY19 G048	1.11.71
Alfington	No.2	SY19 G049	1.12.73
Berry House		SY19 G001	1.2.66
Bicton	No.1	SY08 G149	9.4.81
Bicton	No.3	SY08 G153	19.5.83
Burrow		SY08 G016	1.1.69
Canterbury Green		SY08 G062	20.6.67
Colaton Raleigh 2A.		SY08 G031	1.4.71
Colaton Raleigh 4A.		SY08 G030	1.1.68
Dotton	No.6.	SY08 G122	1.1.69
East Budleigh	No.1	SY08 G142	16.1.79
East Budleigh	No.4	SY08 G154	9.5.83
East Budleigh	No.5	SY08 G155	6.4.83
Feniton Court		SY19 G052	1.12.70
Greatwell	No.5A	SY19 G059	4.2.77
Greatwell	No.8	SY19 G063	9.4.73
Greatwell	No.9	SY19 G064	9.4.73
Harpford	No.1	SY09 G098	13.9.71
Harpford	No.2	SY09 G173	8.11.71
Woodleys	No.1	SY09 G095	3.1.66
Harpford	No.9A	SY09 G102	1.1.76
Hayes Wood		SY08 G033	12.7.67
Heathlands		SY09 G021	1.11.50
Higher Pitt Cottage		SY09 G099	2.7.69
Highercombe		SY19 G044	3.1.66
Houghton Farm	No.2	SY08 G144	1.1.80
Kersbrook	No.1A	SY08 G138	6.5.83
Kersbrook	No.1B	SY08 G139	29.3.83
Kingston Farm		SY08 G021	4.3.66

Station Name	HIPS No.	Archive Start Date
Lancercombe	SY09 G088	3.1.66
Longmead	SY09 G040	2.1.69
Northmostown No.4	SY08 G077	28.5.73
Otterton No.2	SY08 G150	2.6.83
Otterton No.3	SY08 G151	2.6.83
Otterton No.4	SY08 G152	14.6.83
Passaford Farm	SY08 G026	11.7.69
Salston Cottages	SY09 G100	1.5.69
Sunnyside Farm	ST10 G001	28.2.66
Tidwell Farm	SY08 G034	21.6.67
Tidwell No.1	SY08 G146	1.8.79
Two Ave	GY19 G065	7.9.60
Warren House	SY08 G081	3.1.66
Wiggaton No.4	SY09 G054	3.1.66
Woodbury Common No.2	SY08 G065	30.11.67

Rainfall Sites

Churchingford, 0	RF353907	1.9.78
Upottery, Yew Tree	RF353965	1.1.83
Honiton,Rosemount C	RF354167	1.12.86
Honiton, C. Castle	RF354170	1.8.57
Feniton Court	RF354295	1.1.31
Ottery St. Mary. G.	RF354492	1.7.56
Ottery St. Mary. K.S.	RF354497	1.1.50
Dotton Pumping Station	RF354658	1.5.63
Bicton Huse,. A.C.	RF354697	1.11.80
Kersbrook	RF354778	1.1.69
Exmouth, Capel Lane	RF354864	1.1.10
Exmouth, The Marles	RF354895	1.9.71

Surface Flow Sites

Station Name	HIPS No.	Archive Start Date	
Dotton	SY08 F055	1973	(Otter)
Fairmile	SY09 F073	1978	(Tale)
Fenny Bridges	SY19 F052	1974	(Otter)
Goosemoor	SY08 F053	1976	(Back Brook)
Pophams Farm	SY08 F051	1973	(Colaton Stream)
Riggles Farm	ST10 F041	1973	(Trib to Otter)
Salston	SY09 F051	1976	(West Hill Stream)
Stowford	SY08 F052	1973	(Colaton Stream)
Yalham Farm	ST21 F003	1973	(Trib to Culm)
Whitford	SY29 F052	1990	(R. Axe)

OTTER CATCHMENT 4A & 4B (1) (cont)

NO	REFERENCE	NGR	LOCATION	ADDITIONAL DETAILS
GROUND WATER ABSTRACTION SITES (1000.0 - 9999.9 cubic metres per day)				
1	01/0414	SY11409550	Greatwell 4B Borehole	South West Water Services Ltd
2a	01/0425	SY06108320	Tidwell &	South West Water Services Ltd
2b	01/0425	SY06408300	Kersbrook Springs	
3a	01/0426	SY11009550	Greatwell Borehole No1	South West Water Services Ltd
3b	01/0426	SY10909550	Greatwell Borehole No2	South West Water Services Ltd
3c	01/0426	SY10809550	Greatwell Borehole No3	South West Water Services Ltd
4a	01/0478	SY07008770	Colaton Raleigh Borehole No2	South West Water Services Ltd
4b	01/0478	SY07508790	Colaton Raleigh Borehole No4	South West Water Services Ltd
5	01/0505	SY11009510	Greatwell Borehole No5	South West Water Services Ltd
6a	01/0518	SY09109100	Harpford Borehole No5	South West Water Services Ltd
6b	01/0518	SY09109080	Harpford Borehole No6	South West Water Services Ltd
6c	01/0518	SY09109060	Harpford Borehole No7	South West Water Services Ltd
6d	01/0518	SY09309080	Harpford Borehole No8	South West Water Services Ltd
6e	01/0518	SY09309040	Harpford Borehole No9P	South West Water Services Ltd
7a	01/0520	SY08508880	Dotton Borehole No4	South West Water Services Ltd
7b	01/0520	SY08708910	Dotton Borehole No5	South West Water Services Ltd
8	01/0527	SY07808270	South Farm, Otterton	Industrial Processing: Food & Drink Spray Irrigation (Summer)
9a	01/0544	SY08308440	Otterton Borehole No1A	South West Water Services Ltd
9b	01/0544	SY07808460	Otterton Borehole No4	South West Water Services Ltd
GROUND WATER ABSTRACTION SITES (10000.0 - 99999999.9 cubic metres per day)				
1a	01/0519	SY08308820	Dotton Borehole No1	South West Water Services Ltd
1b	01/0519	SY08208820	Dotton Borehole No2	South West Water Services Ltd
1c	01/0519	SY08408830	Dotton Borehole No3	South West Water Services Ltd
1d	01/0519	SY07908800	Dotton Borehole No7	South West Water Services Ltd

OTTER CATCHMENT 4A & 4B (1) (cont)

NO	REFERENCE	NGR	LOCATION	ADDITIONAL DETAILS
GROUND WATER ABSTRACTION SITES (20.0 - 999.9 cubic metres per day)				
1	01/0041	ST11000550	Lane End Farm, Broadhembury, Honiton	Agriculture
2	01/0063	SY06209490	Rockbeare Hill Quarry, Rockbeare	Industrial Processing:Quarrying
3	01/0104	ST11200690	Droughtwell Farm, Sheldon, Honiton	Agriculture
4	01/0229	ST18600950	Chapelhayes Farm, Upottery, Honiton	Agriculture
5	01/0308	SY07509590	Cadhay House, Cadhay Barton and 1 & 2 Cadhay Bungalows, Ottery St Mary	Agriculture Private: Domestic
6	01/0311	ST14800010	Roebuck Farm and East Devon Dairies, Honiton	Agriculture Industrial Processing: Food & Drink
7	01/0334	SY10109620	Woodcote Farm, Ottery St Mary	Agriculture Spray Irrigation (Summer)
8	01/0344	ST18400920	Riggles Farm and Caravan site, Upottery	Agriculture Private: Holiday/Recreation
9	01/367	ST20400970	Moonhayes Farm Upottery	Agriculture Agriculture Water Power
10	01/0373	SY08008910	Owls Hatch, Warren House and Ely Bungalow, Newton Poppleford	Agriculture Private: Domestic Spray Irrigation (Summer) Agriculture
11	01/0417	ST15100240	St Cyres Spring	South West Water Services Ltd
12	01/0435	SY04108760	Bicton House and 4 other properties Bicton	Agriculture Private: Domestic/Miscellaneous Spray Irrigation (Summer & Winter)
13	01/0443	ST09100200	Slade Barton, Payhembury	Agriculture
14	01/0471	ST10209650	Otter Nurseries, Ottery St Mary	Spray Irrigation (Summer)
15	01/0530	SY07609510	Taylor Catering Foods, Exeter Road, Ottery St Mary	Spray Irrigation (Summer)
16	01/0537	SY06508950	Hillside, Newton Poppleford	Spray Irrigation (Summer)
17	01/0556	ST22600850	Newcott Farm Upottery	Agriculture
18	01/0551	ST09100200	Slade Barton Payhembury	Agriculture

OTTER CATCHMENT 4A & 4B (1)

NO	REFERENCE	NGR	LOCATION	ADDITIONAL DETAILS
SURFACE WATER ABSTRACTION SITES (20.0 - 999.9 cubic metres per day)				
1	01/0335	SY10109610	Woodcote Farm, Ottery St Mary	Spray Irrigation (Summer) Agriculture
2	01/0391	SY10509740-SY10009680	Woodford Barton, Gosford Road, Ottery St Mary	Spray Irrigation (Summer)
3	01/0392	SY09809700-SY10209750	Gosford Pines, Gosford, Ottery St Mary	Spray Irrigation (Summer)
4	01/0433	SY05208680	Selwoods Leat, Bicton	Private: Amenity Fountains
5	01/0487	SY07108300	South Farm, Otterton	Spray Irrigation (Summer)
6	01/0515	SY09409380-SY09109310	Higher Cotley Farm, Tipton Vale, Ottery St Mary	Spray Irrigation (Summer)
7	01/0536	SY07409730	Escot Estate, Talaton	Pisciculture
8	01/0528	SY07808500-SY07608400	Otterton Barton	Spray Irrigation (Summer)
9	01/0533	SY07309190	Halls Farm, Ottery St Mary	Spray Irrigation (Summer)
SURFACE WATER ABSTRACTION SITES (1000.0 - 9999.9 cubic metres per day)				
1a	01/0389	SY06908610	Bicton Agricultural College and Colaton Raleigh	Spray Irrigation (Summer)
1b	01/0389	SY07108610		
1c	01/0389	SY07708550		
1d	01/0389	SY07708540-SY07908570		
2a	01/0422	SY03708570	Yettington Intake	South West Water Services Ltd
2b	01/0422	SY03908590	Yettington Intake	
2c	01/0422	SY03908390	Squabmoor Reservoir	
3	01/0464	ST15600110	Tracey Mill, Tracey, Honiton	Pisciculture
4	01/0494	SY07308410	Budleigh Brook Intake	South West Water Services Ltd
5	01/0516	SY07508430-SY07108300	Pullhayes Farm, Budleigh Road	Spray Irrigation (Summer)
SURFACE WATER ABSTRACTION SITES (10000.0 - 99999999.9 cubic metres per day)				
1	01/0002	ST22601300	Otterhead (Royston Water)	Wessex Water PLC
2	01/0440	SY09109260	46 Tipton St John Sidmouth	Industrial Processing: Water Power
3	01/0484	SY09509610	The Mill Stream, Ottery St Mary	Private: Amenity Leat

JB (dated up on available data re Mar TOR revised) JT

OTTER VALLEY ENVIRONMENTAL DATA REVIEW

Terms of reference - DRAFT 1

Available data

The following is not a comprehensive inventory of available data and should be treated as a first draft.

1. Time series (measured data)

* rainfall from raingauges

Raingauge information outside of Otter and Axe catchments is available and may be required for aerially averaging rainfall.

Otter (current) - Churchingford, Ostlers (ST 2130 1250). 01.9.78-present. Station ref RF353907.

Upottery, Yew Tree (ST 2070 0890). 1.1.83-present. Station ref RF353965.

Honiton, Rosemount Cross (ST 1580 0000). 1.12.86 - present. Station ref RF354167.

Honiton, Copper Castle (ST 1710 0040). 1.8.57 - present. Station ref RF354170.

Feniton Court (SY 1090 9940). 1.1.31 - present. Station ref RF354295.

Ottery St Mary, Greatwell (SY 1100 9550). 1.7.56 - present. Station ref RF354492.

Ottery St Mary, Kings School (SY 0900 9530). 1.1.50 - present. Station ref RF354497.

Dotton Pumping Station (SY 0830 8820). 1.5.63-present. Station ref RF354658.

Bicton House, Agric. College (SY 0710 8670). 1.11.80 - present. Station ref RF354697.

Kerswell [illegible]. 1.1.69 - present. Station ref [illegible]

Otter (discont.) Several discontinued raingauges within the catchment.

Axe (current) Dalwton, Burstock (ST 4150 0480). 1.[illegible].78-present. Station ref [illegible].

Cricket St Thomas (ST 3710 0840). 1.1.79-present. Station ref RF352262.

Fairmile, Tale (SY 0880 9710). 6.9.78 - present. Hips No. SY09F073.

Salston, West Hill (SY 0881 9454). 1.5.76-present. Hips No. SY09F051.

Riggles, trib of Otter (ST 184 094). 7.1.70-present. Hips No. ST10F041.

Stowford, Colaton (SY 0588 8669). 1.8.73-present. Hips No. SY08F052.

Pophams, Colaton (SY 0722 8769). 1.7.73-present. Hips No. SY08F051.

Goosemoor, Back Brook (SY 0696 8925). 1.4.76-present. Hips No. SY08F053.

Otter (discont)

Allerbeare Farm, trib to Otter (ST 1480 0440). 17.3.70-30.9.79. Hips No. ST10F010.

Northwood Farm, trib to Otter (ST 1840 0210). 10.4.69-30.9.79. Hips No. ST10F039.

Sandys Farm, trib to Otter (ST 2130 0740). 16.4.69-30.9.79. Hips No. ST20F007.

Axe (current)

Whitford Bridge (SY 2620 9530). 1.10.61-present. Hips No. ST29F052. Telemetry.

Rock, trib to Yarty (ST 275 025). 16.4.69 present. Hips No. ST20F026.

Wayford, trib to Clapton Stream, (ST 409 072). 9.12.69 - present. Hips No. ST40F008.

Axe (discont)

Shute Hill, trib to Axe (ST 2610 9790). 18.4.69-31.8.79. Hips No. SY29F051.

Sallicombe, trib to Coly (SY 1690 9550). 10.4.69-31.8.79. Hips No. SY19F051.

Blindmore Farm, trib to Yarty (ST 2620 1490). 15.4.69-31.8.79. Hips No. ST21F015.

* ground water levels at monitoring [illegible]

A list including length of record for current and discontinued stations is being produced. A map also exists.

* climatic data from climate stations

Observer maintained stations with manually recorded variables. Parameters available include daily maximum, minimum, wet bulb and dry bulb temperatures, daily total sunshine hours and daily run of wind.

Colyford, Coly (ST 253 928).

Wilmington, Umborne Brook (SY 217 001).

Goren, Corry Brook (ST 234 023).

Court Place Farm, Yarty (ST 256 069).

Blindmore, Yarty (ST 262 147).

* **effluent returns**

Only data held by NRA are consented volumes to discharge - in the form of daily maximums (under dry weather conditions) and daily maximums (under wet weather conditions). SWWSL may have data of actual measured effluent returns.

2. **Time series (calculated data)**

* **areal rainfall**

Areal rainfall values for the SW region as a whole are available (weekly values based on MORECs data).

No relevant calculations of aerially averaged rainfall for the Otter and Axe catchments are available.

Methods of calculation - arithmetic mean of selected raingauge records (daily data)

- weighted mean value according to the LTA value for each of the selected raingauges (daily data)

- weighted mean value according to raingauge areas as estimated using a recognised method e.g. Theisson polygons

- use RAINARK. However, this is problematic and also not yet available.

* **rainfall deficits (for defined periods eg 12 or 24 months)**

Calculation methods include

- Use Halcrow 'Rainfall [illegible] programme'. This calculates a cumulative rainfall deficit for selected raingauge records for any year in the [illegible] the method is based on a combined function of the probability of a particular day being wet and if the day is wet the LTA rainfall of that day. The model produces cumulative rainfall deficit/surplus values in mm which are plotted over time. Output from the model includes maximum cumulative value, minimum cumulative value, 5% and 95% values and the day of maximum deficit in

Otter

Low flow surveys have been undertaken on the Otter in 1976, 1984, 1989 and 1990. The data includes the flow, date and NGR. It is held on TP. 1984, 1989 and 1990 data is also shown on 1;50 000 OS maps held in Hydrometric Services. 1976 data is also shown on 1;25000 First and Second Series maps, again held in Hydrometric services.

MRM also surveyed approximately 19 sites in the Otter over a fifteen month period in between 1987-1988 - see attached table. Data includes flow, level, wetted perimeter, cross-sectional area and other channel parameters. This information is available from Hydrometric Services and is discussed by MRM. See reference 9.

All the above data has recently been copied to SWWSL. See Chris Beer for details.

Axe

Similar information is also held for the River Axe.

* all spot river flow gaugings and river level measurements only

Other spot gauging information will also be available for both the Otter and Axe on TP.

* ground water levels in private boreholes

Available from licence files.

* ground water level contour maps on a geological based map

Map available of the current situation.

* borehole test pumping data

Available from licence files and SWWSL borehole technical files.

* river cross-sections and longitudinal surveys

Otter

Cross-sectional information is available for each gauging station. The sites have been re-surveyed at regular intervals. The last surveys were done in 1991, earlier survey data may have been destroyed. See Paul Mason for more information.

River cross-sectional data is available for the River Gissage at Honiton and for the Otter at Tipton St John. The flood alleviation scheme at Tipton St John was completed in the early 1990s. See G.Buxton-Smith for more information
Valley and river cross-sectional data is also available for the Otter

Table 2.11 Spot Gauging Stations

Station	Watercourse	Location	Grid Ref.	Catchment Area (km²)	MEASUREMENT FREQUENCY
G1	River Otter	Hoemoor Farm	ST 221 103	16.1	F
G2	Fair Oak Stream	Upottery	ST 199 077	4.6	M
G3	Odle Brook	Spurtham Farm	ST 195 063	1.12	M
G4	River Otter	Ford Bridge	ST 183 030	41.7	F
G5	Lupp (Wick)	Woodhayes Farm	ST 169 029	17.3	F
G6	Combe Raleigh Stream	Honiton	ST 161 021	2.58	F
G7	Gissage	Honiton	ST 153 010	8.46	M
G8	Wolf	Weston	ST 140 008	11.7	F
G9	Gitt	Gittisham	SY 135 982	2.87	F
G10	Vine	Fenny Bridges	SY 114 986	5.18	F
G11	LHB Trib	Alfington	SY 114 977	0.77	M
G12	Holcombe	Woodcote Farm	SY 101 962	3.02	M
G13	Wigaton Stream	Wiggaton	SY 101 937	1.51	F
G14	LHB Trib	Tipton St John	SY 092 918	1.62	GAUGED ONCE
G15	Metcombe Brook	Metcombe	SY 088 920	2.74	F
G16	Fluxton Stream	Fluxton	SY 087 928	3.45	M
G17	Otterton Brook	Otterton	SY 081 853	3.71	M
G18	Back Brook	Newton Poppleford	SY 083 987	8.57	F
G19	Budleigh Brook	Yettington	SY 051 857	3.76	F
	KNOWLE STREAM	BUDLEIGH SALTERTON	SY 056 822		M

F = FORTNIGHTLY
M = MONTHLY

Commission were also used and a limited number of farmers were interviewed.

In 1990 the NRA also undertook a river corridor survey on the Otter as part of a larger Strategic exercise. Results include, sketches and Photos. See Mike Williams

Drainage

Some information is presented in MRMs report (Reference 3) and some background to drainage in the catchment is presented in Annex C of MRMs Report (Reference 2).

The information presented by MRM is based on the work of the Devon Trust for Nature Conservation. The work has been reproduced by MRM and shows Ditch improvements, 1950s drainage schemes and drainage schemes, date unknown.

As part of Nigel Holmes 1988 river corridor survey the presence of springs, issues and streams were compared with those shown on maps dating from 1957. It may be possible to make comparisons between 1906,1933,1957,1976 1983/4,1988,1989 and 1990 using the map, survey, gauging and photographic evidence available!

More detailed information on field drainage is believed to be available from MAAF/ADAS. A charge may be involved.

* sediment source surveys

No specific information available but survey data described above and pollution studies may provide some information on sediment sources.

4 Documents and other information

* authorised licence quantities and abstraction conditions

All licence data for the Otter is summarised on a computer system. Print-outs are in respect of authorised quantites and a summary code flag of any conditions. Hardcopies of original licences going back to 1965 are available in licence files as is all correspondence both for current and cancelled licences.

The authorised data and licence [illegible] should be correct and complete in the relevant files.

Returns data is only as accurate as the measuring equipment.

It is likely that 1960s and 1970s data to 1974 will be accurate where available provided a careful check is made as to which licence it refers to.

1974-89 data (manual returns) are probably reasonable.

(Feniton area map available).

Otter

Engineering hold County Series maps (1906 & 1933 editions) at 1;2500 scale in the archive. Later series available.

Axe

Engineering hold County Series maps (1906&1933 editions) at 1;2500 scale in the archive. Later series available.

* **reports of earlier environmental/hydrological studies.**

Potentially useful reports include:

1. The Otter Valley Catchment study, Vol 1, Executive Report, draft Final Report August 1989.

2. The Otter Valley Catchment Study, Vol 3, Landuse & Farming Practices, draft Final Aug 1989.

3. The Otter Valley catchment Study Vol 5, Environmental Studies, draft Final, August 1989.

4. Otter Valley Catchment Study, Report on Test Pumping carried out at Greatwell and Dotton,April 1989.

5. 'Study of 1989 Drought in SW England' Halcrow, Draft Report, Vol 1. main Report (March 1990), Vol 2 (annexes).

6. Groundwater Report no.N410C, March 1990. Marcus Hodges Environmental.

7. New Agricultural Landscapes 1974, Countryside Commission.

8. A Second Look 1984, Countryside Commission.

9. Water Resource Development in East Devon, The Otter Valley Catchment Study, Vol 2, Resource Modelling. MRM Final Draft Report August 1989.

Most of the above are available in either the Water Resources or NRA library.

APPENDIX E
Water Resources Planners Report

NATIONAL RIVERS AUTHORITY SOUTH WESTERN REGION

WATER RESOURCES PLANNER'S REPORT :

METHODOLOGY FOR ASSESSING IMPACTS OF ABSTRACTION FROM THE OTTER VALLEY TRIASSIC AQUIFER ON GROUNDWATER LEVELS

Contents:

1. Aims of the report

The aim of this report is twofold:

* to summarise and categorise the groundwater level data held by the NRA which may be useful for studying the impact of abstractions from the aquifer on groundwater levels;

* to recommend a methodology for separating the impacts of abstraction on groundwater levels from those caused by other factors.

2. Hydrogeology of the Otter Valley Triassic Aquifer

The basic hydrogeological features of this aquifer are listed below.

* The aquifer comprises both underlying Budleigh Salterton Pebble Beds and Otter Sandstone strata of the Sherwood Sandstone group. They dip to the east at about 3 to 5 degrees.

* The main aquifer comprises the unconfined outcrop around, and south of, Ottery St Mary. It continues eastward under mudstone/marl strata (formerly known as the Keuper Marl) of Middle/Late Triassic age, where it eventually becomes confined.

* Outcrop topography comprises a flat flood plain along the main river valley about 1 km. wide with steeply indented side tributary valleys. The most westerly exposures "wedge out" along the Woodbury Common - West Hill ridge (west of the River Otter); here Pebble Beds strata crop out. To the east lies the main sandstone outcrop into which the River Otter has eroded its valley.

* Its hydrogeological characteristics are similar to other major sandstone aquifers, with high transmissivity and unconfined storage.

* Hilly areas of the aquifer have unsaturated zones up to 50 metres thick, whilst areas along valleys have a thin unsaturated zone. The regional dip combined with the incised main valley results in artesian heads along parts of the Otter valley within the pebble beds strata at depth.

* The River Otter carries flow from the upper Otter catchment southwards across the aquifer to the coast at Budleigh Salterton, gaining a significant baseflow contribution from the aquifer on route.

* Tributaries from the western outcrop generally include gaining reaches, whereas those on the eastern side are intermittent losing streams, commonly with small flows dominated by flash run-off. Baseflows in the easterly tributaries are small, and are provided by scarp-slope headwater springs from the greensand strata capping the hills, rather than from the Triassic aquifer.

* There are likely to be a significant number of river reaches and springs where the hydraulic inter-connection between the aquifer and the river system is good. Flow will be transferred from the aquifer to the river, or vice versa, at such sites. The local hydraulic gradient between groundwater levels and river levels will determine in which direction and at what rate flow takes place.

In view of the importance of the nature of this process it is considered in more detail in the next section.

3. Impact of variations in hydraulic gradient between the aquifer and overlying river reaches on flow transfers between them.

Natural flow conditions can classified into three types:

* reaches with "emergent flow" conditions -

  local groundwater levels at such sites will be higher than local river level, resulting in groundwater flow emerging from the aquifer as baseflow to the river.

  Sites along the main valley are most likely to be of this type.

* reaches with "influent flow" conditions -

  local river levels at such sites will be naturally higher than local groundwater levels, allowing flow to enter the aquifer from the overlying stream.

  Sites more remote from the main river valley are most likely to be of this type.

* "intermittent" reaches -

  sites where conditions fluctuate between effluent and influent conditions, as the difference between local water levels in the aquifer and in the overlying river reach alternates between positive and negative hydraulic gradients. The scale and duration of natural recharge due to infiltration of excess rainfall, and the local rate of recession once recharge has ceased are the most significant natural factors affecting when the flow condition is influent or effluent.

  Sites in between the above locations are likely to be of this type.

Rates of flow between the aquifer and the river or springs will depend on the local head gradient and the hydraulic characteristics of both the aquifer and any overlying stream bed deposits.

4. Additional impacts caused by nearby groundwater abstractions

Where such sites also lie within the "cone of depression" of groundwater levels caused by borehole abstraction, the additional drawdown of the water table will produce different impacts, depending on the nature of the hydraulic conditions which currently existed, the scale of abstraction and its duration. These are likely to be as follows:

* where "emergent flow" conditions currently occur -

  the additional impact of groundwater abstraction will be to reduce the rate of emergent baseflow to the river. If the impact increases so that hydraulic gradients reverse, the impact will increase and

cause intermittent or influent flow conditions, depending on the scale of abstraction impact in relation to natural factors.

* where "intermittent" conditions occur -

  the impact will be to increase the timescale and intensity of influent rather than effluent conditions. As above, if impacts increase, the influent condition may take over, resulting in perennial influent flow at that site.

* where "influent flow" conditions occur -

  the impact will be to increase the rate of flow, unless this has already reached its maximum rate.

  Note that where local groundwater levels are so far below river levels that an unsaturated zone exists between the river zone and the underlying aquifer, any additional lowering of groundwater levels will not increase the rate of influent flow. This is due to the intrinsic nature of the flow process under unsaturated phase conditions.

5. Influence of geographical location

The Otter Valley Triassic aquifer is complex. As a result there is considerable spatial variation in groundwater level response to natural recharge. Water level responses are influenced by many factors. Those of greatest significance include:

* proximity to areas of groundwater discharge;

* proximity to the river, where changes in stage are reflected as groundwater level fluctuations;

* proximity to the coast, where tidal responses are similarly reflected;

* proximity to abstraction points;

* thickness of the unsaturated zone, and the presence of low permeability material in the sequence;

* degree of confinement, and whether borehole construction results in measurements of water table, confined piezometric head, or "mean" head at the site.

6. Groundwater level monitoring database

Table 6.1 of the NRA South West Region Hydrometric Report for 1992 lists currently operating groundwater level monitoring sites. Of these, 43 provide data on sites in this aquifer in the Otter Valley; a further three for sites in the same aquifer but in the Culm catchment. There are many other stations monitoring groundwater levels in other, hydrogeologically similar sandstone aquifers in the region which are not subject to significant development. Some of these could also be used as control sites.

Monitoring stations which have at least 20 years of record are preferable for analytical purposes, though the absence of portions of the record will not be critical as long as they do not exceed 20% thereof and do not include critical periods. One site, Heathlands, has a record extending back to 1950.

In terms of frequency of measurement, the database for examining long term trends should comprise the groundwater level records for relevant stations which have been read at no less than monthly intervals.

Any hydrograph is likely to contain a certain amount of "noise". A period of closely spaced readings should be sufficient to identify and isolate short term interference which may mask long term trends. Common causes of "noise" can include responses to barometric pressure changes, effects of tidal loading, and short term responses in observation sites near abstraction points.

7. Methodology for assessing impacts of abstraction on groundwater levels

A rigorous approach is recommended to separate the impact of abstraction on the groundwater level at a particular site from influences due to other factors. This is because the relationships between natural recharge, hydrogeological variables and site location are so complex and can differ appreciably from site to site.

For this reason it is recommended that a staged analysis be undertaken and that use should also be made of the Otter Valley Groundwater Model. This approach has the advantage that data for a number of sites can be used in a co-ordinated way to provide the best estimate of impacts.

The recommended methodology is as follows:

Stage 1: Using local hydrogeological knowledge of NRA technical staff, assign groundwater level monitoring stations into three categories:

- "**control**" sites - located far enough from abstractions for the NRA to be confident that they will not be affected by abstractions
- "**known impact**" sites - located close enough to significant abstractions for the NRA to be confident they are affected by abstractions

* "possible impact" sites - located where they may or may not be impacted by such abstractions.

Note: this has already been done and is reported as **Appendix 1.**

Stage 2: Compare Hydrographs for Known Impact and Likely Impact sites with Control Sites to establish which show a good correlation in terms of range and shape of annual fluctuations and recession characteristic.

Stage 3: Superimpose Known Impact and Likely Impact GWL hydrographs on relevant Control Station hydrograph(s) and identify differences, concentrating on points of divergence or trends.

Stage 4: Compare results with forecasts of impact derived from either pumping test results for relevant boreholes, using actual rates of abstraction, or the results of model runs from the validated Otter Valley Groundwater Model, using the runs set out below:

"Historical" Run: - modelling historical conditions to date including actual abstraction, continuing the run to predict future impacts of the current level of abstraction.

"Naturalised" Run: - forecasting the natural condition with no abstraction by re-running with historical natural recharge inputs but zero abstraction.

"Licensed Impact" Run: - as 1) above, but assuming abstraction will continue to increase to maximum achievable licensed rates in accordance with likely increased demands, to predict long term consequences of exploitation within existing authorised volumes and subject to other licence conditions.

8. Using the data to assist validation of the Groundwater Model

Records from a number of "control" and "known impact" sites can also assist final calibration and validation of the Otter Valley Groundwater Model, so that it produces groundwater level fluctuations at those sites to an acceptable accuracy with historical inputs.

This process may involve fine tuning of "estimated natural recharge" (e.g. by variations to the delay function between the soil horizon and the water table, or by fine-tuning the rainfall-runoff component) as well as local recalibration of aquifer characteristics where required. It may also be necessary to make allowances for short term variations in groundwater level caused by barometric/tidal coupling and other such processes.

The final result should be to run the validated model with and without historical actual abstraction to confirm that "control" sites are non affected by actual abstraction, if necessary making relevant final modifications to the model to also achieve an acceptable calibration at "known impact" sites under hidtorical abstraction conditions.

Running the model using the three sets of assumptions set out in the preceding section will enable the differences in groundwater levels between these assumptions to be used to predict both short and long term impacts of abstraction at relevant "possible impact" GWL monitoring stations, and for other locations where impacts need to be defined.

Outputs can be shown either in the form of individual well hydrographs or drawdown records, or as drawdown maps for specific dates.

APPENDIX 1 : RECOMMENDED GWL MONITORING STATION DESIGNATIONS FOR ABSTRACTION IMPACT ASSESSMENT

The station names in the following list refer to sites identified in more detail in Table 6.1 of the NRA Hydrometric Report for 1992 for South West Region, a copy of which is attached for reference.

A: Recommended "Control" stations

a) non-Otter Valley Triassic aquifer sites:

Hillhead (Permian sandstone aquifer - Clyst Sands)
The Haywain (Triassic aquifer, Culm catchment* - other sites at Ashill and Southey Barton were found to only have short records)

b) Otter Valley Triassic aquifer sites:

Berry House	Feniton Court	Hayes Wood	Heathlands*
Highercoombe	Higher Pitt Cottage	Lancercombe	Longmead
Northmostown No.4	Otterton No.2	Otterton No.3	Passaford Farm
Squabmoor House	Tidwell Farm	Tidwell No.1	Wiggaton No.4
Woodury Common 2	Woodbury ED	Woodleys No.1	

Note * - this station has a record which goes back to 1950.

B: Recommended "Known Abstraction Impact" and "Possible Impact" Stations

(K) and (?) below indicate the station is designated as a "Known" or "Possible Impact" station respectively. (Analysis of "Possibles" will result in them either becoming "Control" or "Known Impact" sites.

a) Greatwell source group:

Alfington 1 (K)	Alfington No.2 (K)	Greatwell 5A (K)	Gr'twell 8 (?)
Greatwell 9 (?)	Salston Cott.s (?)	Two Acre (?)	

b) Harpford source group:

Harpford No.1 (?)	Harpford No.2 (?)	Harpford 9A (K)	Burrow (K)

c) Dotton source group:

Dotton No.6 (K)	Houghton Farm 2 (?)	Warren House (?)	Burrow (K)

d) Colaton Raleigh source group:

Colaton R. 2A (K)	Colaton R. 4A (K)	Kingston Farm (?)

e) Otterton source group:

East Budleigh 1 (K) Otterton 4 (K)

f) Kersbrook source group:

Kersbrook 1A (K) Kersbrook 1B (K)

Table 6.1

Triassic

Station Name	Measurement Frequency	N.G.R.	Altitude (m)	Archive Start Date	HIPS No.	Solid Geology	Drift Geology	Type
Alfington No 1	Dip-Monthly	SY-1119-9660	83	01.11.1971	SY19G048	Otter Sandstone	Valley Gravels	B (4)
Alfington No 2	Chart	SY-1112-9744	66	01.12.1973	SY19G049	Otter Sandstone		B
Ashill	Chart	ST-0891-1183	110	11.04.1984	ST01G026	Otter Sandstone		B
Berry House	Dip-2 Weeks	SY-1145-9803	79	01.02.1966	SY19G001	Otter Sandstone		W
Bicton No 1	Chart	SY-0778-8605	22	09.04.1981	SY08G149	Otter Sandstone		B
Bicton No 3	Chart	SY-0661-8544	38	19.05.1983	SY08G153	Otter Sandstone		B
Burrow	Dip-Monthly	SY-0771-8973	51	01.01.1969	SY08G016	Otter Sandstone		W (4)
Colaton Raleigh 2A	Dip-Monthly	SY-0702-8765	36	01.04.1971	SY08G031	Pebble Beds		B (4)
Colaton Raleigh 4A	Dip-Monthly	SY-0750-8794	44	01.01.1968	SY08G030	Pebble Beds		B
Dotton No 6	Dip-Monthly	SY-0863-8930	34	01.01.1969	SY08G122	Otter Sandstone	Valley Gravels	B (4)
East Budleigh No 1	Dip-Monthly	SY-0735-8466	7	16.01.1979	SY08G142	Otter Sandstone/P.Beds		B
East Budleigh No 4	Dip-Monthly	SY-0623-8445	31	09.05.1983	SY08G154	Otter Sandstone/P.Beds		B
East Budleigh No 5	Chart	SY-0679-8379	30	06.04.1983	SY08G155	Otter Sandstone/P.Beds		B
Feniton Court	Dip-2 Weeks	SY-1090-9937	72	01.12.1970	SY19G052	Upper Marls / Straight Stone		W
Greatwell No 5A	Chart	SY-1102-9514	97	04.02.1977	SY19G059	Otter Sandstone		B (4)
Greatwell No 8	Dip-Monthly	SY-1068-9410	74	09.04.1973	SY19G063	Otter Sandstone		B
Greatwell No 9	Dip-Monthly	SY-1023-9397	60	09.04.1973	SY19G064	Otter Sandstone		B
Harpford No 1	Dip-Monthly	SY-0912-9078	34	13.09.1971	SY09G098	Otter Sandstone/P. Beds	Valley Gravels	B (4)
Harpford No 2	Dip-Monthly	SY-0908-9080	26	08.11.1971	SY09G173	Otter Sandstone	Alluvium	B (4)
Harpford No 9A	Chart	SY-0932-9043	55	01.01.1976	SY09G102	Otter Sandstone/P.Beds		B (4)
Hayes Wood	Dip-2 Weeks	SY-0511-8473	64	12.07.1967	SY08G033	Otter Sandstone		W
Heathlands	Dip-2 Weeks	SY-0665-9234	103	01.11.1950	SY09G021	Otter Sandstone		W (3)
Higher Pitt Cottage	Dip-2 Weeks	SY-0876-9659	59	02.07.1969	SY09G099	Otter Sandstone	Valley Gravels	W (3)
Highercoombe	Dip-2 Weeks	SY-1010-9200	73	03.01.1966	SY19G044	Otter Sandstone		W (3)
Houghton Farm No 2	Chart	SY-0902-8803	31	01.01.1980	SY08G144	Otter Sandstone/P.Beds		B
Kersbrook No 1A	Dip-Monthly	SY-0638-8309	15	06.05.1983	SY08G138	Otter Sandstone		B
Kersbrook No 1B	Chart	SY-0640-8308	15	29.03.1983	SY08G139	Otter Sandstone		B
Kingston Farm	Dip-2 Weeks	SY-0652-8785	50	04.03.1966	SY08G021	Otter Sandstone		W
Lancercombe	Dip-2 Weeks	SY-0951-9259	55	03.01.1966	SY09G088	Otter Sandstone		W
Longmead	Dip-2 Weeks	SY-0717-9324	92	02.01.1969	SY09G040	Pebble Beds		W
Lower East Horner	Dip-2 Weeks	ST-2564-0270	105	01.03.1966	ST20G004	Upper Marl		W
Northmostown No 4	Chart	SY-0933-8846	46	28.05.1973	SY08G077	Otter Sandstone		B
Otterton No 2	Chart	SY-0847-8598	23	02.06.1983	SY08G150	Otter Sandstone/P.Beds		B

Permian

Station Name	Measurement Frequency	N.G.R.	Altitude (m)	Archive Start Date	HIFS No.	Solid Geology	Drift Geology	Type
Barehill	Dip-Monthly	SS-7830-0210	108	18.12.1985	SS70G004	Knowle Sandstone		W
Brampford Speke	Dip-Monthly	SX-9287-9938	36	05.05.1977	SX99G048	Lower Sandstone		B
Branscombe Lane	Dip-Monthly	SX-9554-7938	14	01.01.1987	SX97G027	Dawlish Sandstone		B
Brickhouse Farm	Dip-2 Weeks	SX-9440-8095	41	15.01.1973	SX98G050	Dawlish Sandstone		B
Bussels No 7A	Chart	SX-9528-9871	26	24.11.1971	SX99G037	Lower Sandstone		B
Buttisfar Farm	Dip-Monthly	SS-7728-0106	83	06.12.1985	SS70G006	Knowle Sandstone		W
Canterbury Green	Dip-2 Weeks	SY-0463-8897	125	20.06.1967	SY08G062	Lower Marls		W
City Hospital	Chart	SX-9332-9281	61	01.03.1966	SX99G023	Breccia		W
Cofton Cross	Dip-Monthly	SX-9636-8015	8	01.01.1986	SX98G060	Dawlish Sandstone		B
Cofton Farm	Dip-Monthly	SX-9680-8033	5	15.11.1969	SX98G041	Dawlish Sandstone		W
Coleford Production	Dip-Monthly	SS-7567-0157	106	01.01.1987	SS70G043	Knowle Sandstone		B
Crooke Burnell	Dip-2 Weeks	SS-6841-0090	129	15.07.1969	SS60G014	Conglomerates		W
Duckaller No 1	Dip-Monthly	SX-9579-8024	9	15.01.1973	SX98G046	Dawlish Sandstone		B
Duckaller No 1A	Chart	SX-9569-8017	10	15.01.1973	SX98G047	Dawlish Sandstone	Alluvium	B
Duckaller No 4	Chart	SX-9581-8150	18	15.01.1973	SX98G051	Dawlish Sandstone		B
Duckaller No 4A	Dip-Monthly	SX-9560-8150	20	15.01.1973	SX98G052	Dawlish Sandstone		B
Duckaller No 7	Chart	SX-9509-8084	19	15.01.1973	SX98G049	Dawlish Sandstone		B
Ford	Dip-Monthly	SS-7551-0087	89	05.12.1985	SS70G008	Knowle Sandstone		W
George Hill	Dip-2 Weeks	SS-8248-0089	139	01.03.1966	SS80G002	Breccia		B
Heathfield Cottage	Dip-2 Weeks	SX-9434-9965	28	11.08.1969	SX99G052	Lower Sandstone	Valley Gravels	W
Hill Head	Dip-Monthly	SX-9826-9673	34	02.01.1969	SX99G017	Lower Sandstone		B
Kenton Vicarage	Dip-2 Weeks	SX-9581-8341	19	03.01.1969	SX98G040	Dawlish Sandstone		W
Kingdom Cottage	Dip-2 Weeks	ST-0783-0538	115	28.02.1966	ST00G025	Lower Marls		W
Knowle Farm	Dip-Monthly	SS-7819-0143	105	06.12.1985	SS70G002	Knowle Sandstone		W
Knowle Production	Dip-Monthly	SS-7762-0142	91	06.12.1985	SS70G003	Knowle Sandstone		B
Landsend Barton	Dip-2 Weeks	SS-7437-0017	127	15.07.1969	SS70G009	Knowle Sandstone		W
Linden Lee	Dip-2 Weeks	SX-9845-9088	17	01.01.1970	SX99G036	Lower Sandstone		W
Little Pirzwell	Dip-2 Weeks	ST-0746-0915	137	17.03.1983	ST00G015	Upper Sandstone		W
Middle Hollacombe	Dip-2 Weeks	SS-8004-0027	89	01.03.1966	SS80G019	Breccia		W (2)
Shutterton	Dip-Monthly	SX-9679-7900	6	17.06.1986	SX97G023	Dawlish Sandstone		B
Tapps Farm Knowle	Dip-Monthly	SS-7809-0165	99	21.08.1985	SS70G001	Knowle Sandstone		W (2)
Westlake Farm B23	Dip-2 Weeks	SX-9521-8145	25	01.01.1985	SX98G053	Dawlish Sandstone		B

Triassic (continued)

Station Name	Measurement Frequency	N.G.R.	Altitude (m)	Archive Start Date	HIPS No.	Solid Geology	Drift Geology	Type
Otterton No 3	Chart	SY-0941-8650	60	02.06.1983	SY08G151	Otter Sandstone/P.Beds		B
Otterton No 4	Dip-Monthly	SY-0780-8466	17	14.06.1983	SY08G152	Otter Sandstone/P.Beds		B
Passaford Farm	Dip-2 Weeks	SY-0905-8766	26	11.07.1969	SY08G026	Otter Sandstone		W
Salston Cottages	Dip-2 Weeks	SY-0890-9475	56	01.05.1969	SY09G100	Otter Sandstone	Valley Gravels	W
Southey Barton	Chart	ST-0884-1340	98	12.09.1985	ST01G027	Otter Sandstone		B
The Haywain	Chart	ST-0887-1717	138	02.01.1969	ST01G014	Otter Sandstone		W
Tidwell Farm	Dip-Monthly	SY-0607-8332	24	21.06.1967	SY08G034	Otter Sandstone		W
Tidwell No 1	Chart	SY-0609-8287	30	01.08.1979	SY08G146	Otter Sandstone		B
Two Acre	Dip-2 Weeks	SY-1079-9518	83	07.09.1969	SY19G065	Otter Sandstone		W
Warren House	Dip-2 Weeks	SY-0787-8910	56	03.01.1966	SY08G081	Otter Sandstone		W
Wiggaton No 4	Dip-Monthly	SY-0932-9357	37	03.01.1966	SY09G054	Otter Sandstone/P.Beds	Alluvium	B
Woodbury Common 2	Dip-Monthly	SY-0533-8782	116	30.11.1967	SY08G065	Pebble Beds		B
Woodbury ED	Dip-Monthly	SY-0414-8434	94	27.03.1968	SY08G038	Pebble Beds		B
Woodleys No 1	Dip-2 Weeks	SY-0850-9146	42	03.01.1966	SY09G095	Otter Sandstone		W

Jurassic

Station Name	Measurement Frequency	N.G.R.	Altitude (m)	Archive Start Date	HIPS No.	Solid Geology	Drift Geology	Type
Furlyns	Chart	ST-4145-0493	107	01.03.1966	ST40G002	Upper Lias		W

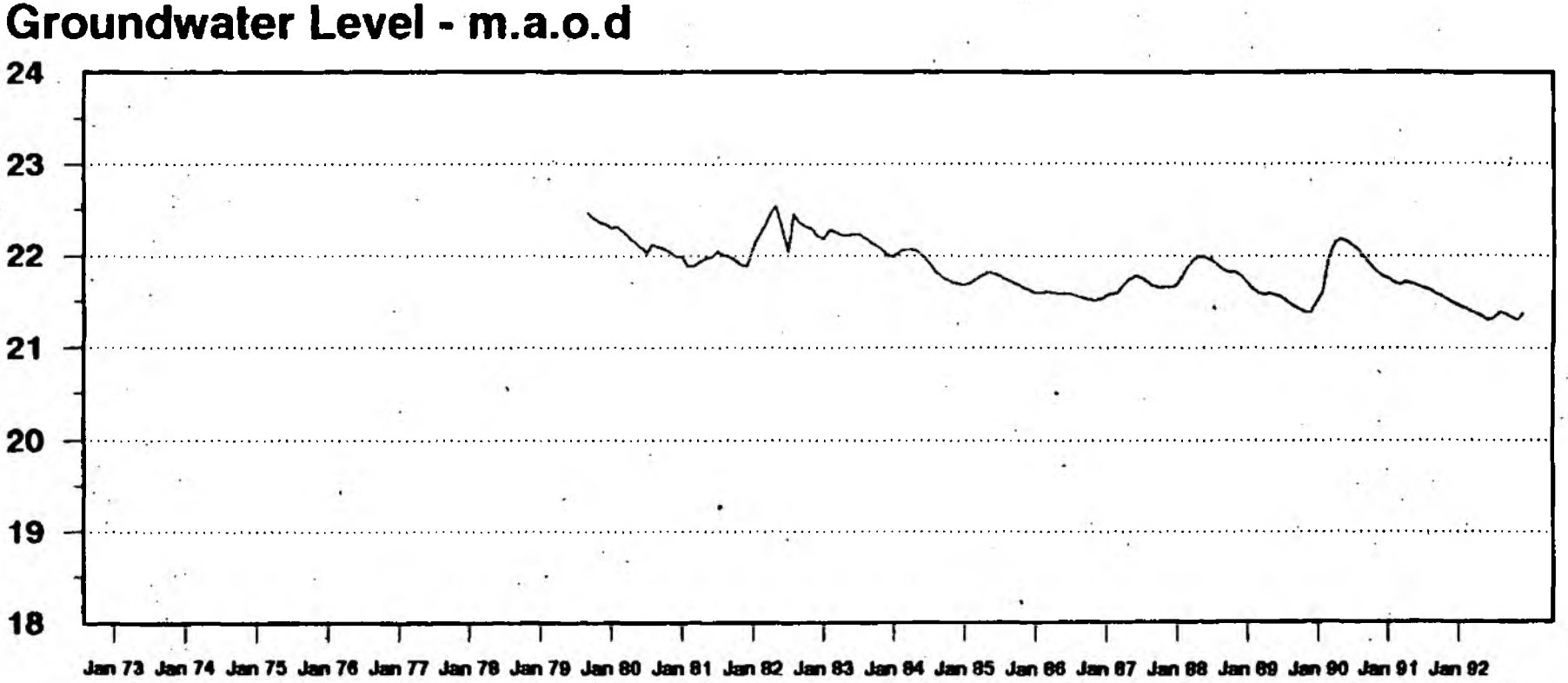
Cretaceous

Station Name	Measurement Frequency	N.G.R.	Altitude (m)	Archive Start Date	HIPS No.	Solid Geology	Drift Geology	Type
Beer	Chart	SY-2115-9043	84	30.12.1969	SY29G016	Upper Greensand/Chalk	Clay with Flints	B
Hill House	Dip-2 Weeks	ST-1123-0777	240	01.01.1970	ST10G045	Upper Greensand		W
Lime Kiln Way	Dip-Monthly	ST-3765-0671	130	03.01.1969	ST30G007	Upper Greensand		W
Oatens Farm	Dip-2 Weeks	ST-1889-1230	236	25.04.1969	ST11G021	Upper Greensand		W
Rousdon No 1B	Chart	SY-2886-9197	105	10.08.1984	SY29G050	Upper Greensand		B
Sunnyside Farm	Dip-2 Weeks	ST-1511-0374	218	28.02.1966	ST10G001	Upper Greensand		W
Whitlands	Chart	SY-3050-9142	158	10.08.1984	SY39G052	Upper Greensand		B

Tidwell 1a

measured Groundwater Levels

1973-1992



Tidwell 1a

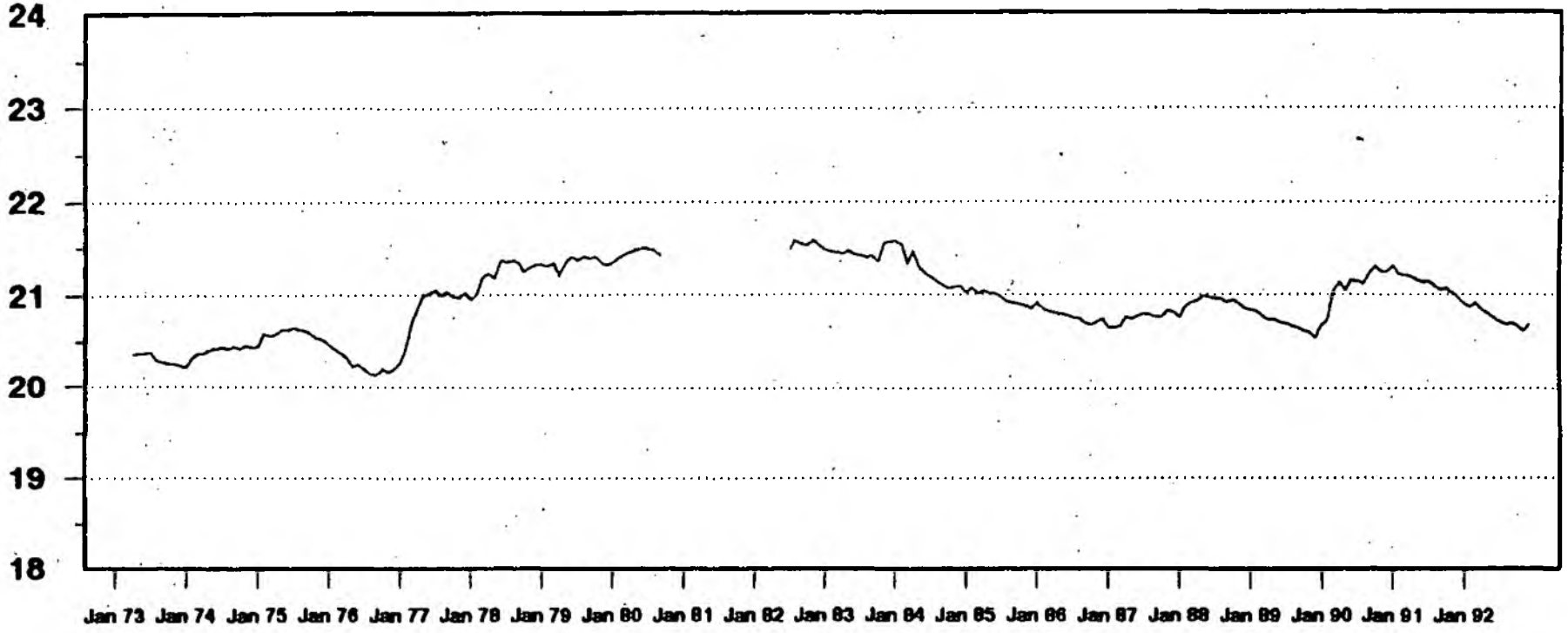
c:\grdwater\data\Tidgrp.wk3

Tidwell Farm

measured Groundwater Levels

1973-1992

Groundwater Level - m.a.o.d



Month

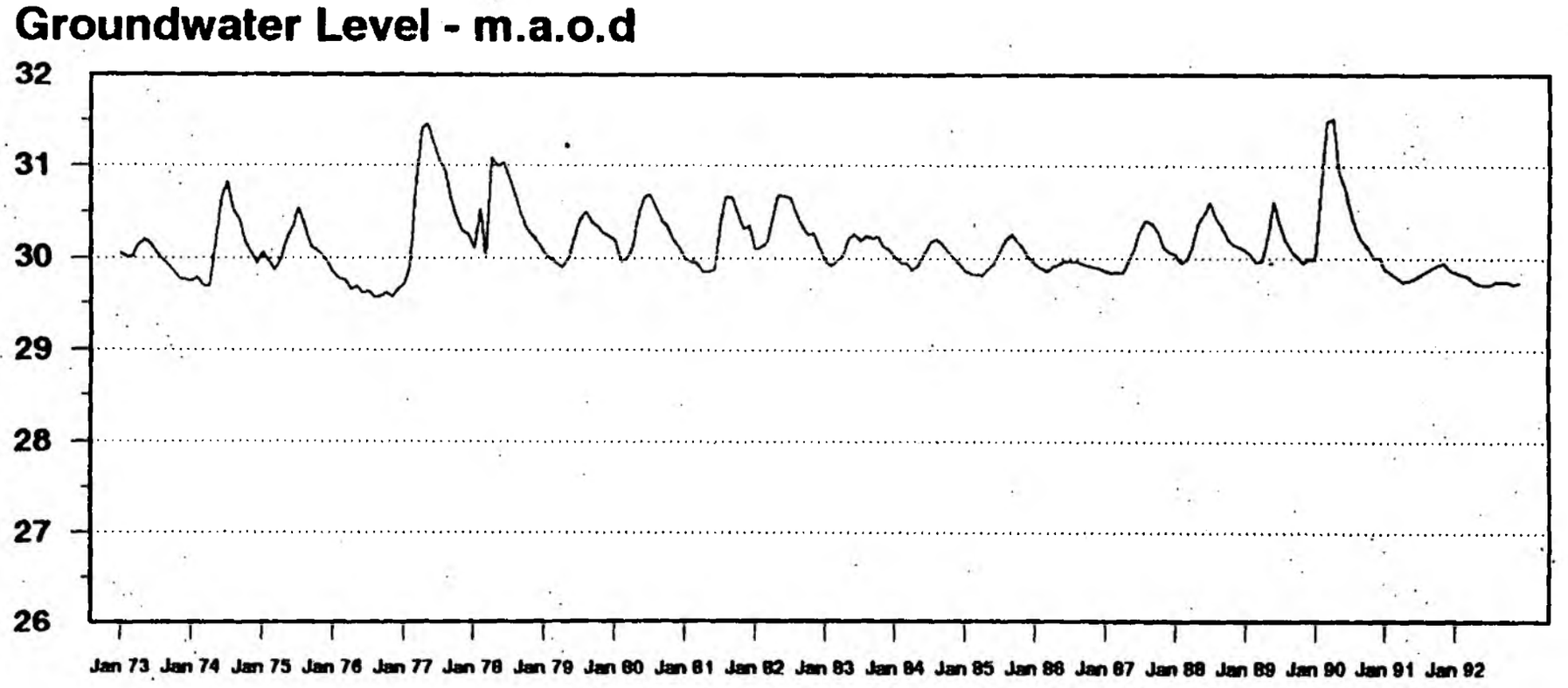
Tidwell Farm

c:\grdwater\data\contsite.wk3

Warren House

measured Groundwater Levels

1973-1992

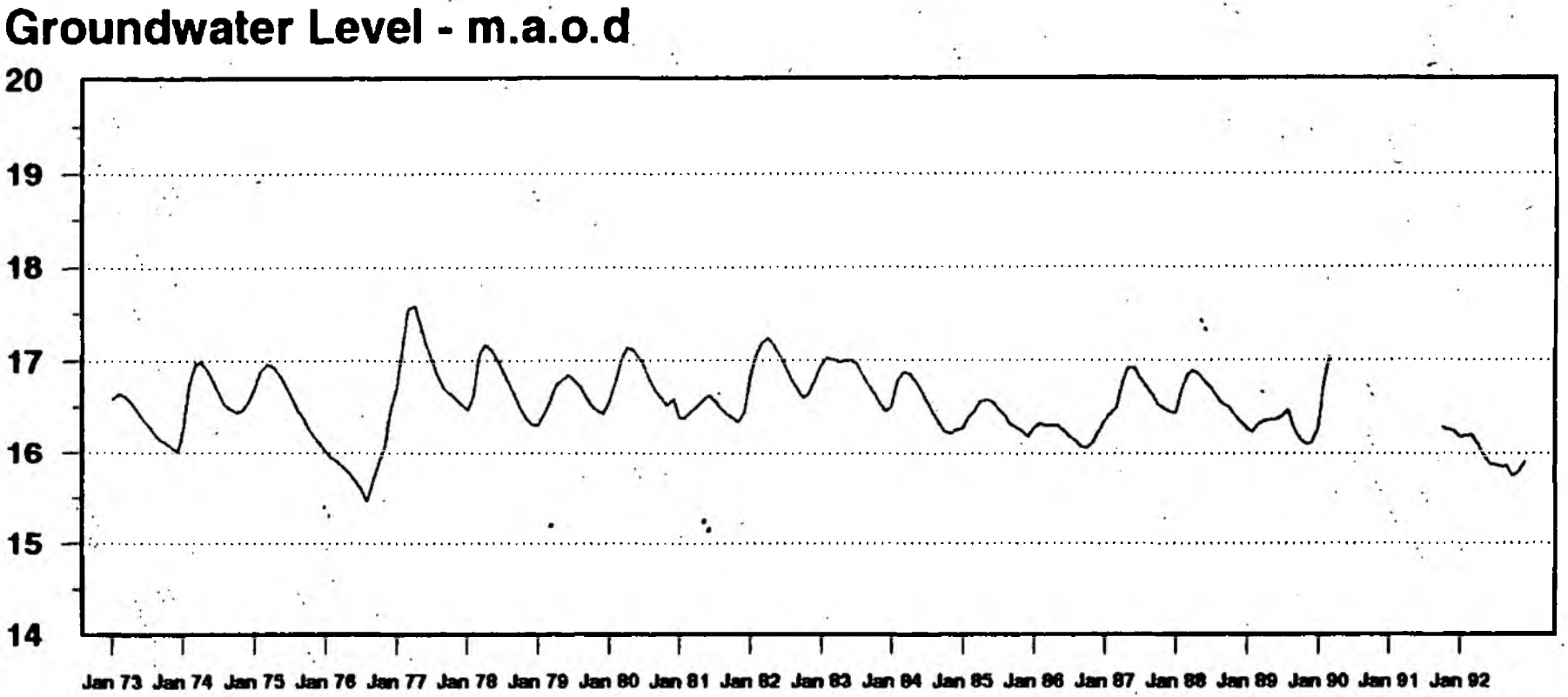


c:\grdwater\data\Dottgrp.wk3

Hillhead

measured Groundwater Levels

1973-1992

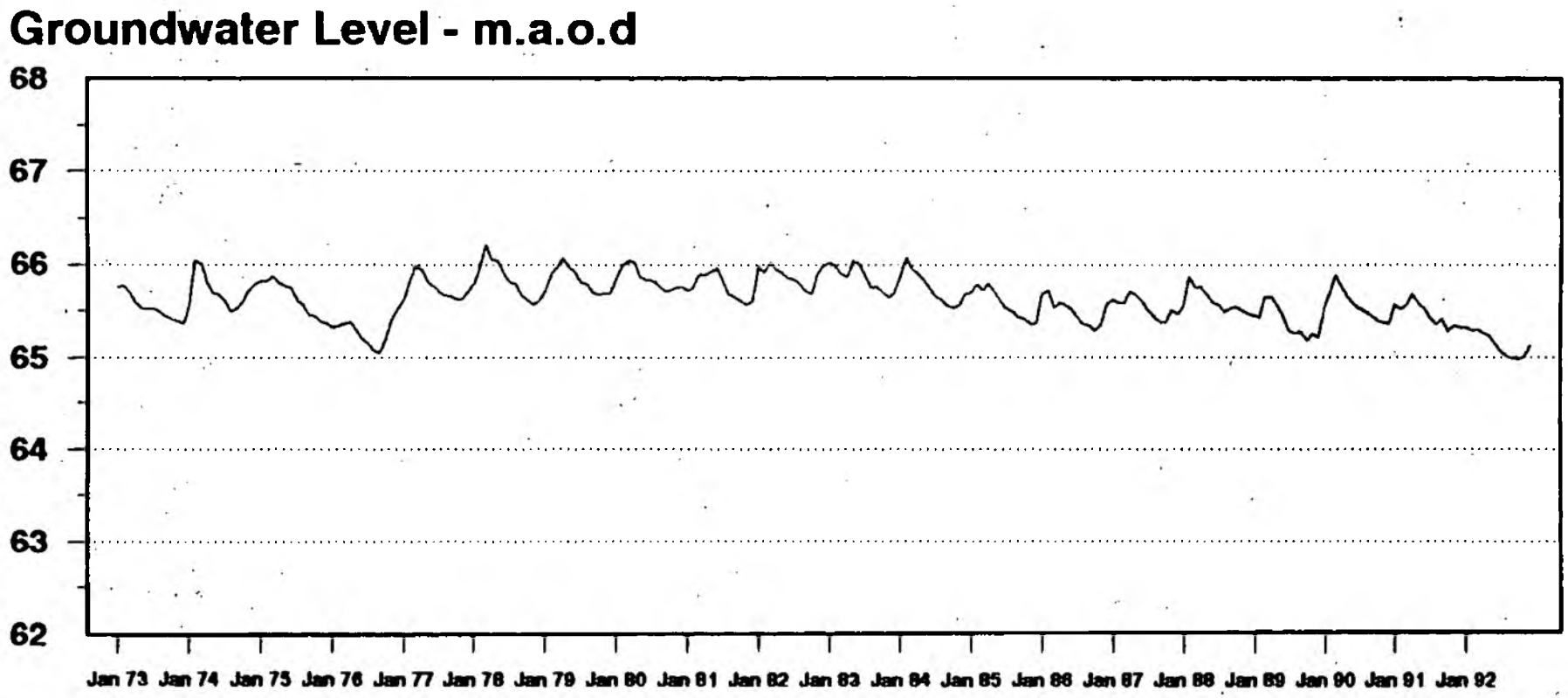


c:\grdwater\graphs\contoth.wk3

Feniton Court

measured Groundwater Levels

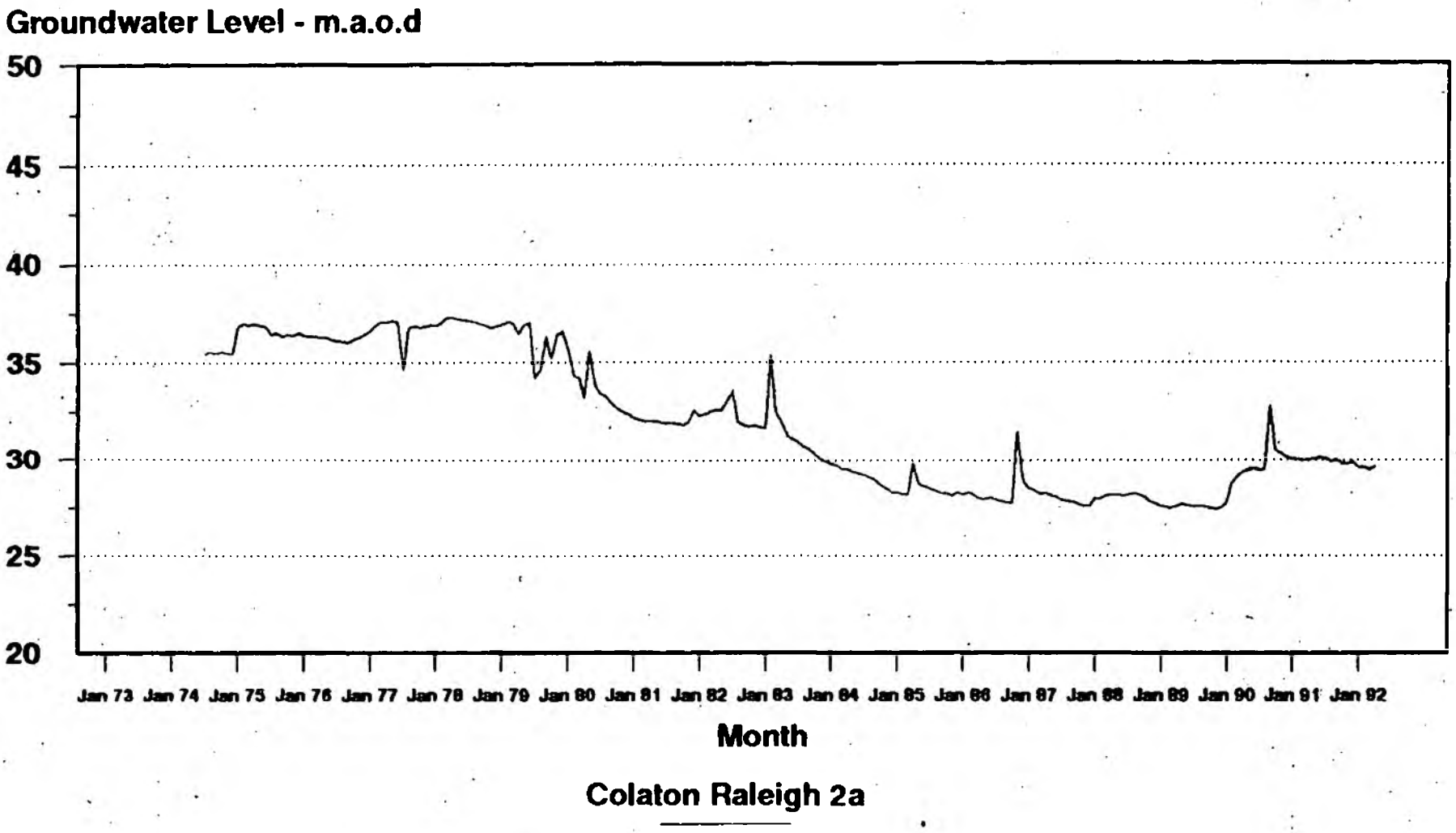
1973-1992



c:\grdwater\data\contsite.wk3

Colaton Raleigh 2A

measured Groundwater Levels

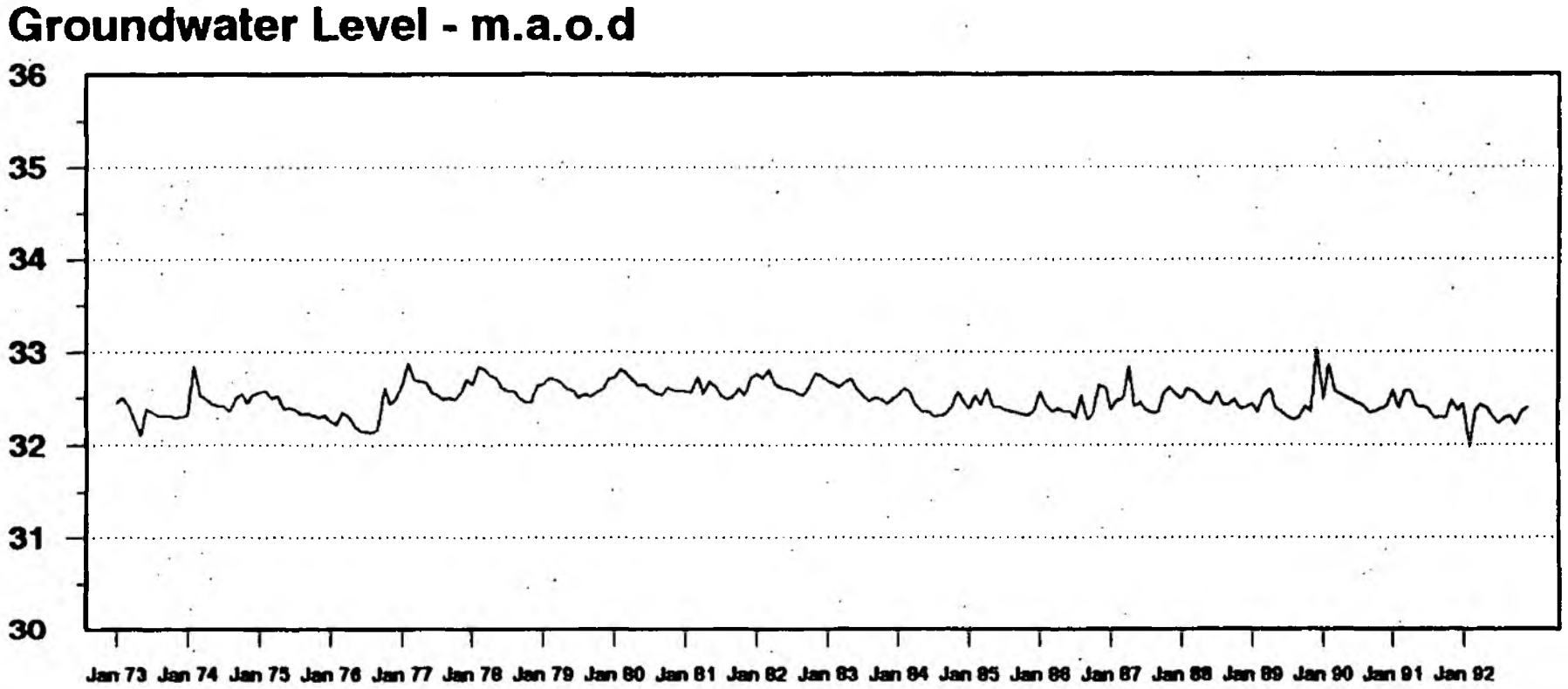


c:\grdwater\crgroup.wk3

Wiggaton No.4

measured Groundwater Levels

1973-1992

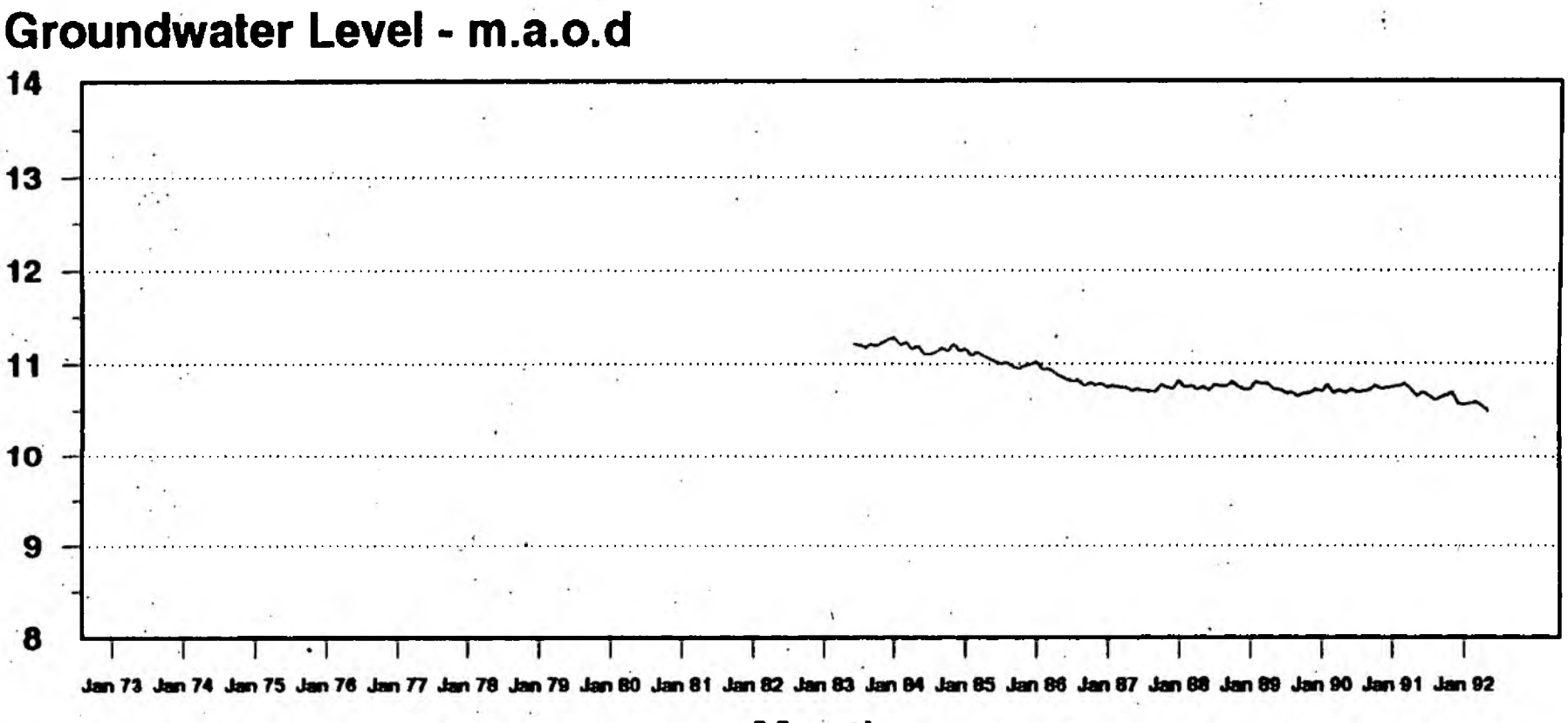


c:\grdwater\data\contsite.wk3

Otterton 3

measured Groundwater Levels

1973-1992

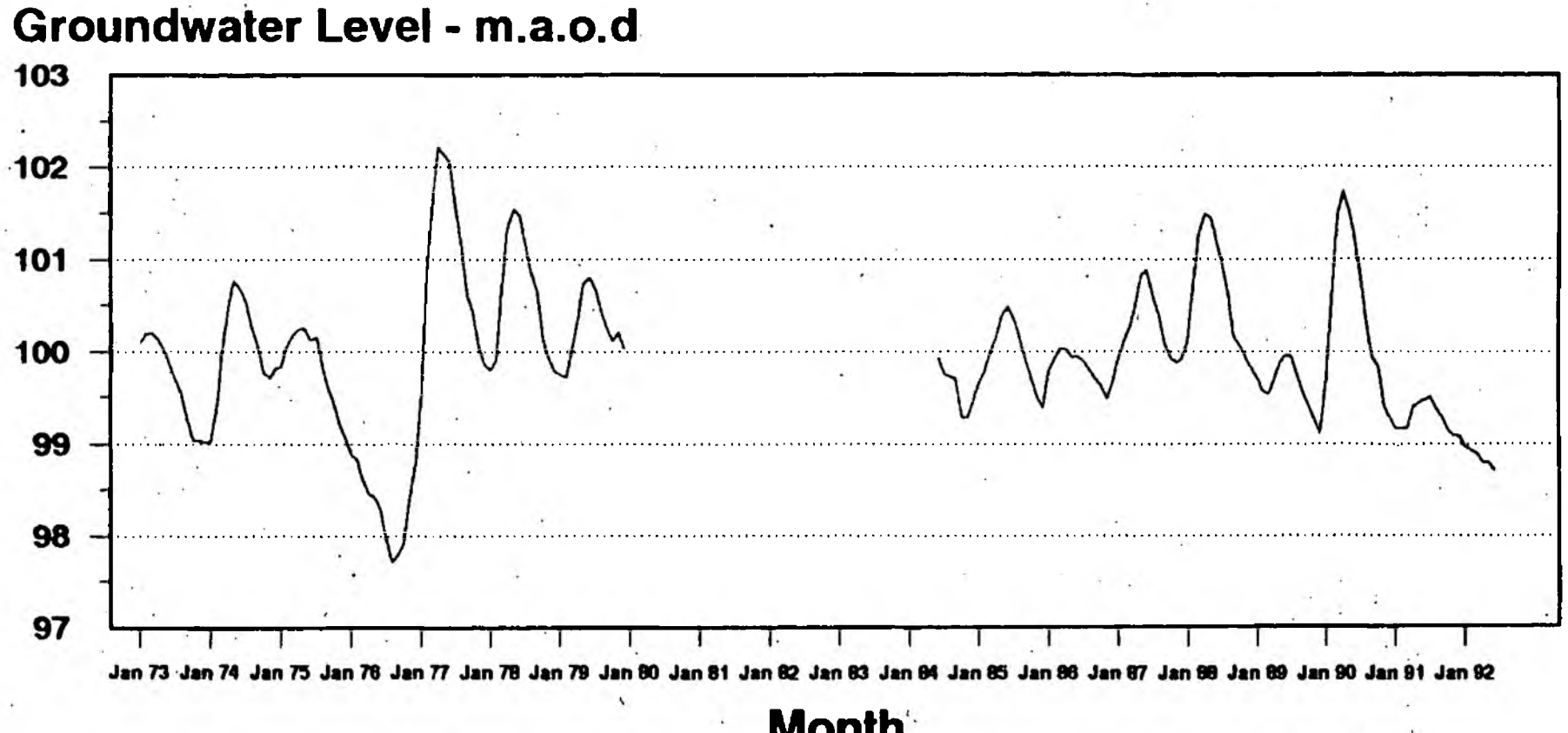


c:\grdwater\data\ottgrp.wk3

Woodbury Common

measured Groundwater Levels

1973-1992



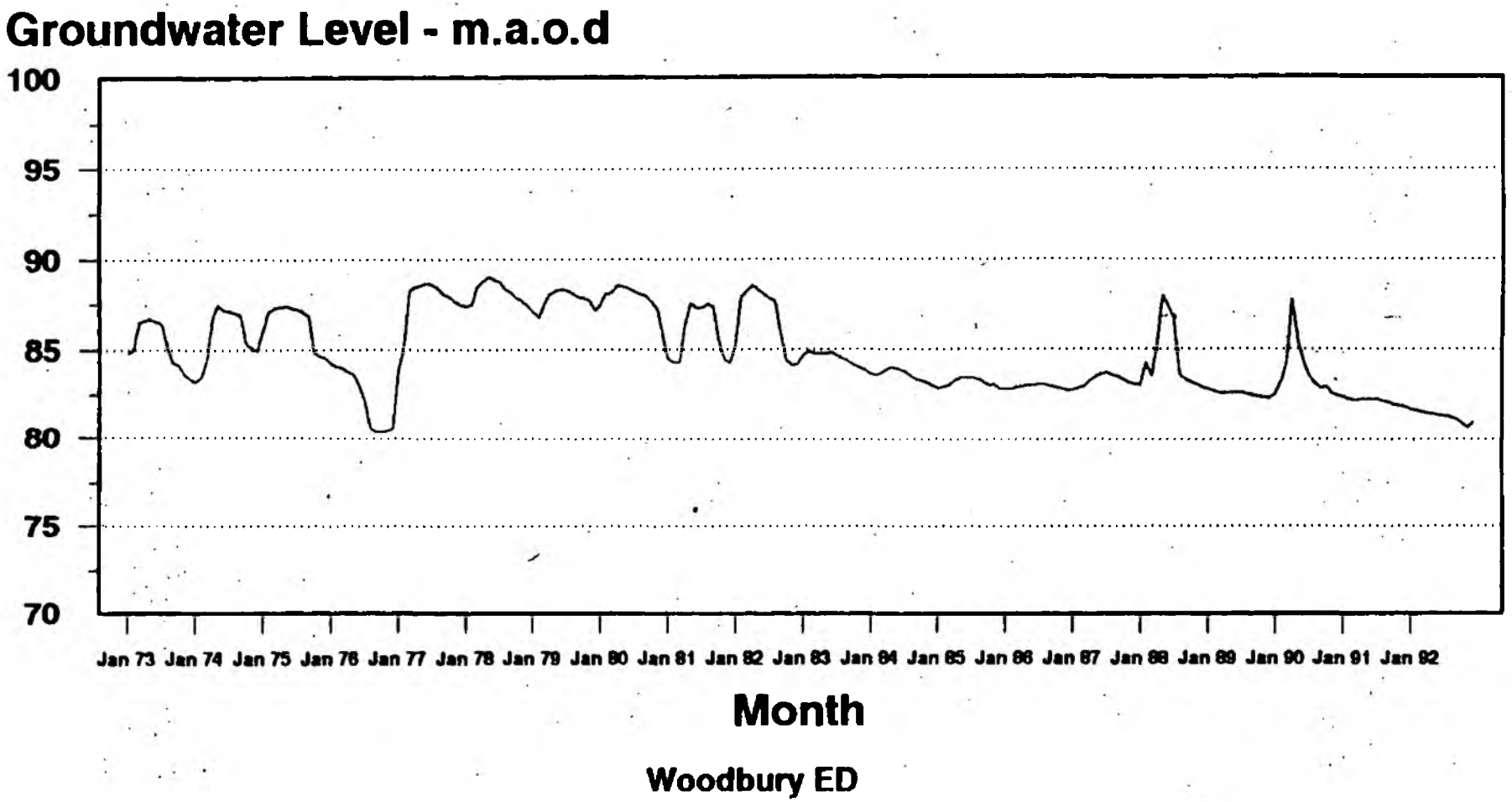
Woodbury Common

c:\grdwater\data\contsite.wk3

Woodbury ED

measured Groundwater Levels

1973-1992

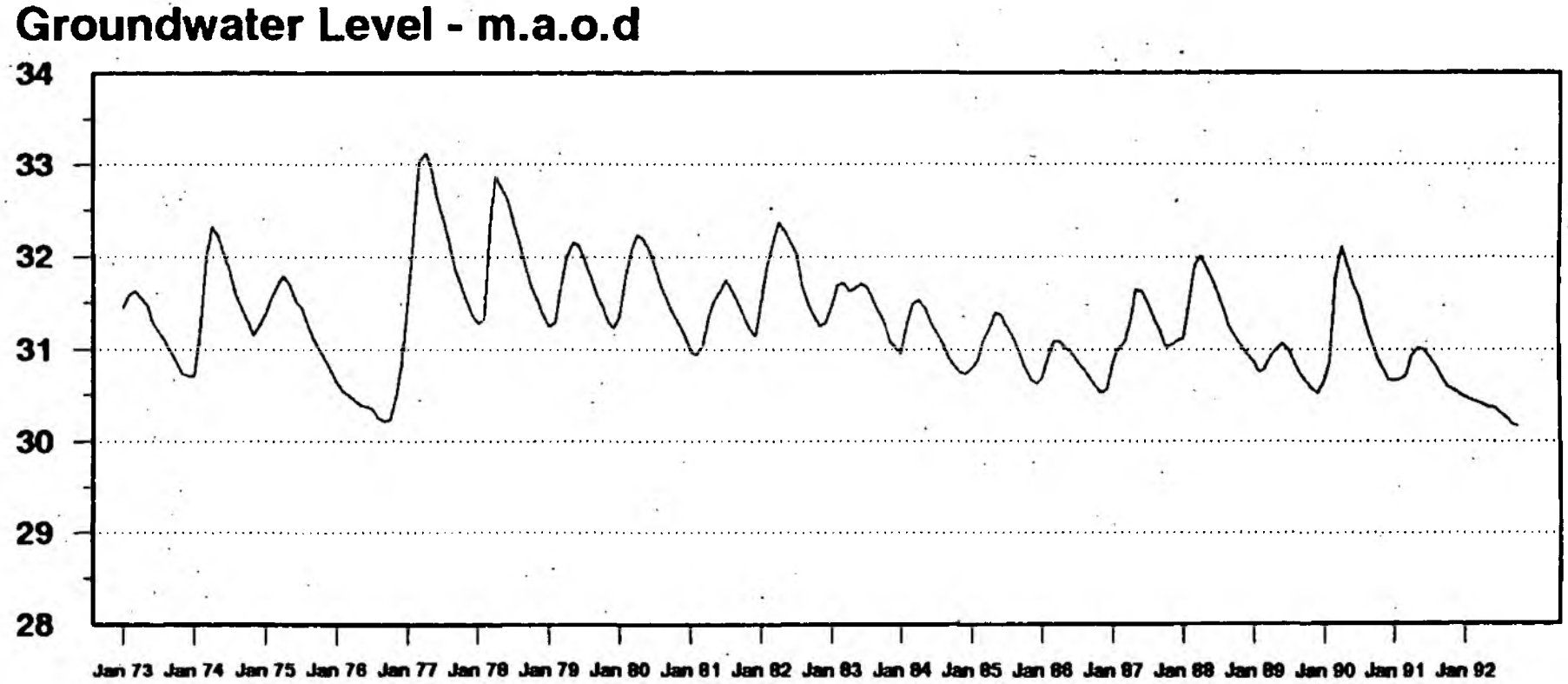


c:\grdwater\data\contsite.wk3

Woodley's No.1

Measured Groundwater Level

1973-1992



Woodley's No.1

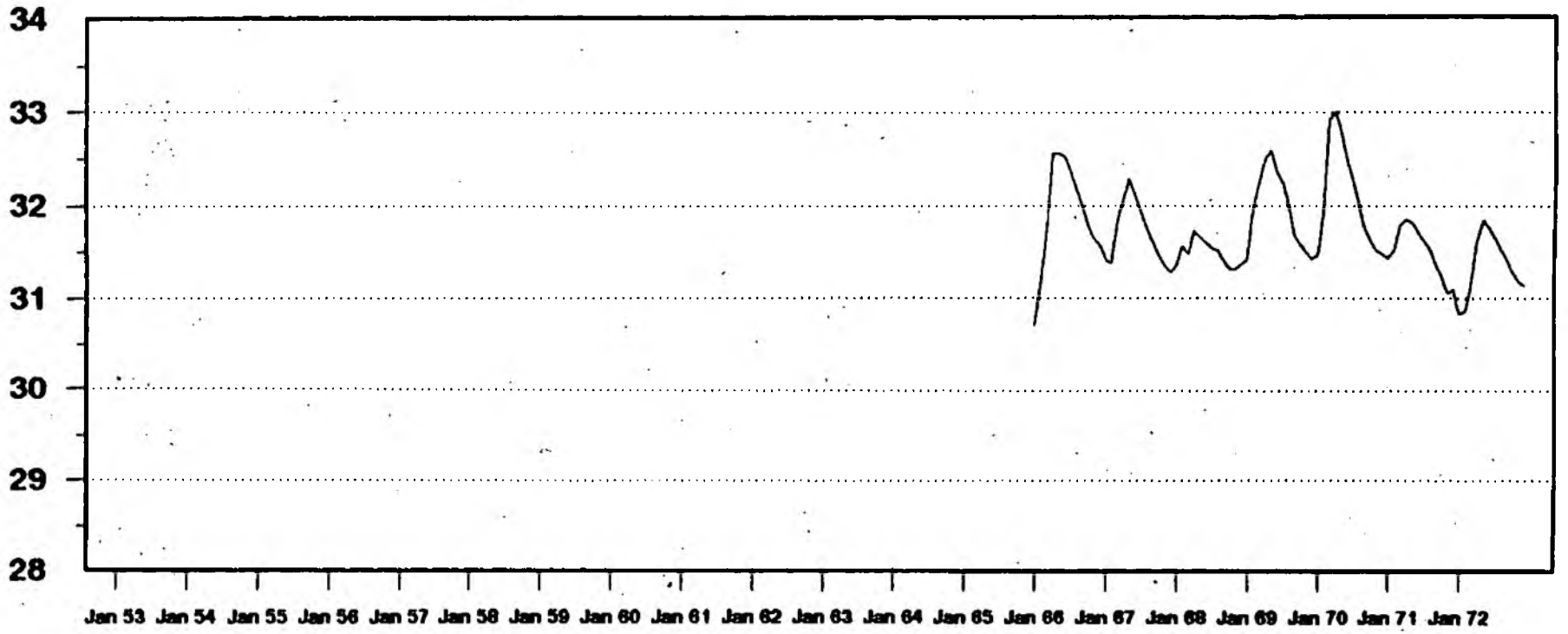
c:\grdwater\contgrp.wk3

Woodley's No.1

measured Groundwater Levels

1953-1972

Groundwater Level - m.a.o.d



Month

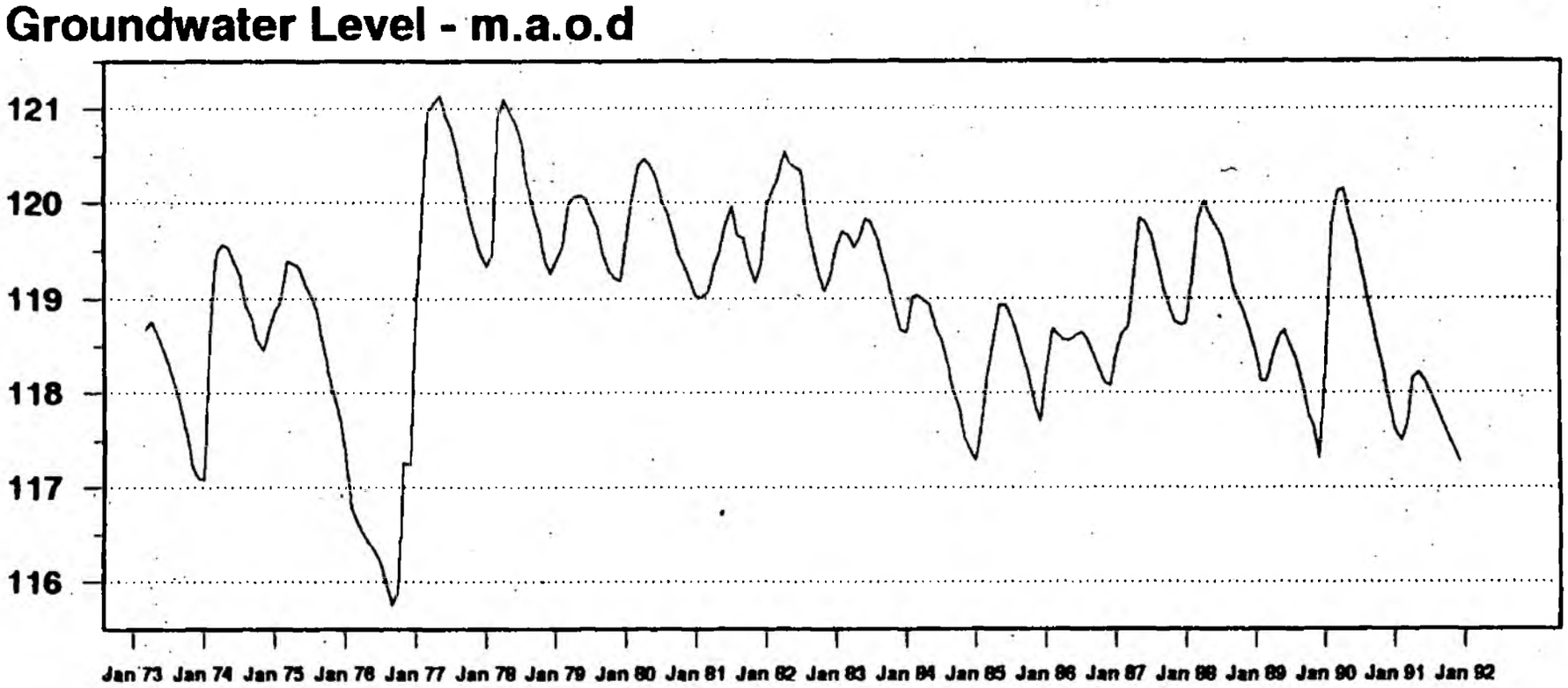
Woodley's No.1

c:\grdwater\data\oldbores.wk3

Squabmoor House

measured Groundwater Levels

1973-1992



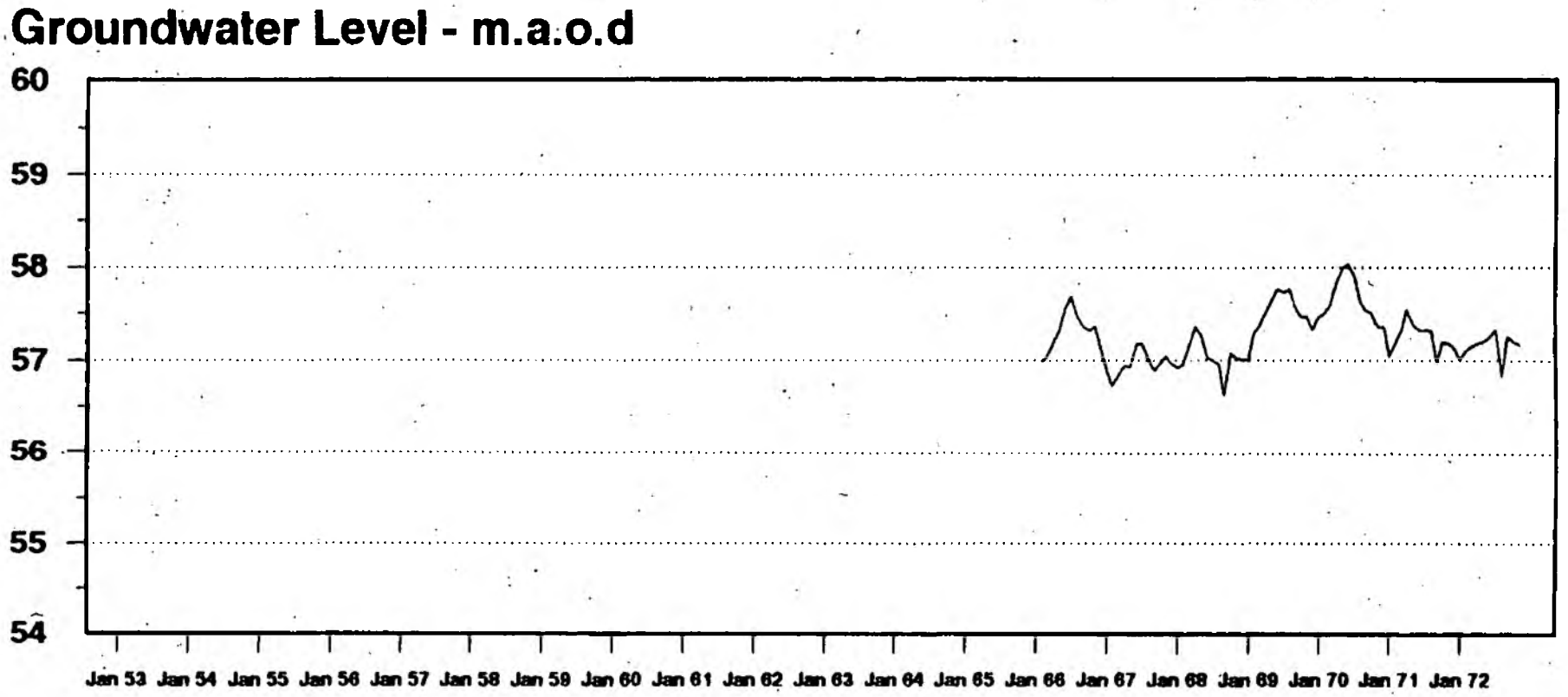
Squabmoor House

c:\grdwater\data\crgroup.wk3

Berry House

measured Groundwater Levels

1953-1972



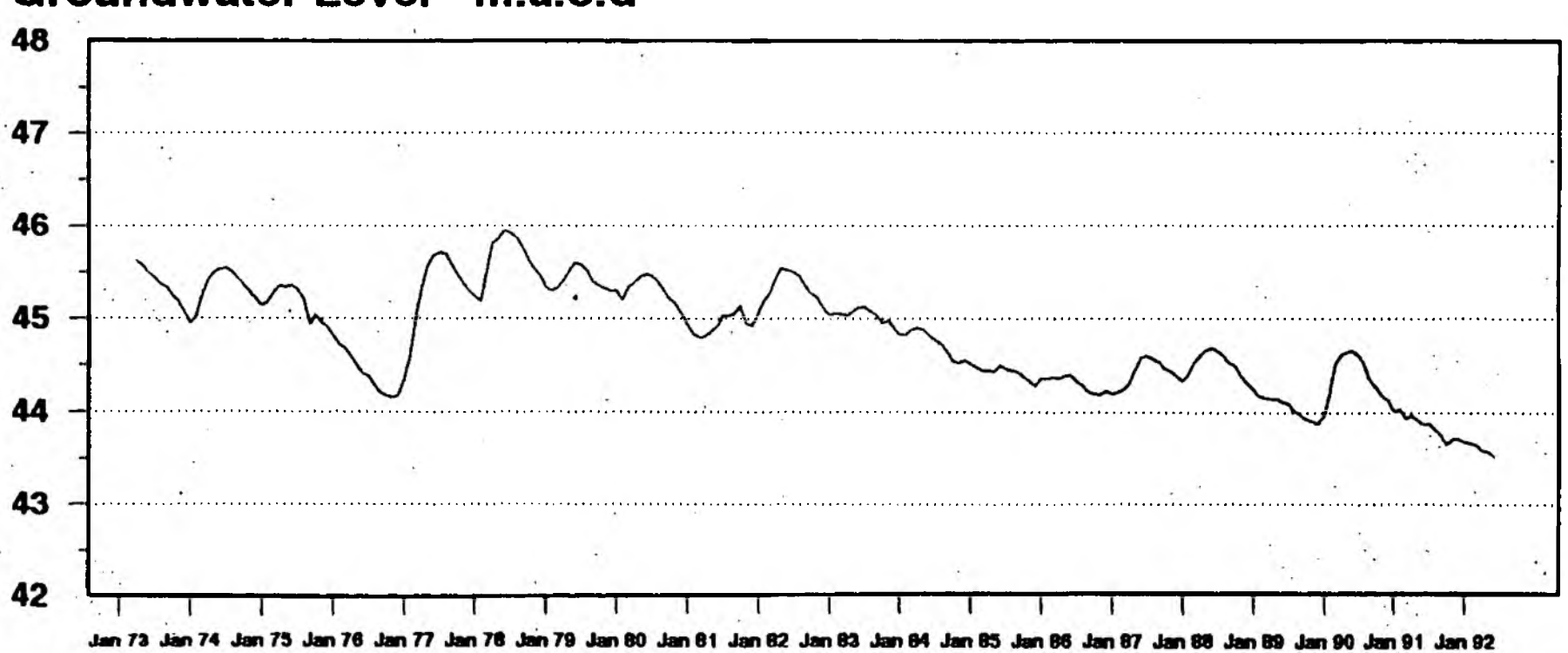
Berry House

c:\grdwater\data\oldbores.wk3

Greatwell 9

measured Groundwater Levels

1973-1992

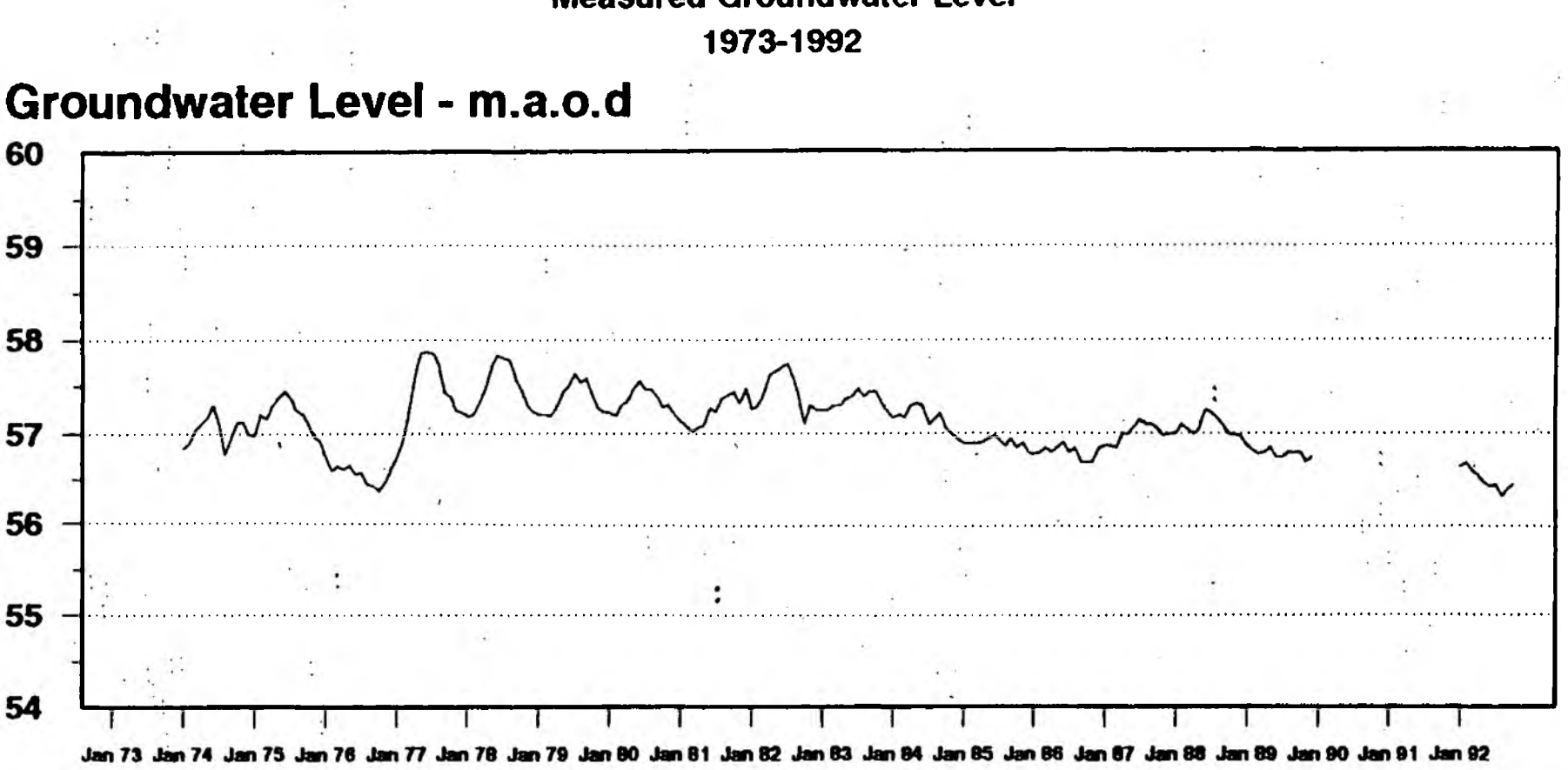


c:\grdwater\data\greatgrp.wk3

Berry House

Measured Groundwater Level

1973-1992



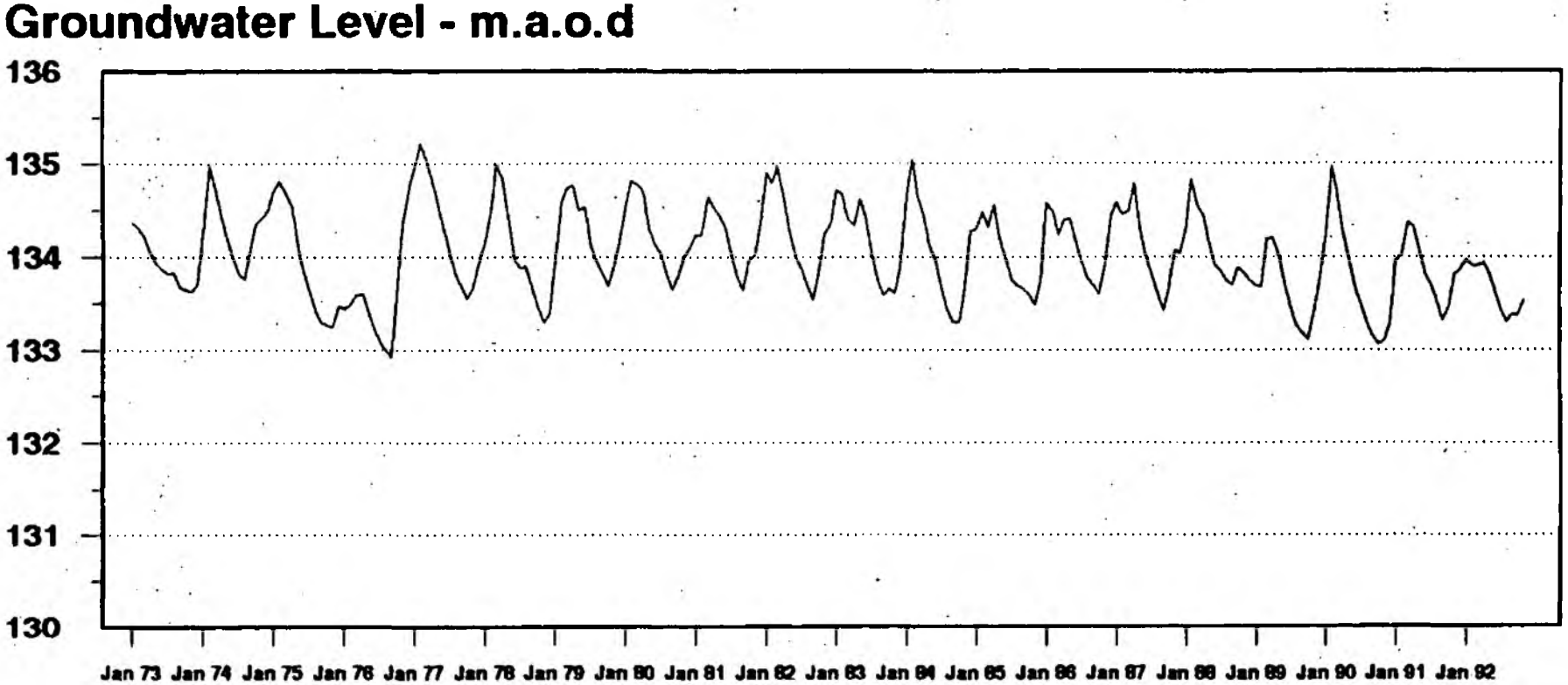
Berry House

c:\grdwater\contgrp.wk3

The Haywain

measured Groundwater Levels

1973-1992



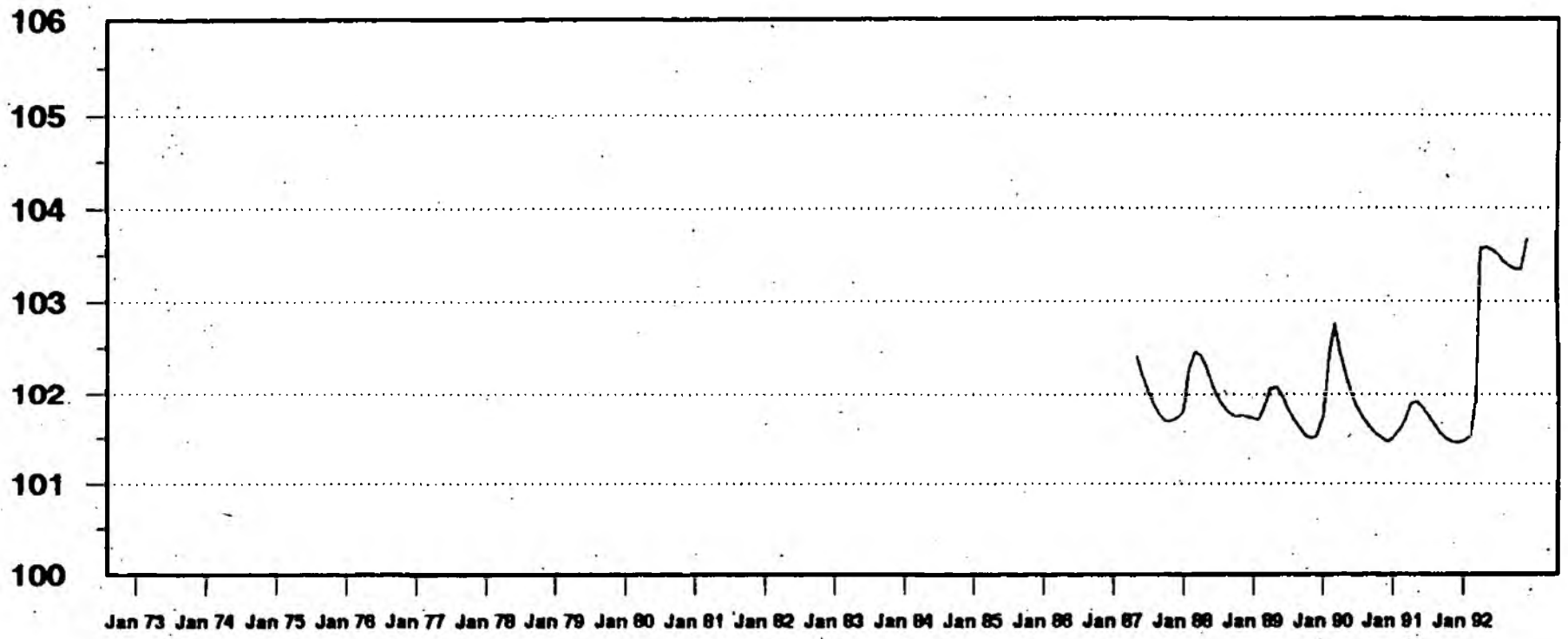
The Haywain

c:\grdwater\graphs\contoth.wk3

Ashill

measured Groundwater Levels

1973-1992

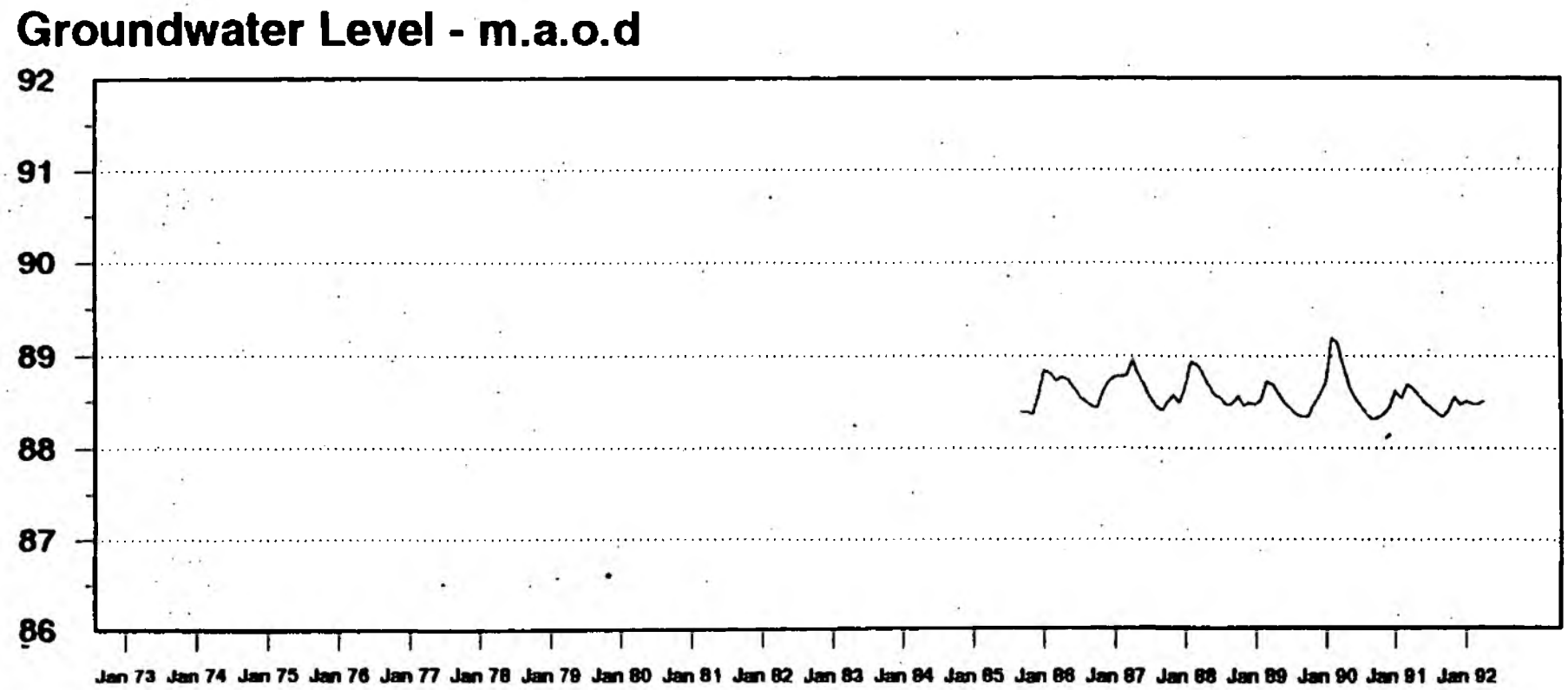


c:\grdwater\graphs\contoth.wk3

Southey Barton

measured Groundwater Levels

1973-1992



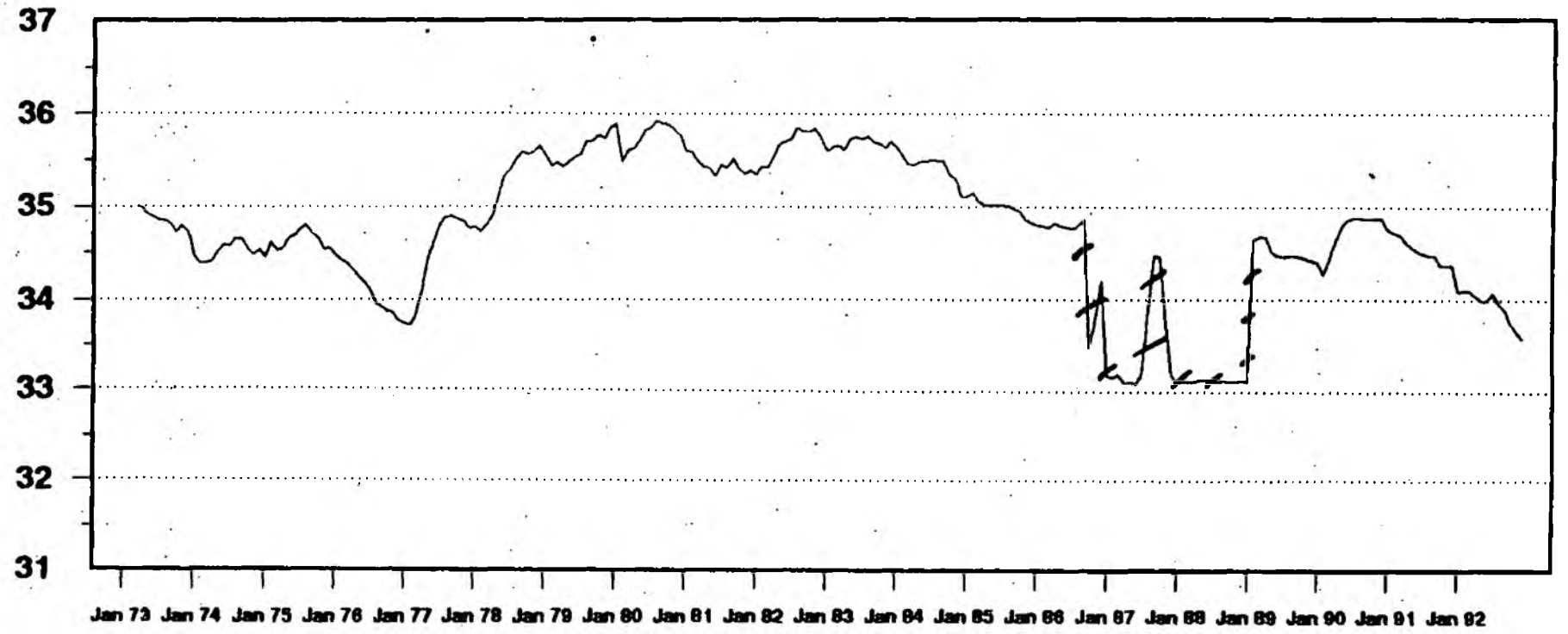
Southey Barton

c:\grdwater\graphs\contoth.wk3

Hayes Wood Cottage

measured Groundwater Levels

1973-1992



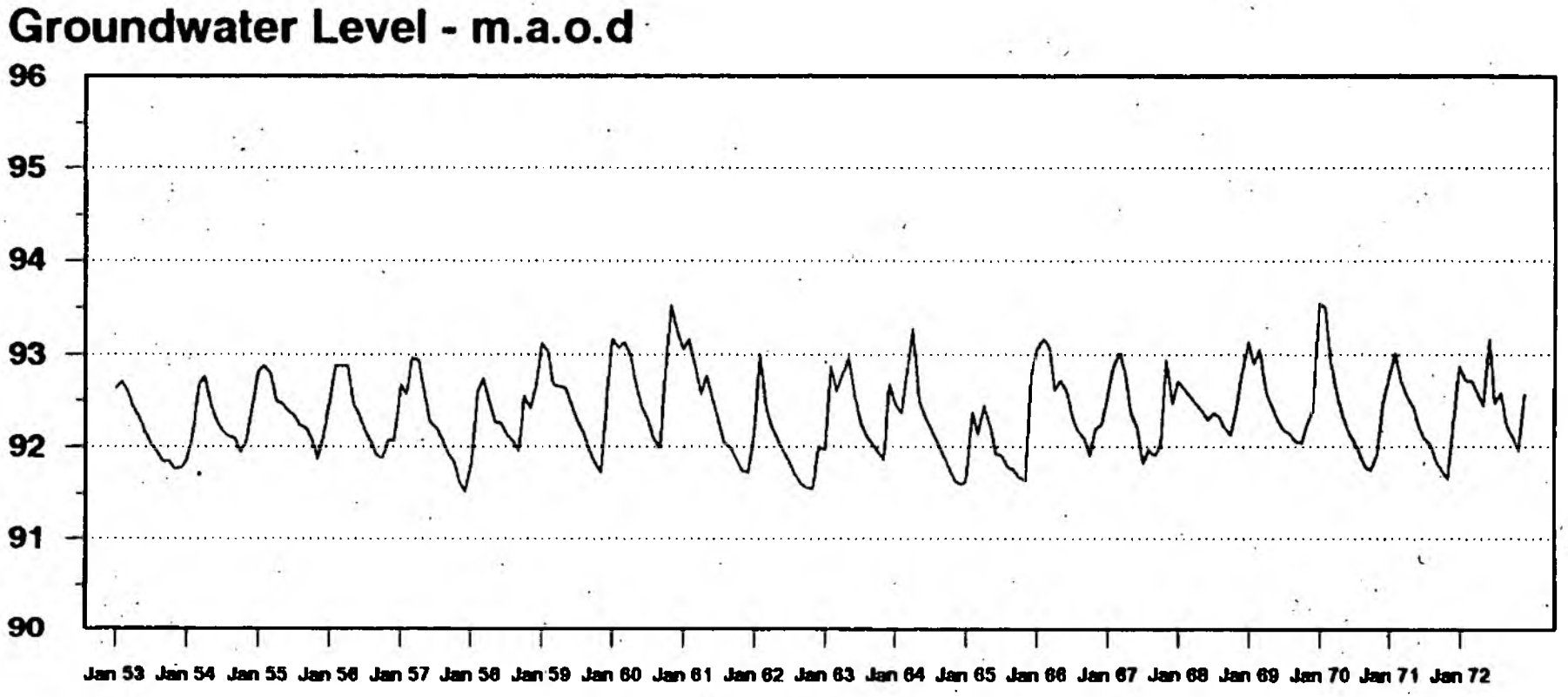
Hayes Wood Cottage

c:\grdwater\data\contsite.wk3

Heathlands

measured Groundwater Levels

1953-1972

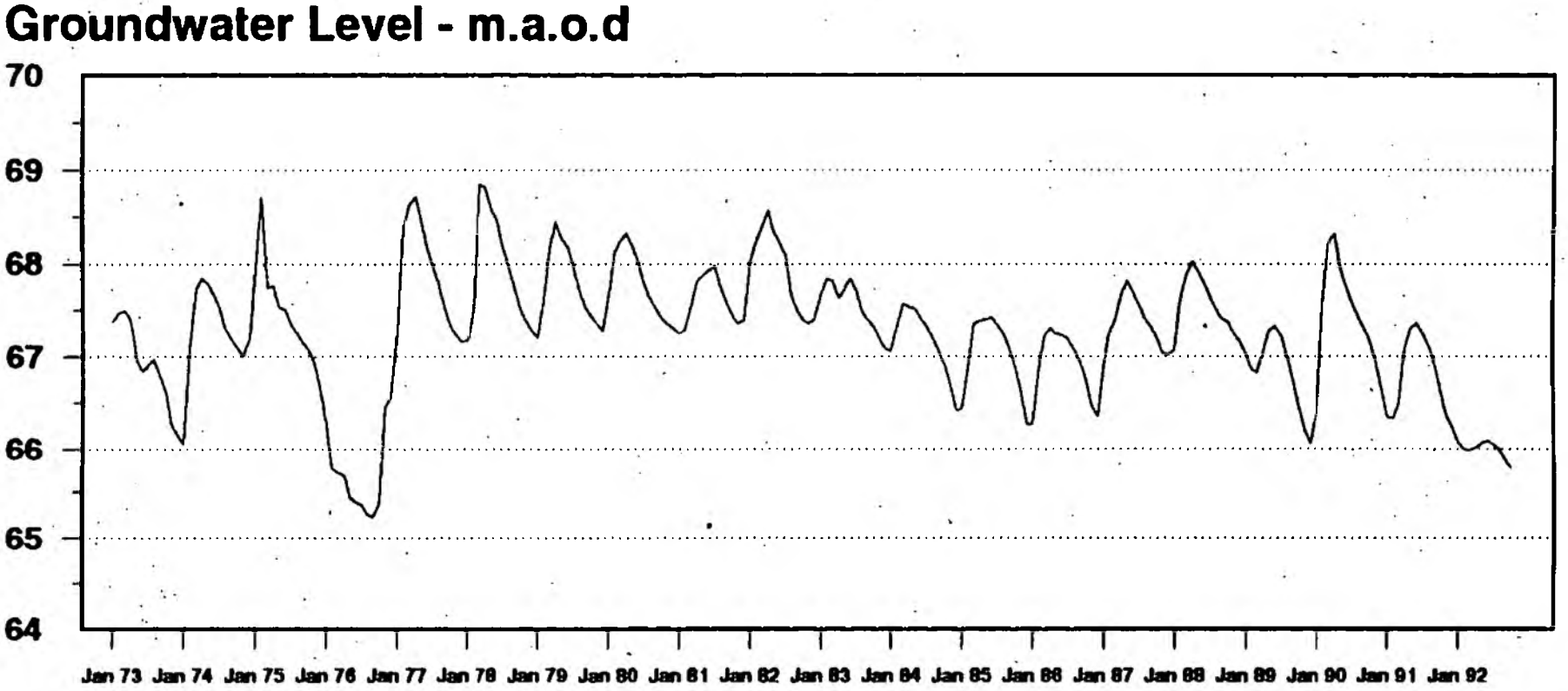


c:\grdwater\data\oldbores.wk3

Higher Coombe

Measured Groundwater Level

1973-1992



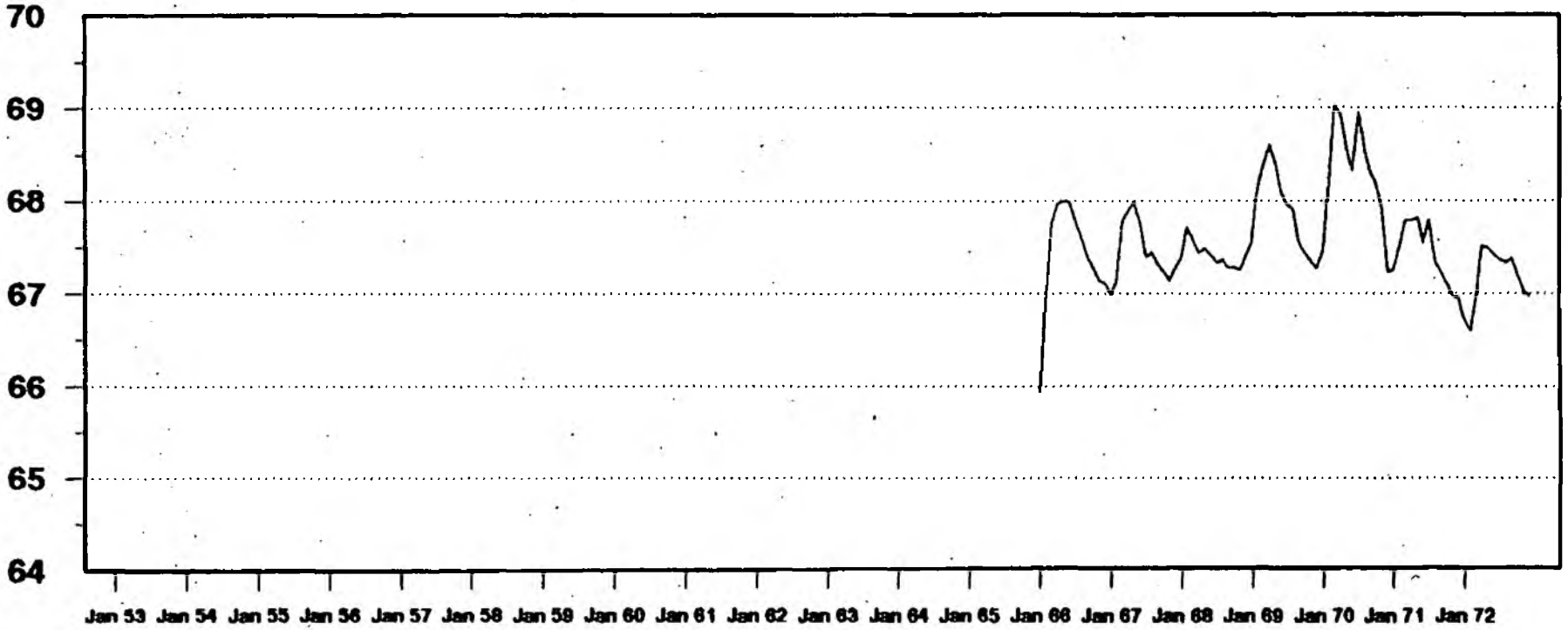
c:\grdwater\contgrp.wk3

Higher Coombe

measured Groundwater Levels

1953-1972

Groundwater Level - m.a.o.d



Month

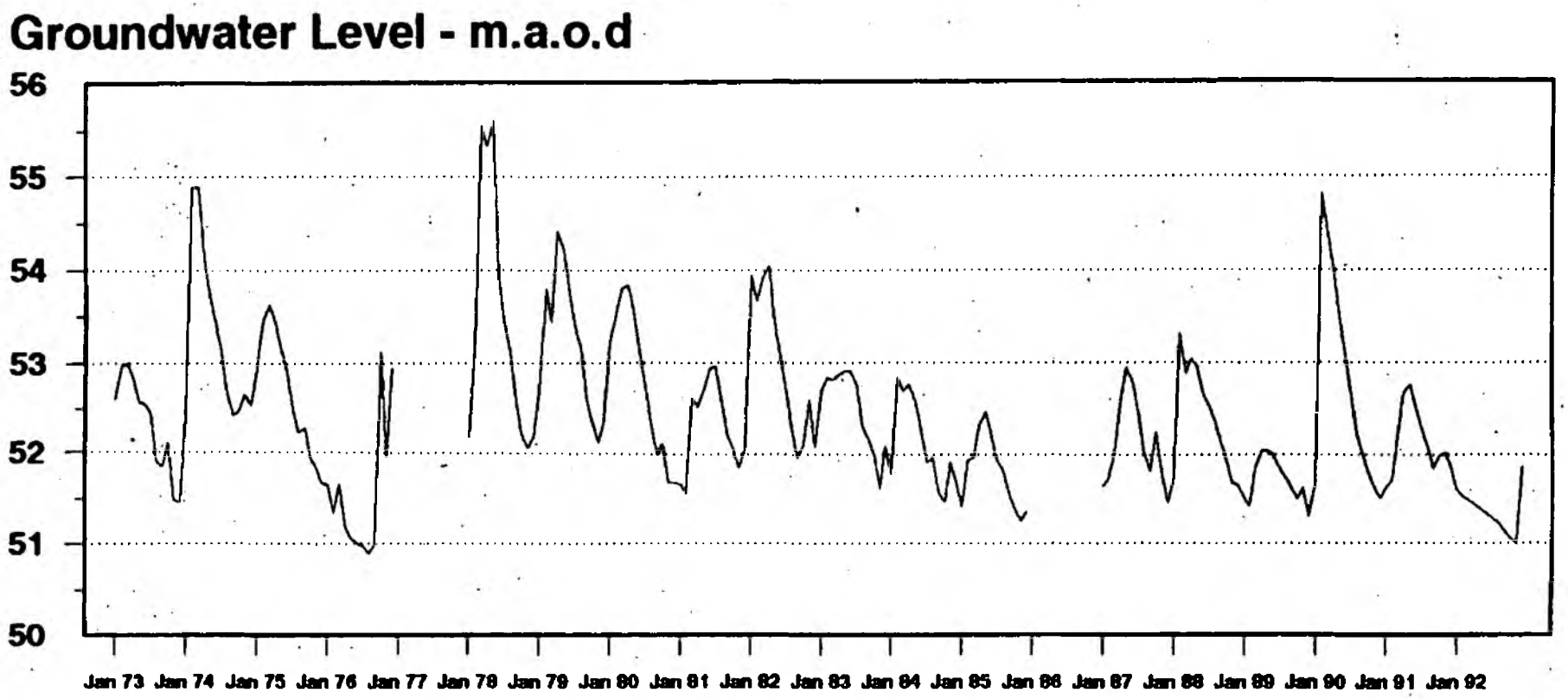
Higher Coombe

c:\grdwater\data\oldbores.wk3

Higher Pitt Cottage

measured Groundwater Levels

1973-1992

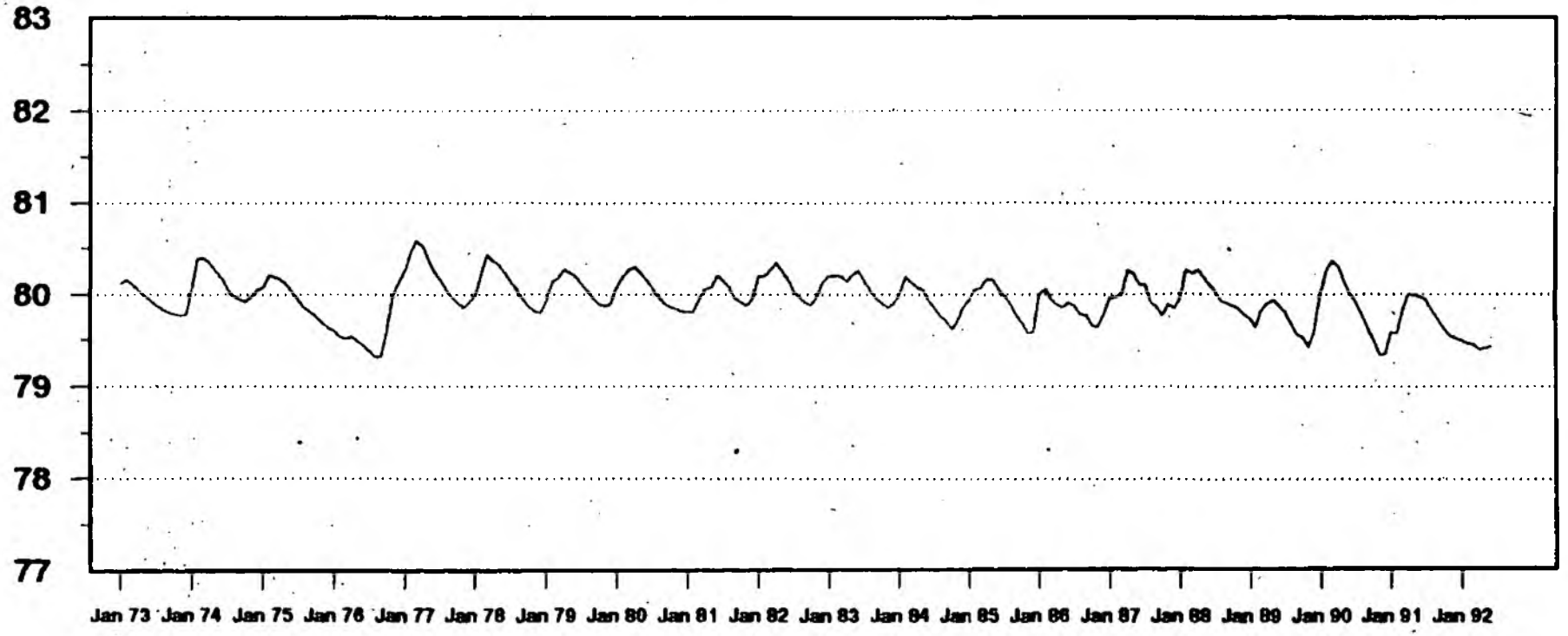


c:\grdwater\data\contsite.wk3

Longmead

Measured Groundwater Level

1973-1992

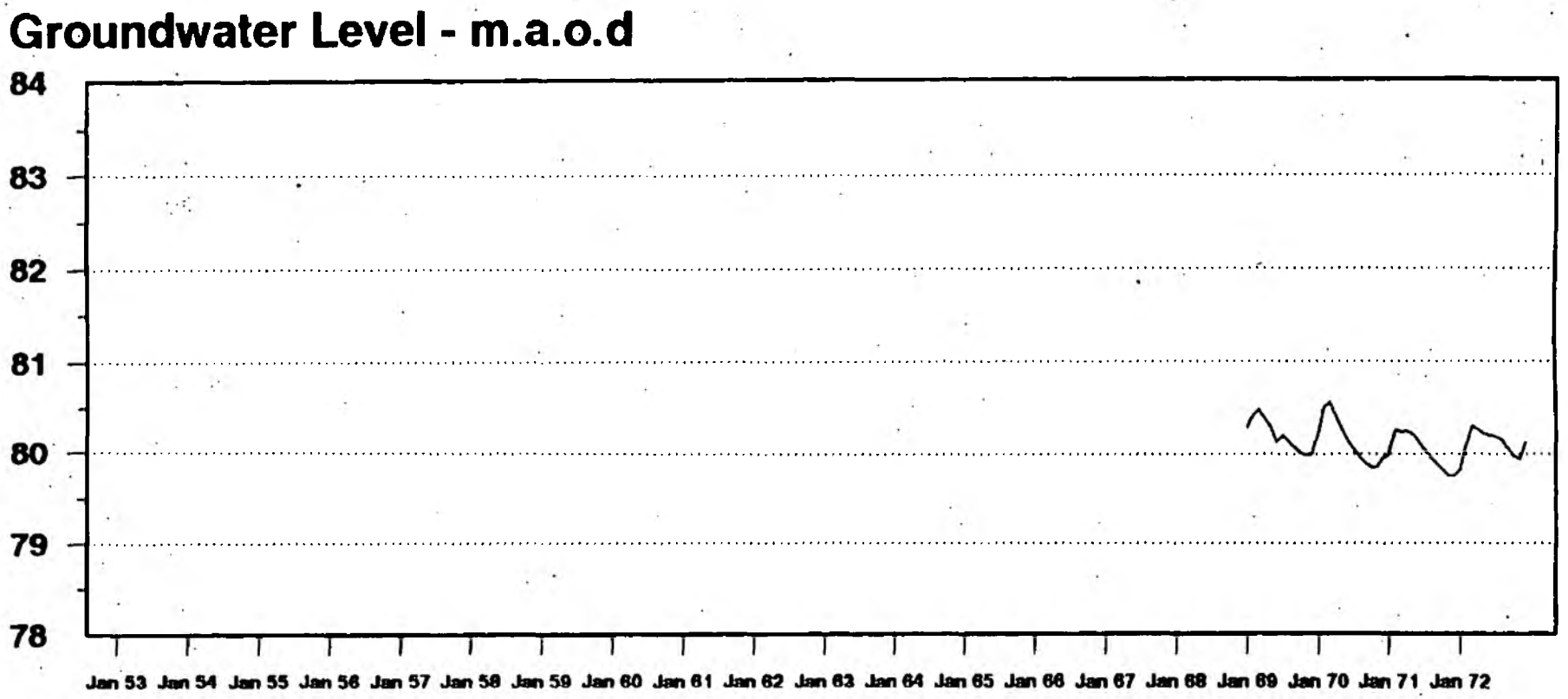


c:\grdwater\contgrp.wk3

Longmead

measured Groundwater Levels

1953-1972



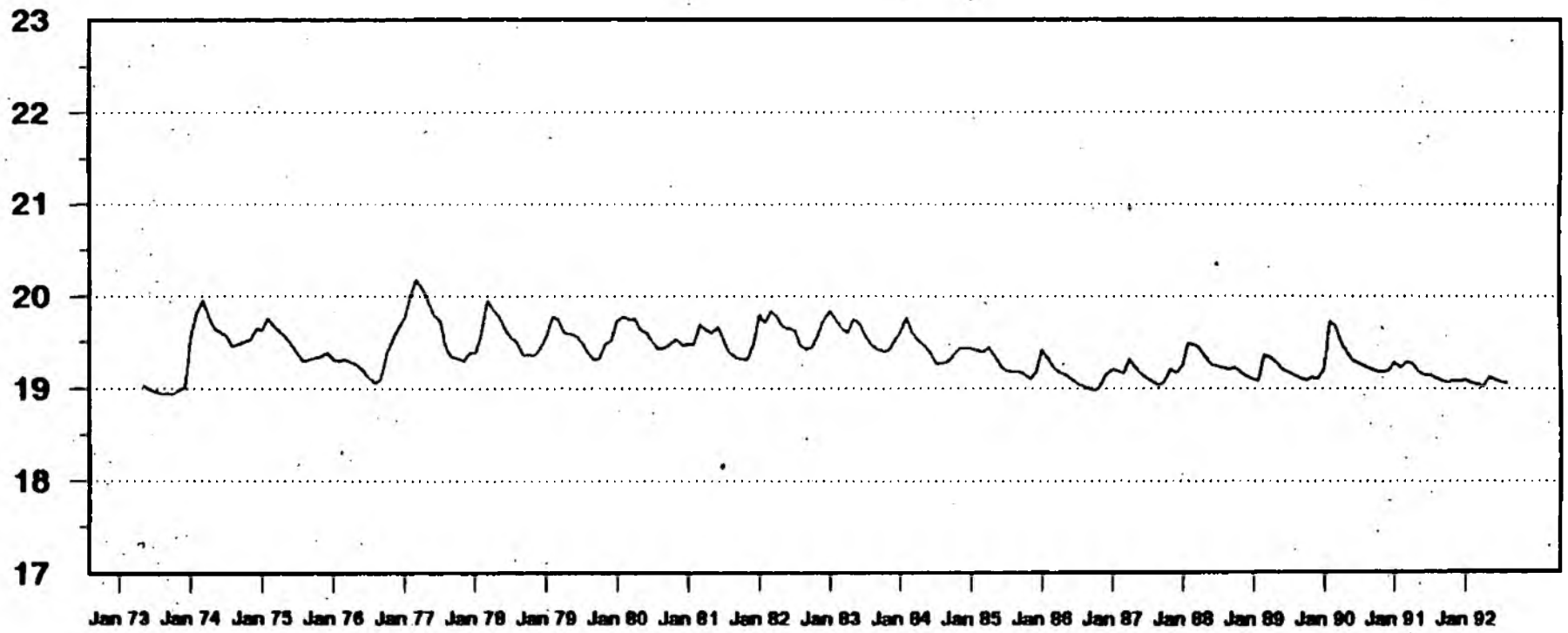
c:\grdwater\data\oldbores.wk3

Northmostown No.4

measured Groundwater Levels

1973-1992

Groundwater Level - m.a.o.d



Month

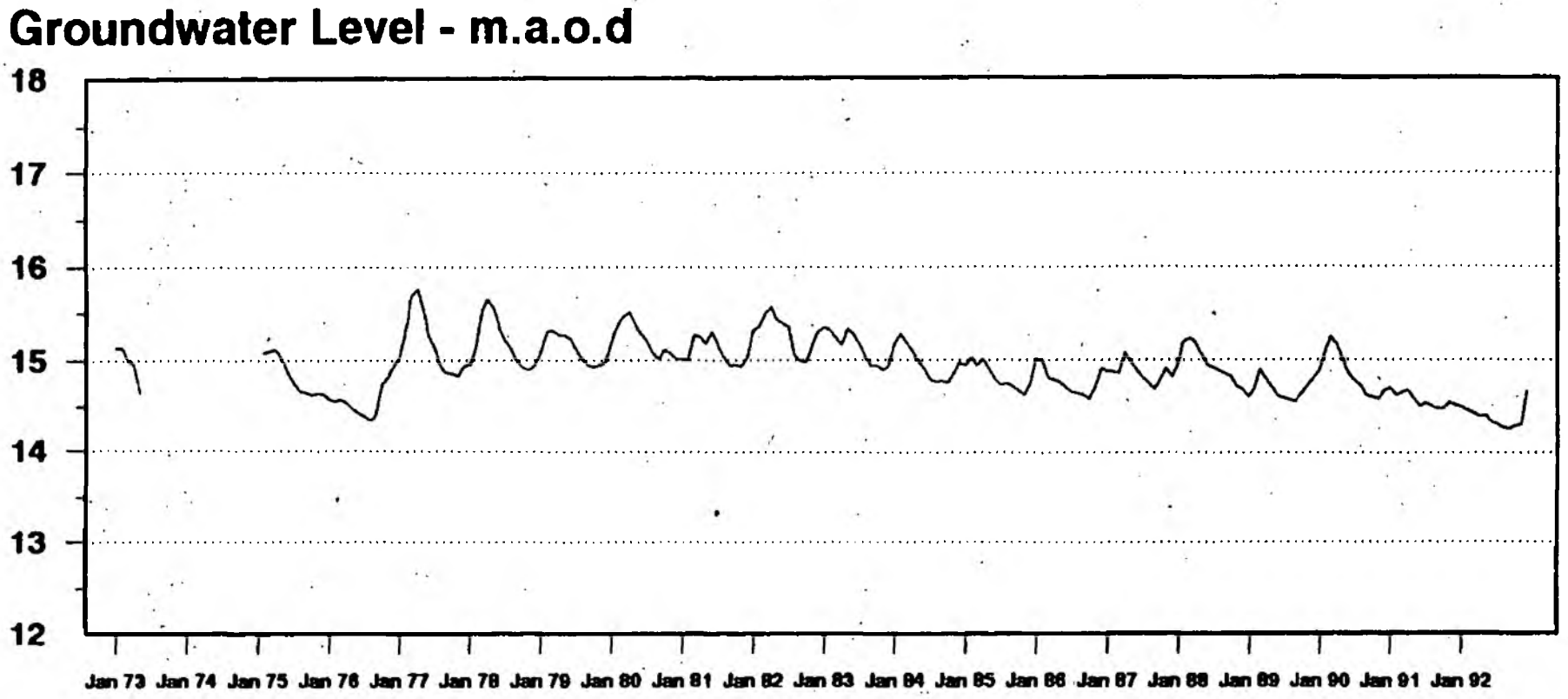
Northmostown No.4

c:\grdwater\data\contsite.wk3

Passaford Farm

measured Groundwater Levels

1973-1992



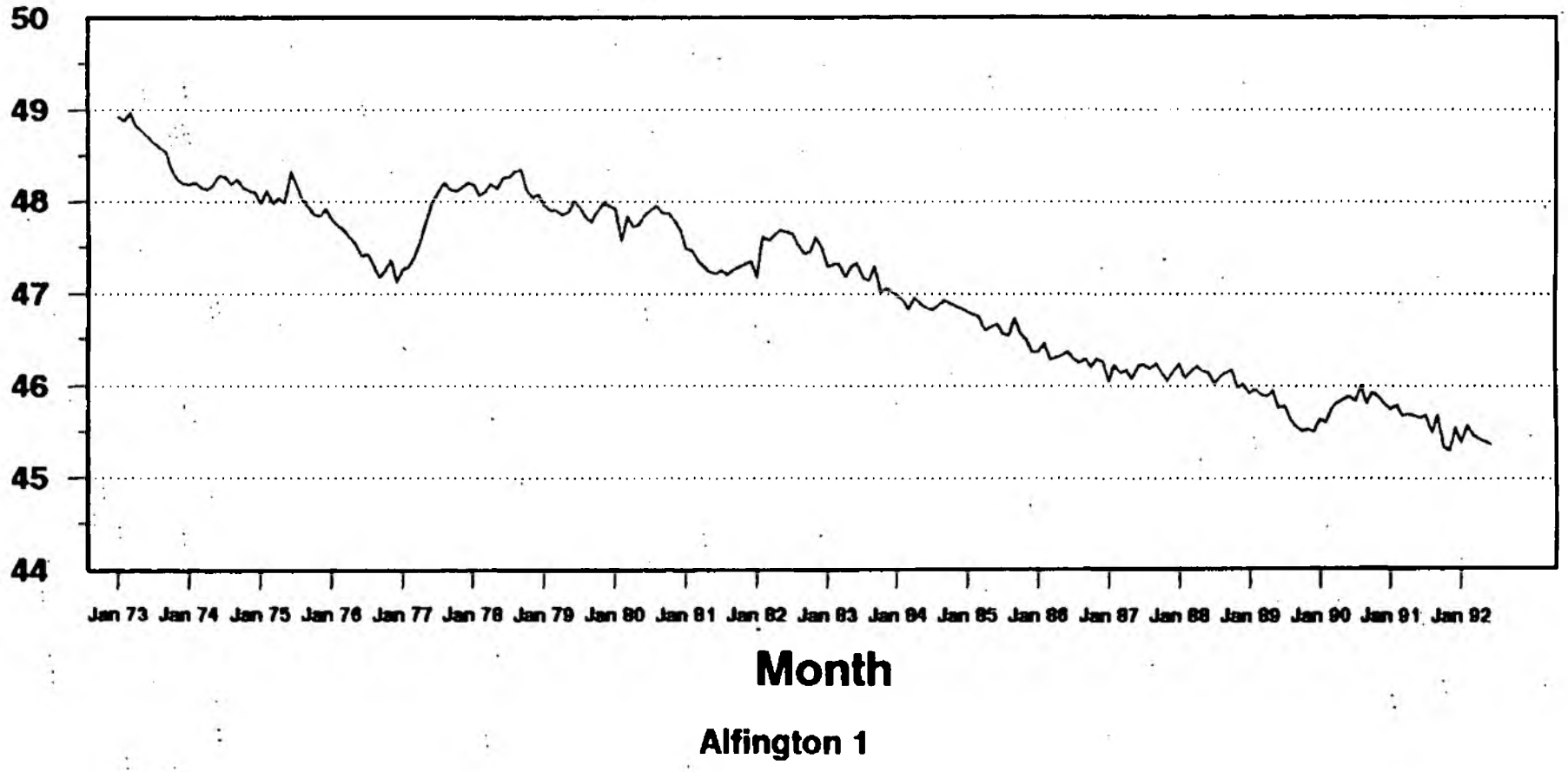
Passaford Farm

c:\grdwater\data\contsite.wk3

Alfington No.1

measured Groundwater Levels

1973-1992

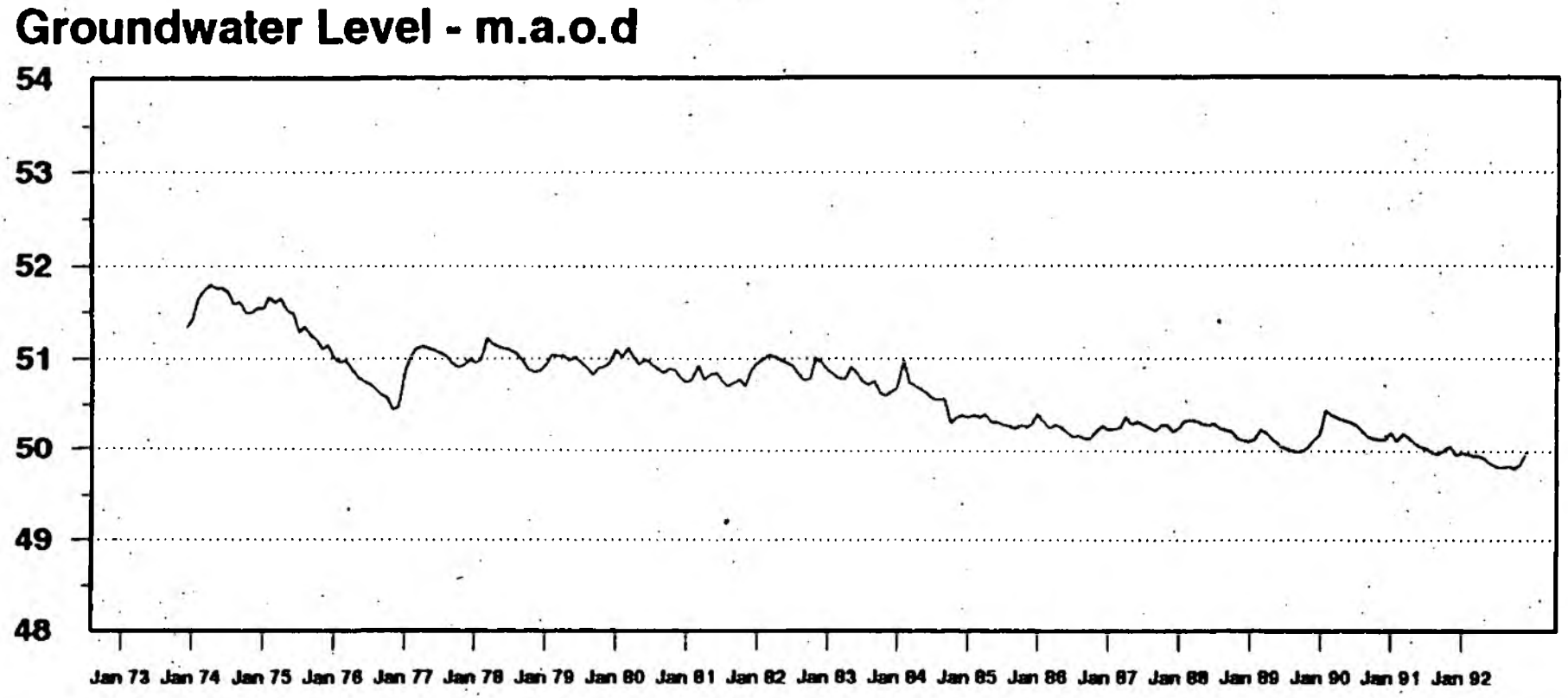


c:\grdwater\data\greatgroup.wk3

Alfington No.2

measured Groundwater Levels

1973-1992



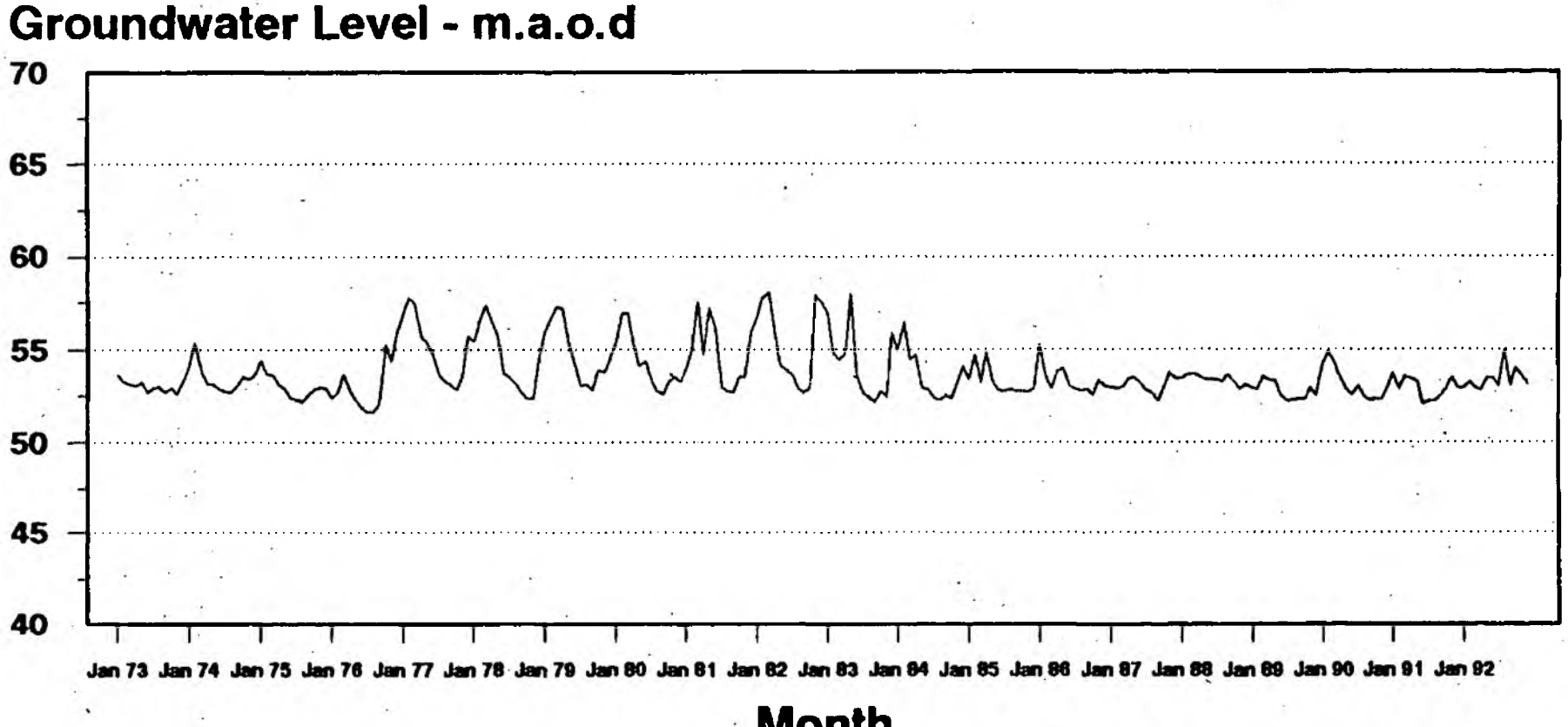
Alfington 2

c:\grdwater\data\greatgroup.wk3

Two Acre

measured Groundwater Levels

1973-1992



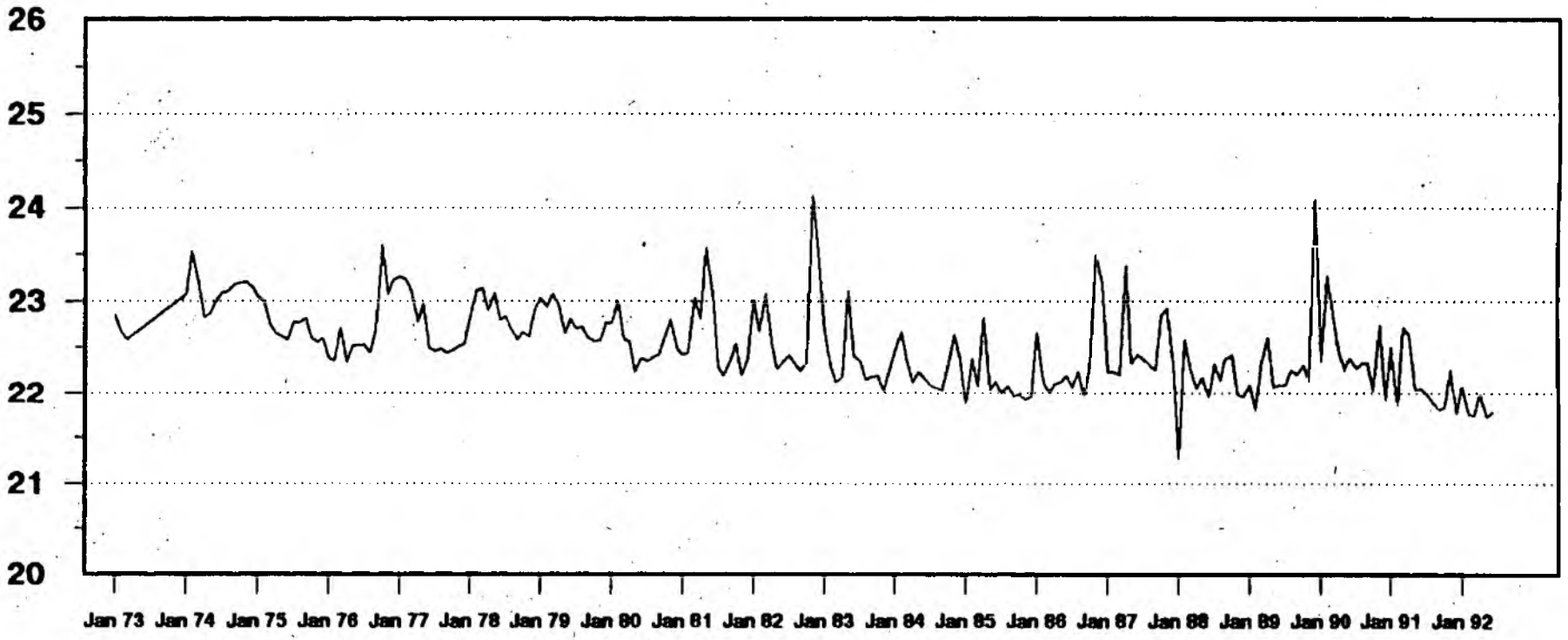
c:\grdwater\data\greatgrp.wk3

Harpford 2

measured Groundwater Levels

1973-1992

Groundwater Level - m.a.o.d



Month

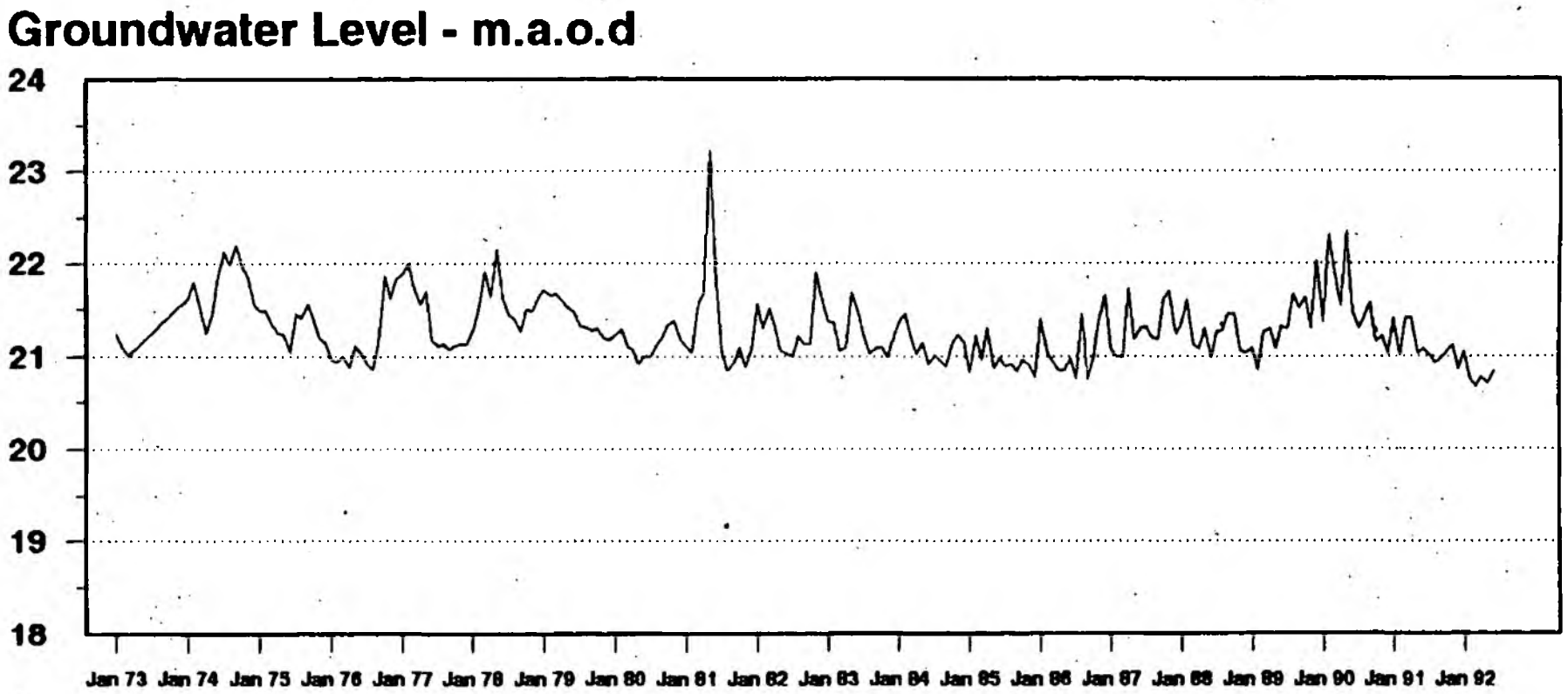
Harpford 2

c:\grdwater\data\Harpgrp.wk3

Harpford 1

measured Groundwater Levels

1973-1992



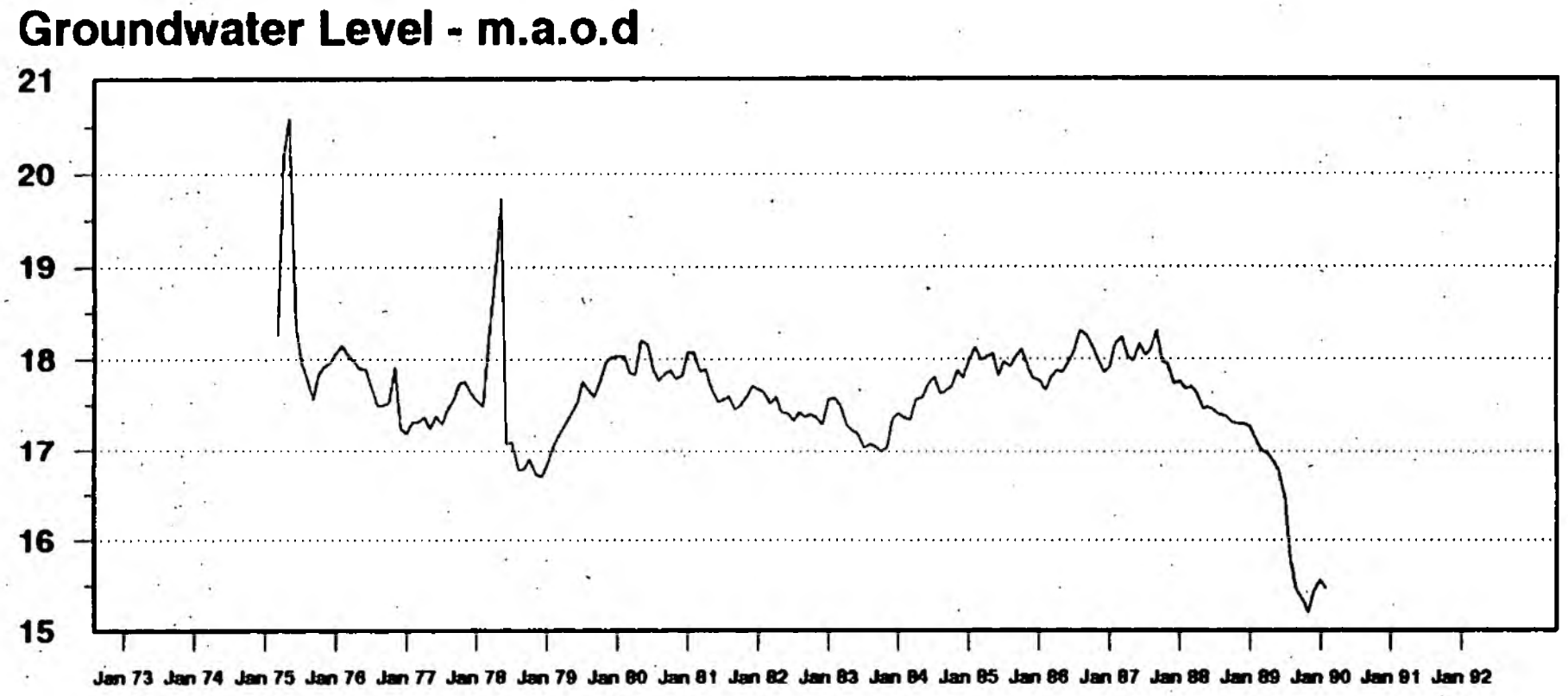
Harpford 1

c:\grdwater\data\Harpgrp.wk3

Harpford 9

measured Groundwater Levels

1973-1992

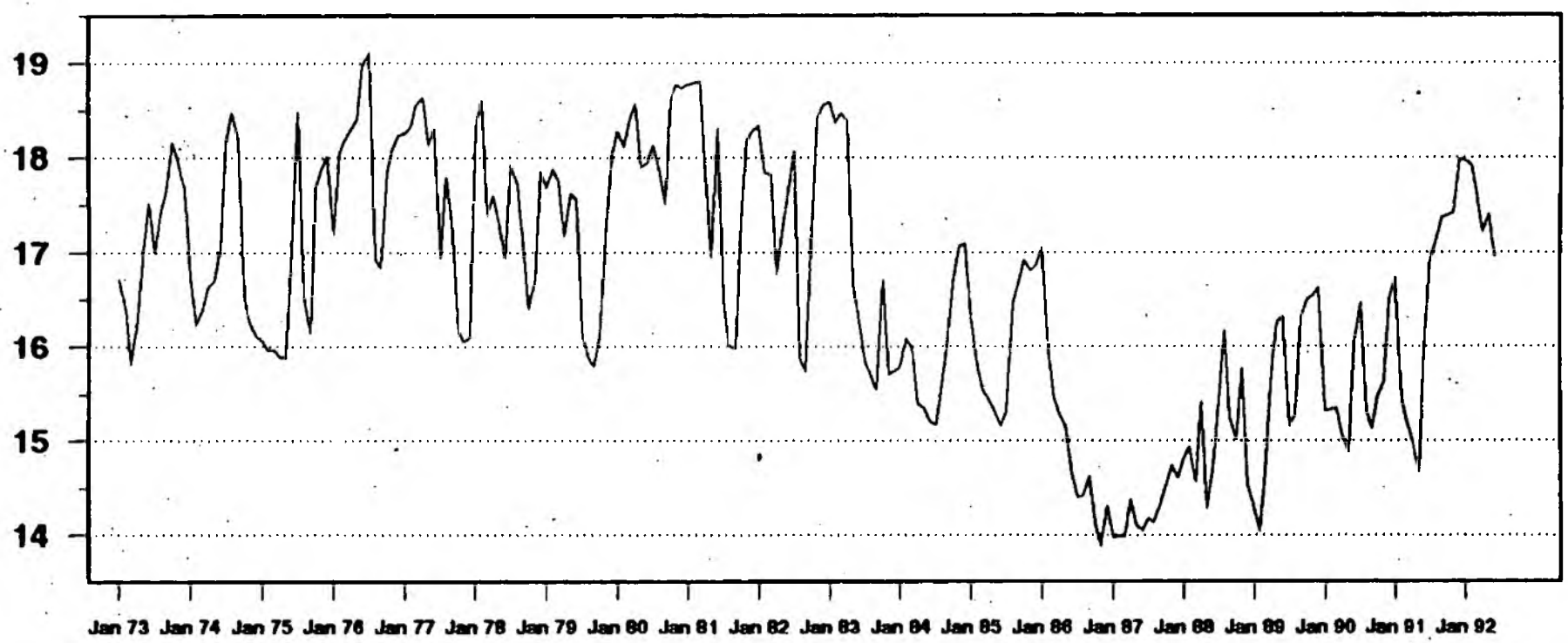


c:\grdwater\data\Harpgrp.wk3

Dotton No.6

measured Groundwater Levels

1973-1992



Dotton No.6

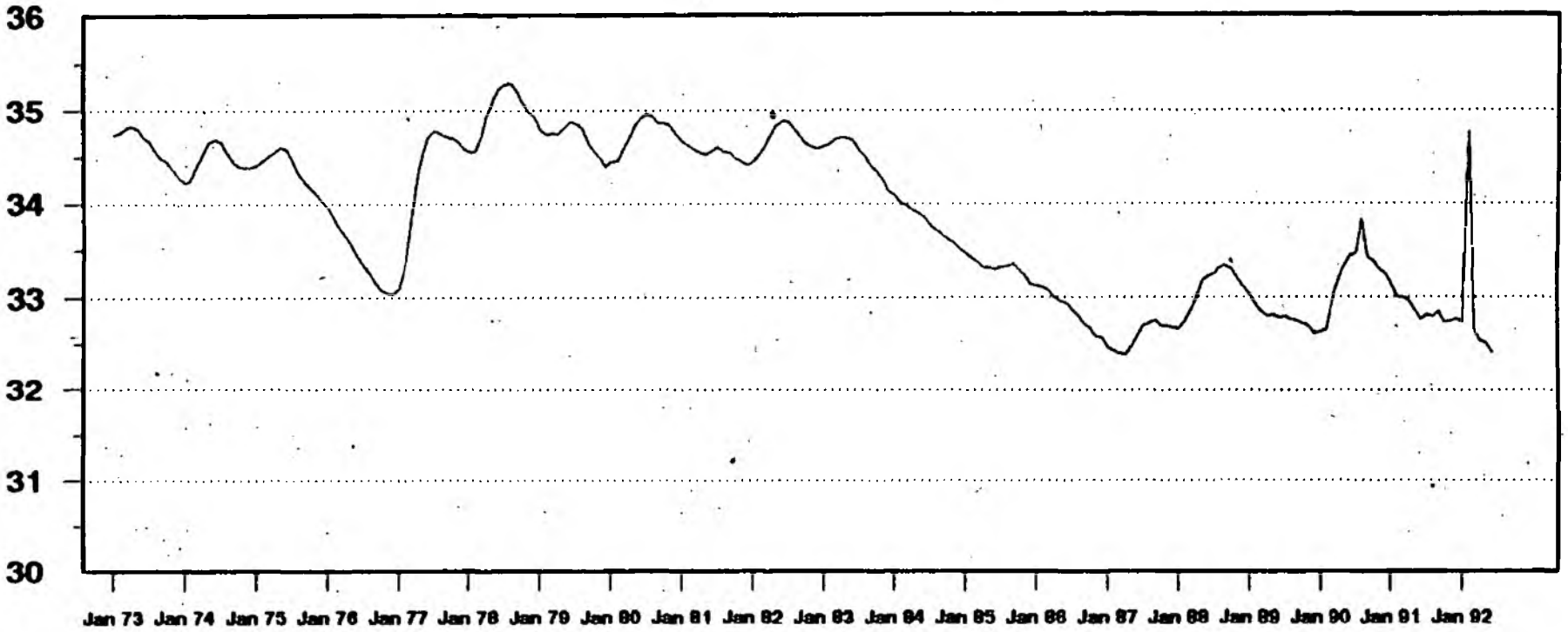
c:\grdwater\data\Dottgrp.wk3

Burrow

measured Groundwater Levels

1973-1992

Groundwater Level - m.a.o.d



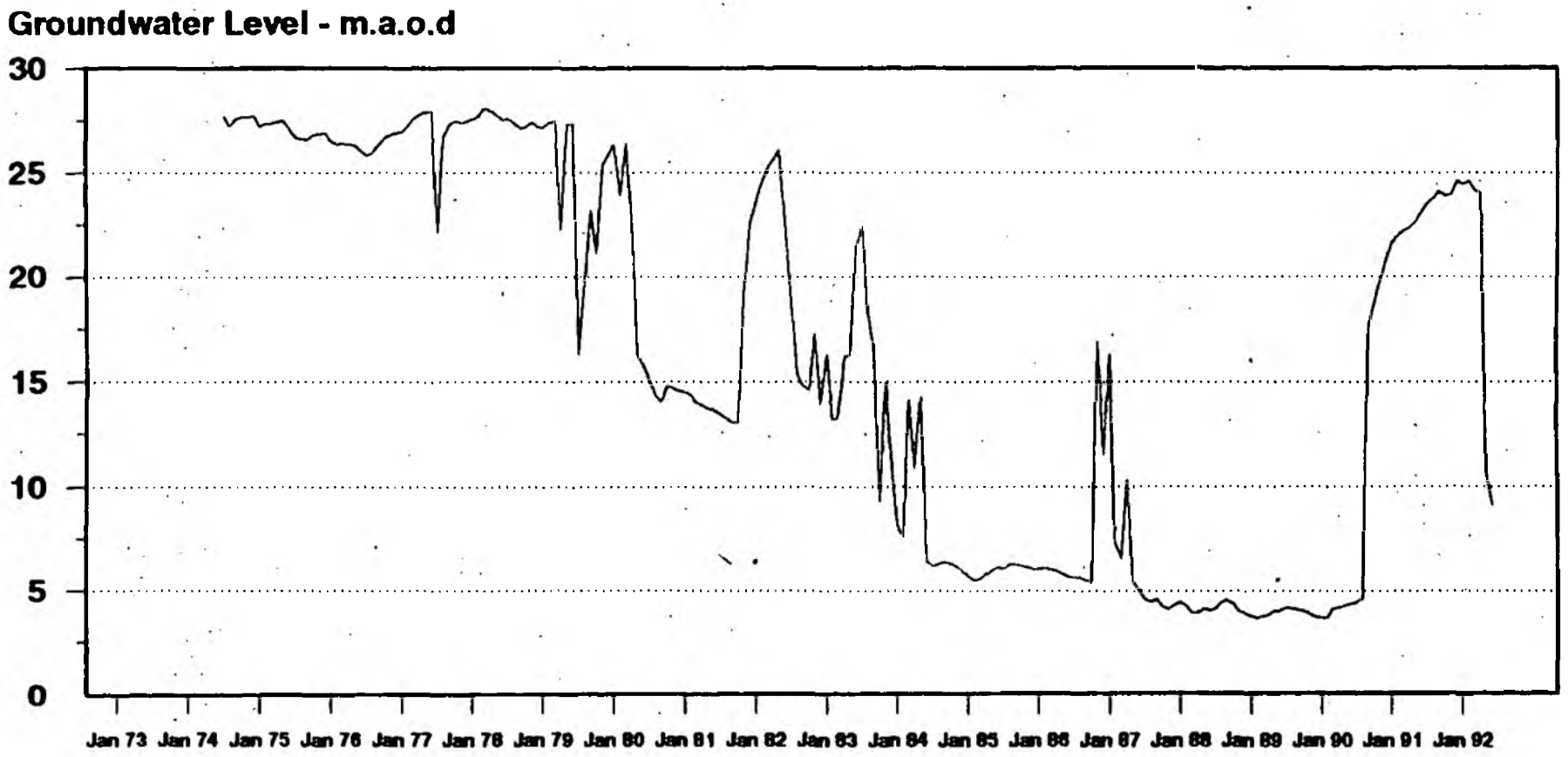
Month

Burrow

c:\grdwater\data\Harpgrp.wk3

Colaton Raleigh 4A

measured Groundwater Levels

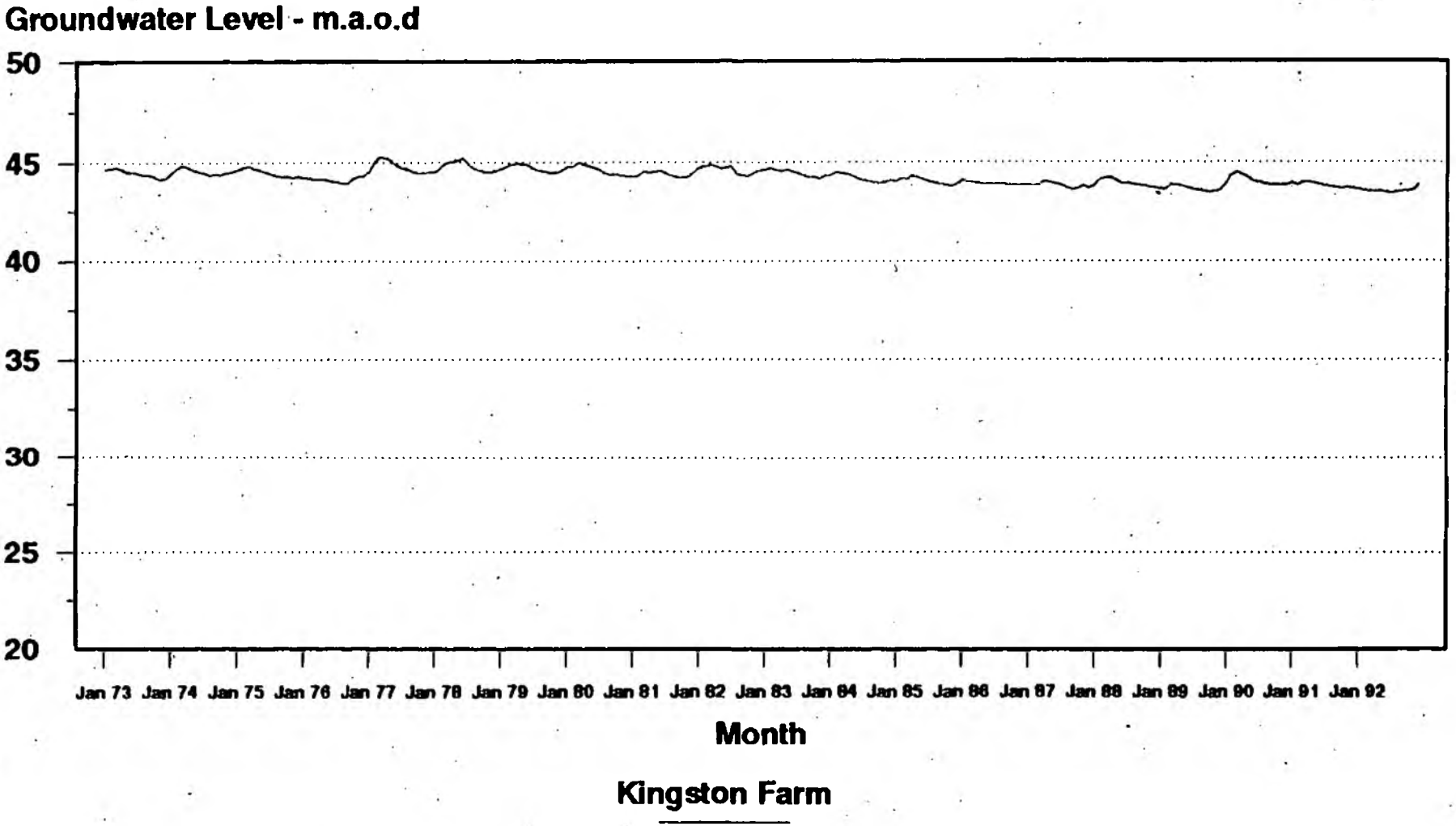


Colaton Raleigh 4a

c:\grdwater\crgroup.wk3

Kingston Farm

measured Groundwater Levels



Kingston Farm

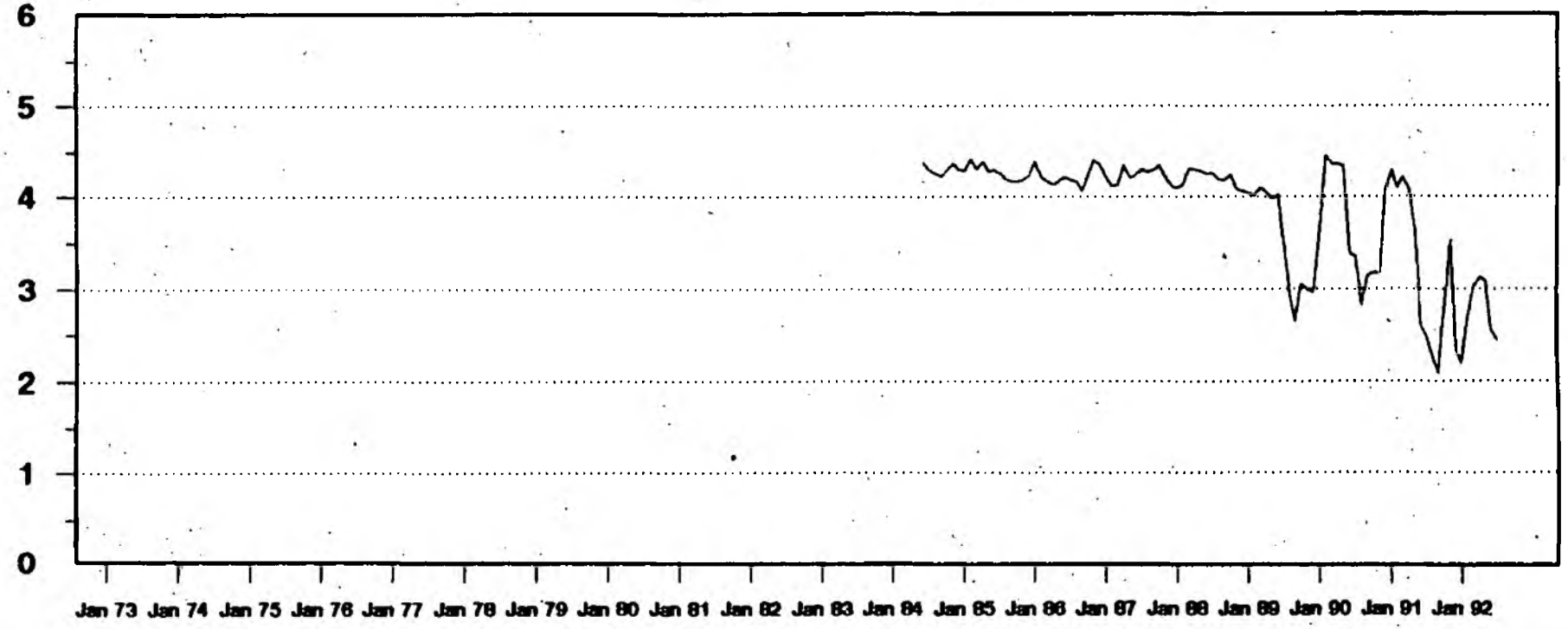
c:\grdwater\crgroup.wk3

East Budleigh

measured Groundwater Levels

1973-1992

Groundwater Level - m.a.o.d



Month

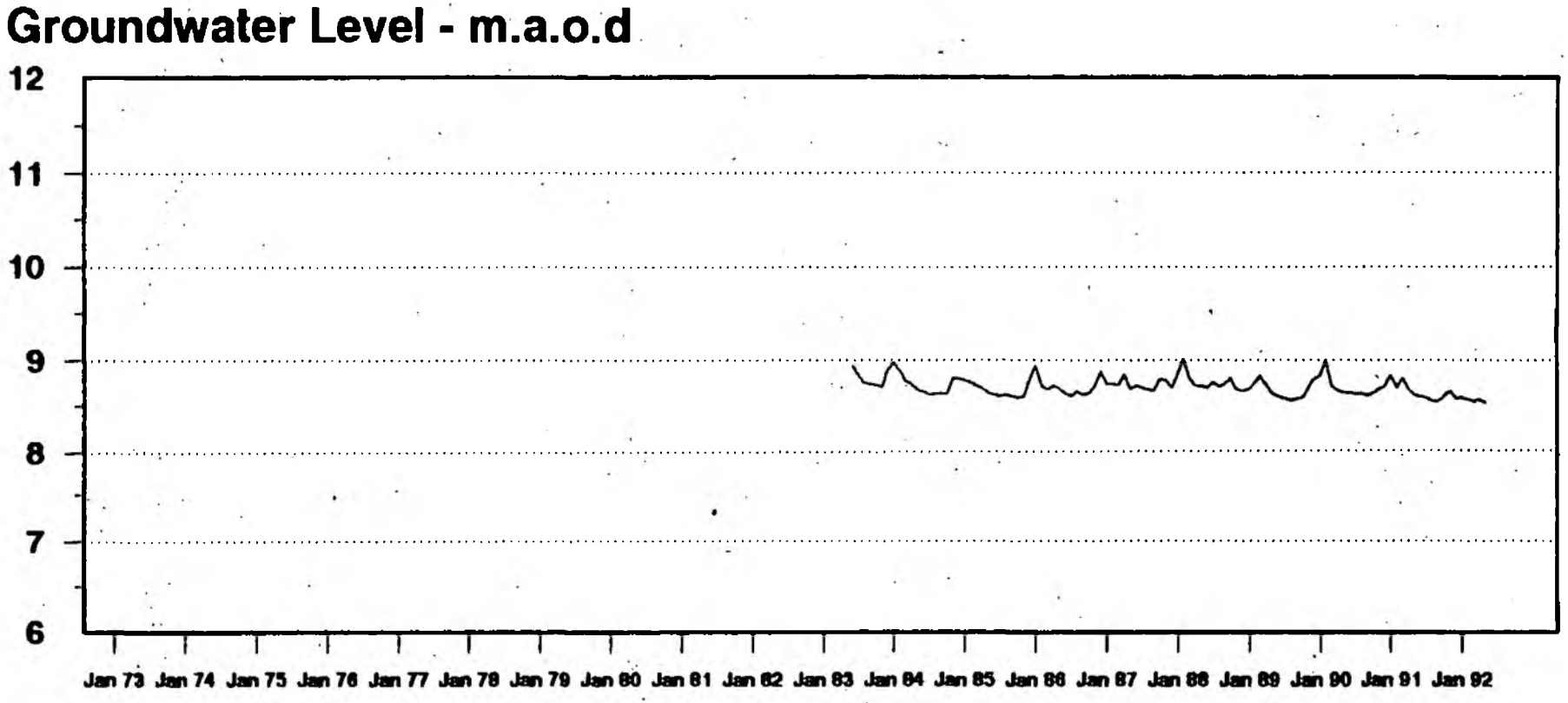
East Budleigh

c:\grdwater\data\ottgrp.wk3

Otterton 2

measured Groundwater Levels

1973-1992



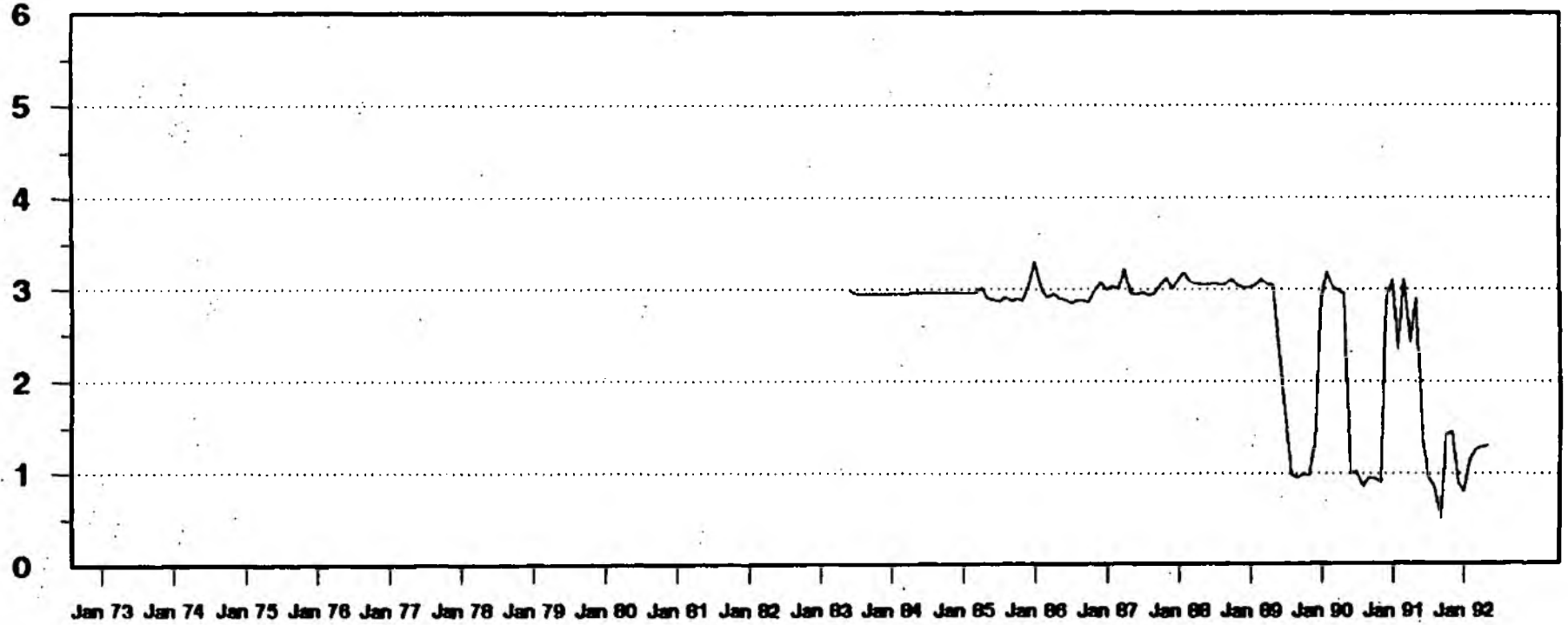
c:\grdwater\data\ottgrp.wk3

Otterton 4

measured Groundwater Levels

1973-1992

Groundwater Level - m.a.o.d



Month

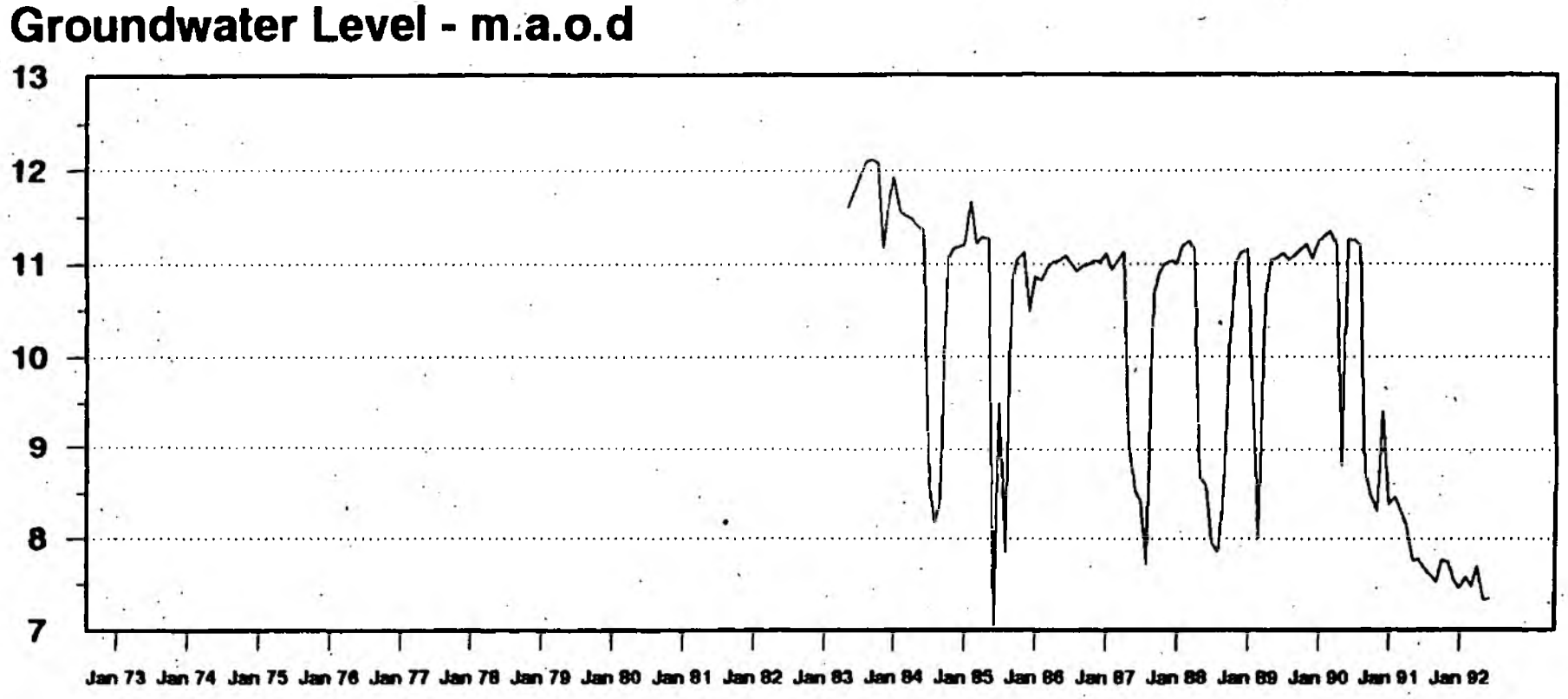
Otterton 4

c:\grdwater\data\ottgrp.wk3

Kersbrook 1a

measured Groundwater Levels

1973-1992



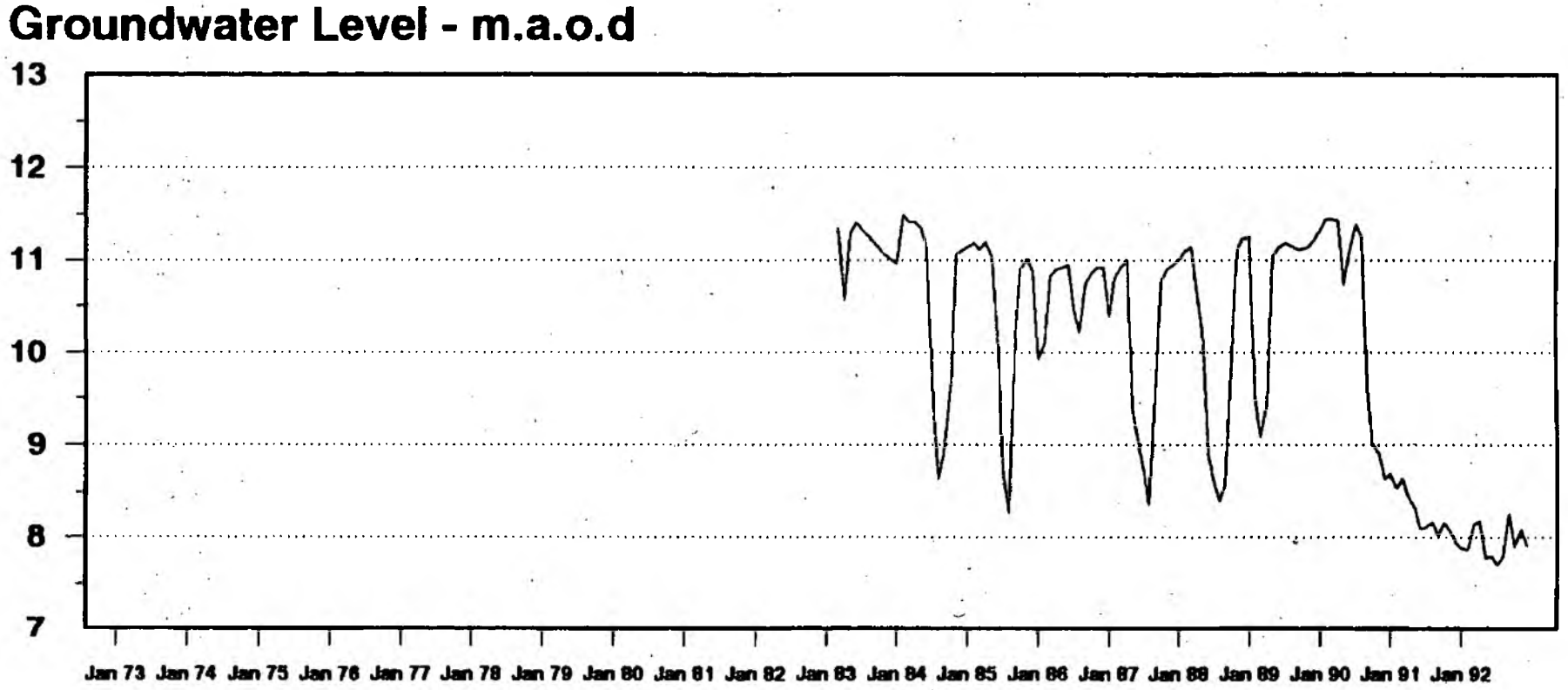
Kersbrook 1a

c:\grdwater\data\Tidgrp.wk3

Kersbrook 1b

measured Groundwater Levels

1973-1992



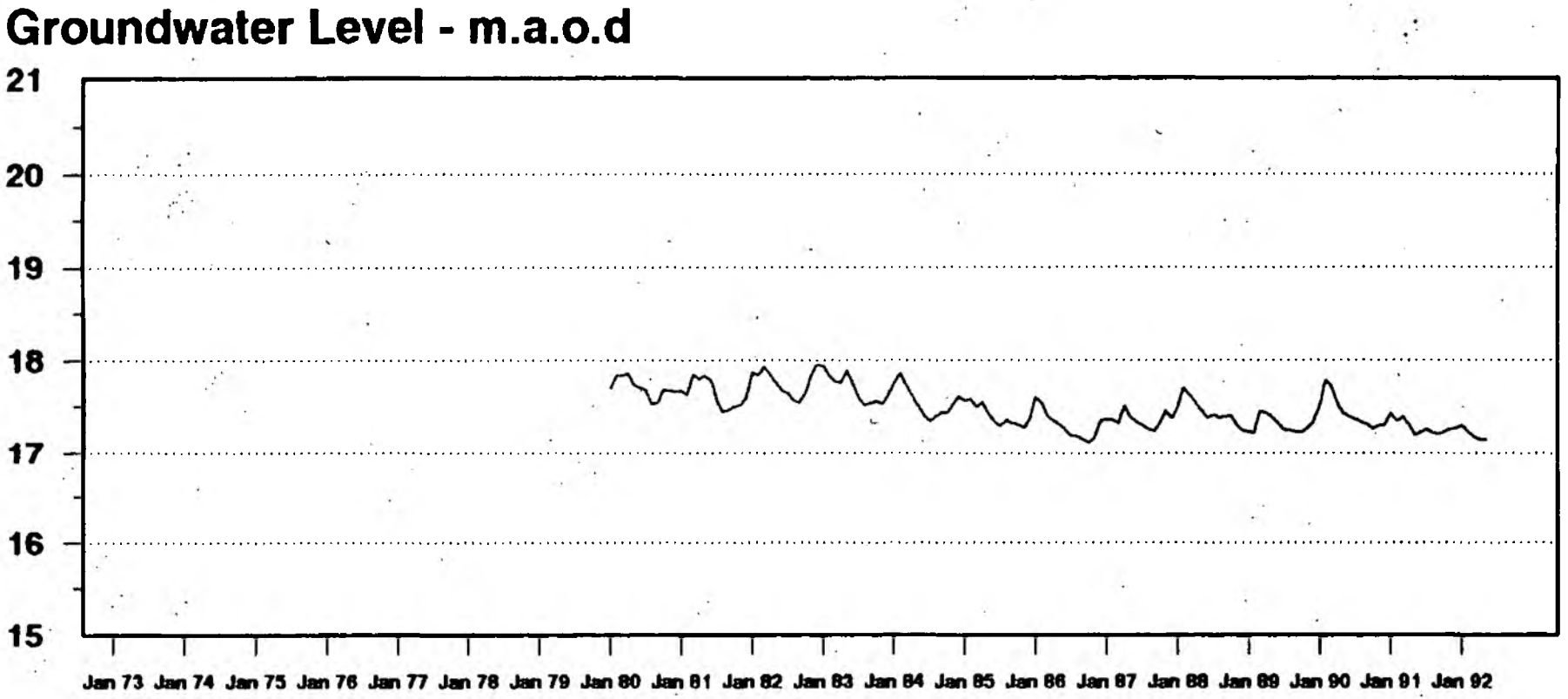
Kersbrook 1b

c:\grdwater\data\Tidgrp.wk3

Houghton Farm 2

measured Groundwater Levels

1973-1992



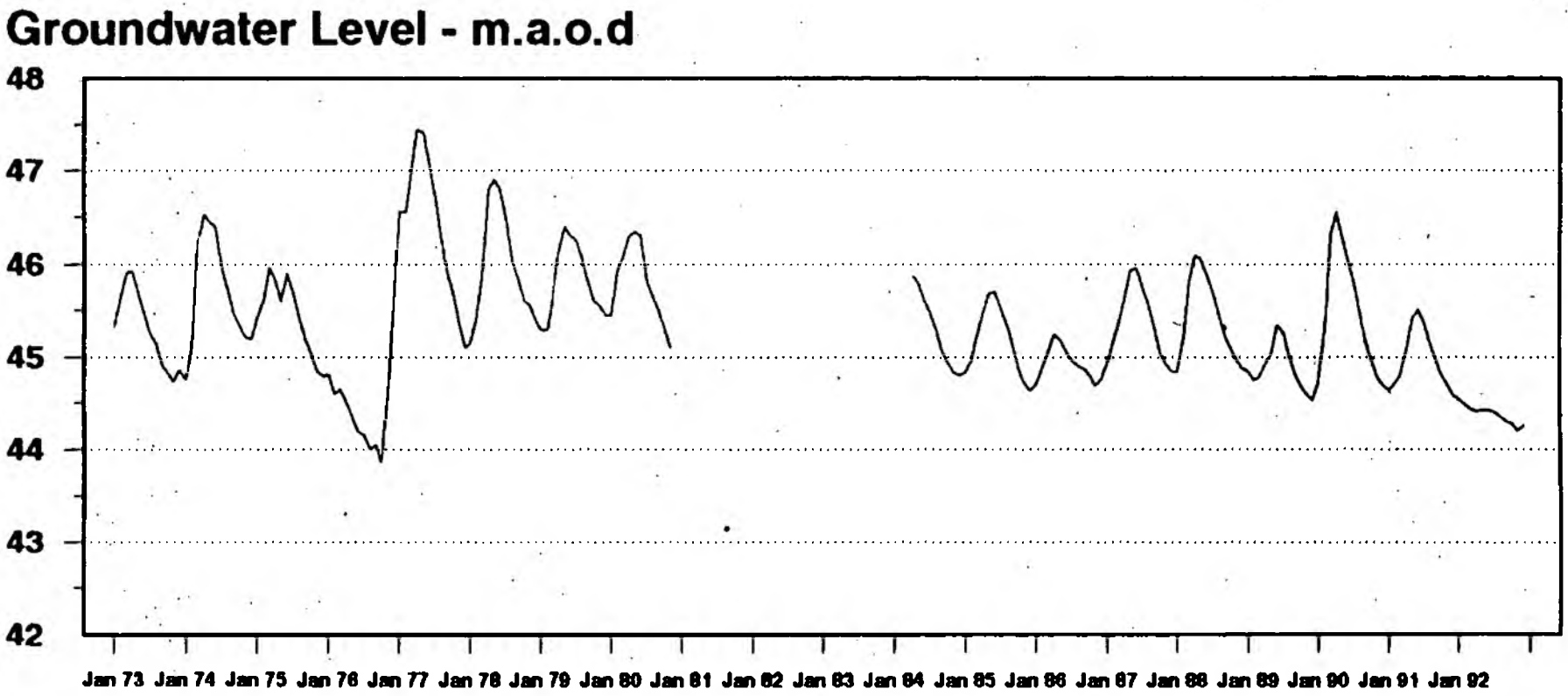
Houghton Farm 2

c:\grdwater\data\extra.wk3

Salston Cottages

measured Groundwater Levels

1973-1992



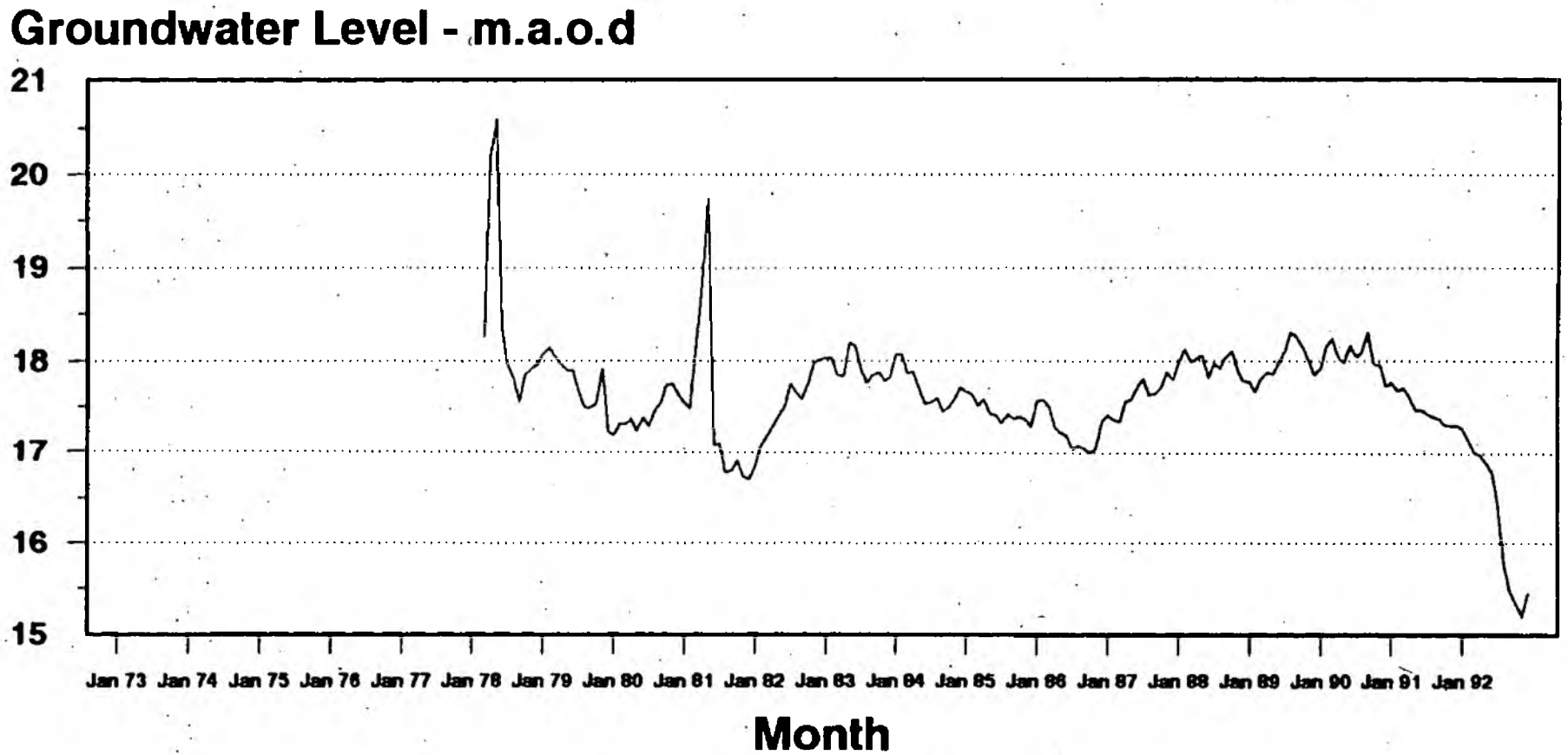
Salston Cottages

c:\grdwater\data\extra.wk3

Harpford 9a

measured Groundwater Levels

1973-1992



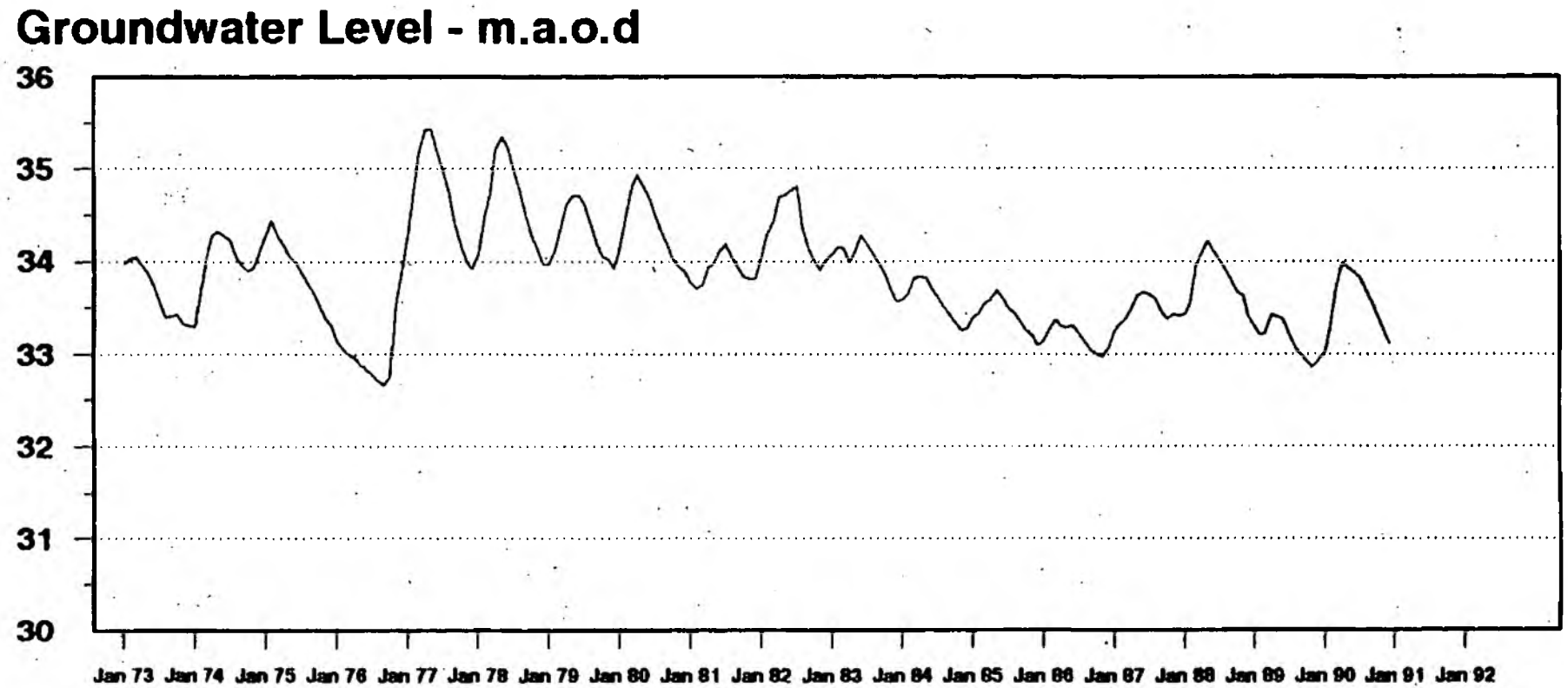
Harpford 9a

c:\grdwater\data\extra.wk3

Lancercombe

measured Groundwater Levels

1973-1992

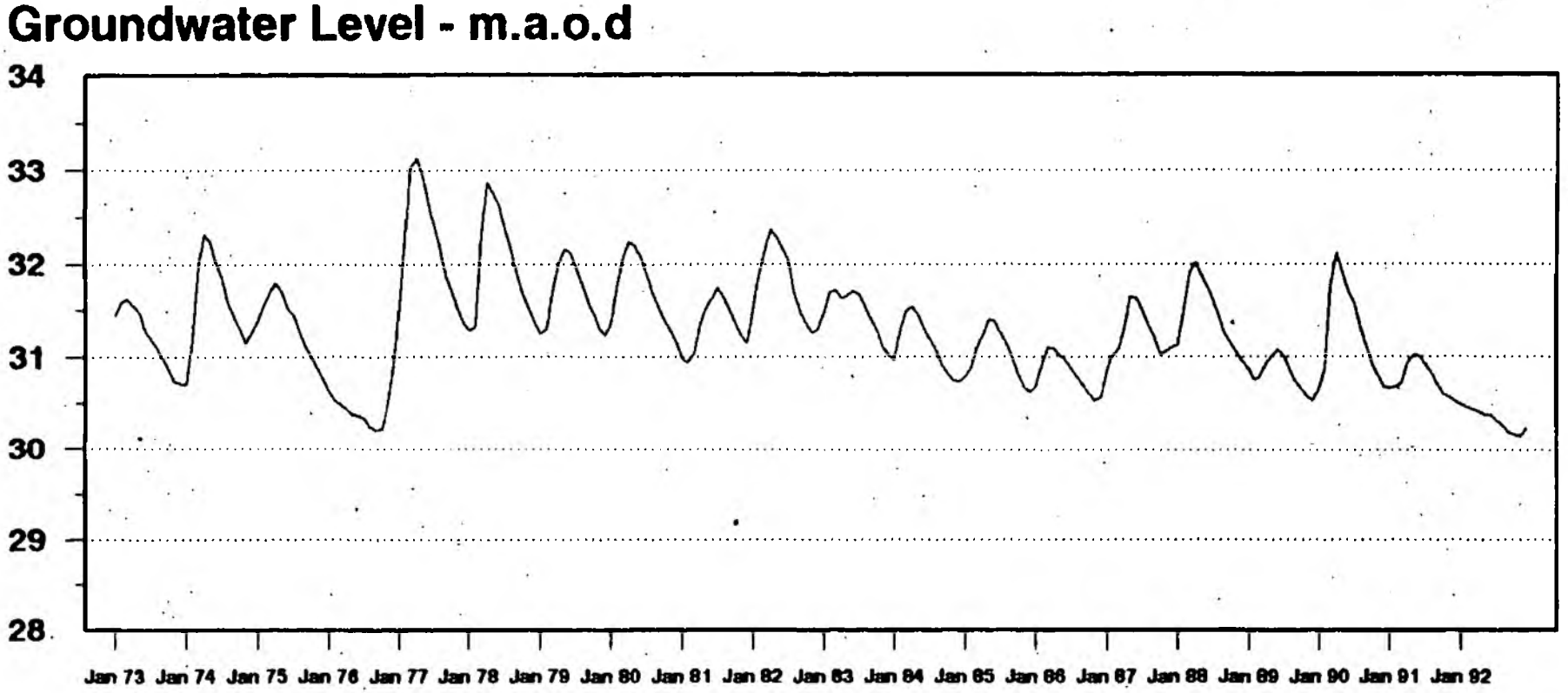


c:\grdwater\data\extra.wk3

Woodleys No.1

measured Groundwater Levels

1973-1992



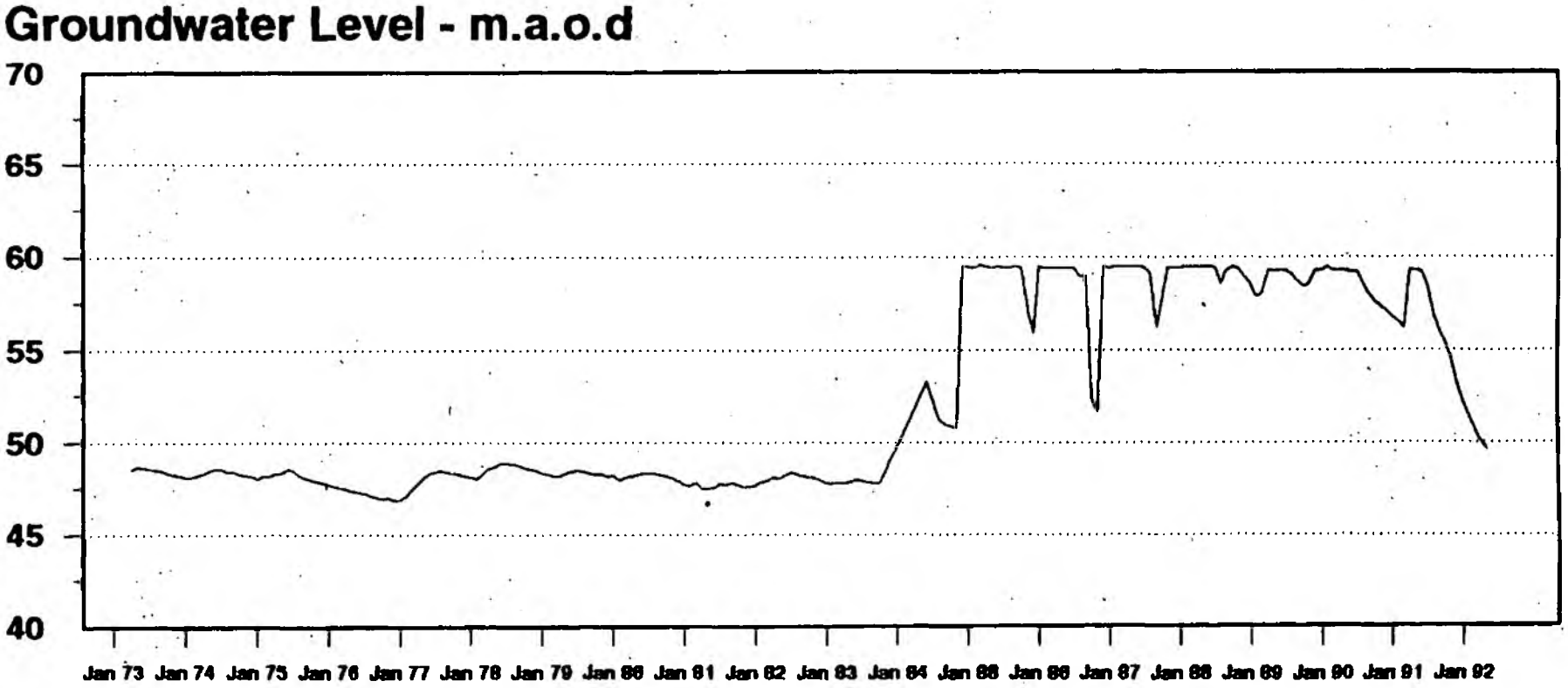
Woodleys No. 1

c:\grdwater\data\extra.wk3

Greatwell 8

measured Groundwater Levels

1973-1992



c:\grdwater\data\greatgrp.wk3

APPENDIX F
Notes of Hydrology Methodology

COMMENTS ON METHODOLOGY FOR PRODUCTION OF NRA OTTER ABSTRACTION ORIGINAL DATA SET, FROM WHICH TABLES ARE ULTIMATELY TO BE DERIVED TO BE INCLUDED IN THE W.S. ATKINS REPORT.

Background.

The following comments relate to the methods used by NRA staff to produce initial manual tables of data relating to abstractions (actual and authorised) within the Otter catchment, covering a period 1972-1992 inclusive. It should be noted that these manual tables do also contain daily authorised data, but this was not used in production of original data sets for use in the Otter Report. The manual 'original data set' was summated into 'groupings' as indicated below, and input to a computer file 'original data set'. From this a 'rounded original data set' was produced, and the required report table output driven off this.

General Points

* Basic print out obtained listing all licences which were current at some stage during the period 1972 - 1992 incl.
* Licences were split by being surface water or ground water.
* Licensed purposes at their lowest individual level were listed by year.
* Licenced purposes were identified as falling in one of two categories: being greater than 100m3/day, or less than or equal to 100m3/day authorised rate.
* Reach catchments were identified by using Helen's Grid references for reaches, and constructing catchments draining to those points. The standard technique for defining the catchment as at 90' to the contour lines was used.
* Each licence on the basic print out was identified as falling within a specific reach catchment. For purposes of initial divisions, the full sets of reaches A-J were used. Separate notation was used to cater for the 'Rob Brown reaches' which were given a suffix 1 (eg B1, D1) and Squabmoor (SQ). Reach J was internally renamed F2 ie the Kersbrook catchment, and the label F3 attached to the area of the left hand bank of the River Otter below the lower point defining reach F.
* Licensed purposes were grouped as:-
SWU - statutory water undertaking
Non -SWU - agriculture (agr), private domestic (pws), industrial processing (inp), spray irrigation (spa and spo).
Non Consumptive - leats (lea, pws z), domestic amenity (pws y, pws z), pisciculture (agr p, pws p), hydropower (agr w, pws w, inp w), industrial cooling (inc).
* A futher grouping of SWU licences was agreed as follows:-
Otterhead; St Cyres; Greatwell 1,2,3,4B,5; Harpford 5,6,7,8,9; Dotton 4,5; Dotton 1,2,3,7; Colaton Raleigh 2,4; Otterton 1A,4.
* Reaches were grouped such that reaches G and H were included with E; reaches I, F2, F3 [redacted] were included with F. Any reach with a suffix was included within the same lettered reach ie B1 went with B, D1 went with D and F1 went with F.

* Abstraction data for reaches F2 and F3 were included within the original data set as follows:-
Included data for both groundwater and surface water licences in F2 and groundwater only in the F3 catchment, where aquifer drainage would be preferentially towards the R Otter, not the coast.
~~In the BQ catchments, only the Squabmoor and Tettington plc licences were included.~~
* The whole data set of licences has been used to produce the 'original data set' from which the report tables can be compiled. This includes the previous subset used by Atkins (ie > 100m3/day and some odd spray licences which made returns), but also now includes all licensed abstractions which operated at any time within the 21 year time frame.
* The original data set thus holds all licenced purposes sorted by source type, by reach, by purpose grouping, by year, by threshold daily with both authorised and 'actual / guestimated actual' annual quantities.
* Data has been compiled on the basis of annual figures (both authorised and actual), originally in m3, but displayed in Ml and rounded.
* The convention used for rounding in the report tables (3.6.1 and 3.1.1) is to always throw upwards on the 0.5. eg 27.5 becomes 28, 26.5 becomes 27 etc. Note, that this convention was used on the report table production and not on the original data set where in the main whole annual figures are held.
Where decimals did occur in the original data set (eg where 50% of authorised was being guestimated for actual usage), the convention of throwing to the odd on the 0.5 was used. eg 27.5 would become 27. 27.4 becomes 27, 27.6 becomes 28, 26.5 would become 27, 26.4 becomes 26, 26.6 becomes 27. This evens up the data set.
* It should be noted that for ease of report table production, the original data set is held on computer file including decimal places. From this has been derived a 'rounded original data set' and this is used as the 'source file' for the data output to report tables.
* Please see Duncan Waugh with respect to documentation of the conventions used in table production and 'rounding' on computer file especially with respect to means and totals.

Authorised Data

Conventions used:-
* where a quantity attached to a purpose on a licence was changed during a year, either varied up or down, the higher value pertaining for the year was used, irrespective of the period of the year it was operational. This caters for maximum potential impact.
No double counting of such purposes was allowed.
* where a code altered because of administrative changes in coding eg in 1984 when all SPA & SPO codes were changed to sub code J from J or K, and to L from L and M, and LEA codes became INF, PWS or AGR with subcodes as appropriate, only one value has been be counted for the year, the codes are in fact a continuum and do not reflect a valid change to the licence quantities.
* where licences are operated in conjunction with an aggregate authorised quantity on the annual figure 50% of the aggregate annual value was attached to each licence, unless a different split was actually indicated in the licence file, in which case the actual proportion split was used.

* where a licence indicated in its additional information that a hydram was / is used, and where this use was / is not separately identified within the purposes information and no further clarification was available from the licence file, a value equivalent to the metricated daily gallonage indicated and multiplied by 365 was included in non-consumptive category, with a start date as for the earliest purpose on the licence. If further information was found on the licence file this was used to derive the correct annual figure for hydram use.
* where a licence was closed down and opened up in another guise under a different number (most particularly the SWU licences in 1984 where licence groupings were changed), a 'continuum approach' was adopted, with again the highest value for the year being quoted derived from all of the individual licences involved. It should be noted that these licences 'dovetailed' with each other and did not overlap in any way, thus allowing this approach to be valid. This avoids double accounting.
* where a number of licences were cancelled and the sources and uses transferred onto one of the licences as an administrative convenience, the result is an apparent variation up of the one licence. Provided that dates 'dovetailed' and where it was obvious that this was going on, single accounting took place, and again a 'continuum' approach adopted. If there was any doubt, each licence was accounted for separately to present a 'worst case' situation.

'Actual Abstraction and Guestimated Data'.

* Real returns data was used for all SWU, and SPA SPO licences where it was held.
* Where data could not be read off the print from the micro fiche returns, the original fiche was again viewed and figures on the copies clarified. Weekly and monthly totals on returns were checked and if necessary, retotalled to ensure correct annual figures were input.
* Where the SWU / SPA/O data set contained actual missing months or missing years, (as opposed to valid nil returns) the data was infilled by proportioning from the nearest other returns for the year / month in question based on relative performances of the licences over time. In the absence of such information, an educated 'guess' was made.
* For spray irrigation licences which did not make returns, a percentage consumption for each reach for each source type for each year was derived, from those licences which had made returns. This percentage was used to multiply the annual authorised value for licences where no return was made, to obtain a guestimated value.
* If no licences with returns existed for the reach and source type, the other source type for the reach was used.
* If no licences with returns existed at all for the reach the overall catchment percentage of use for that year was used as a multiplier for the annual authorised value for the licence in question.
* the actual and guestimated values for spray irrigation were totalled for each source type, reach, < or < 100m3/day, and year.
* For agricultural, industrial processing and private domestic uses the principle of a 50% of authorised annual value was used.
* All the agricultural, domestic, industrial and spray values were then totalled by category to give the non-swu figures.
* Non consumptives were not included within the exercise to produce 'actual' abstraction data.

* The 'actual' data set is thus a 'best estimate' amalgam of actual and guestimated consumptions.
* All Otterhead data returns (01/0002) have been verified and agreed with Wessex Water (16.12.93) in view of confusion surrounding this data set.

Other Matters.

* It should be noted that non-consumptive licences do not just include leats. There is often a presumption that they are synonymous.
* Spot checks have been made to check that figures have been correctly transcribed from print - out or paper , fiche or other records correctly.
* The above explanations are not necessarily phrased for direct transcription to the report as they address the methodology behind the collation of data for the original data set, which spawned the rounded original data set from which report tables are derived. They are also couched in 'my style' for NRA and Atkins use and information. If text is required within a specific context, I would be happy to comment to Atkins on whether any 'interpretation' of my comments is factually correct.
* There should be a standard NRA disclaimer regarding the accuracy of actual returns data, which should appear on all the tables where actual returns data has been used, and reference made in text.
I attach a copy of a form of words which currently appears in the appropriate Authority PIN (note, NOT a public document) and in a draft internal document regarding disclosure of information which is currently undergoing HQ legal section audit prior to formal internal adoption.
* In view of the highly 'grouped' nature of the current data presentation, unless report text makes specific reference to non-SWU actual abstractions by individual licence, I see no need to contact individual abstractors to seek permission for release of data. Wessex and South West Water are aware of the report and have raised no objections that I am aware of.
* If there are any other matters that are not clear from this description or are missed out, please let me know.

S Greenfield.
Water Abstraction Officer.

ref - otteratkinsprotocol20.12.93

NRA SOUTH WESTERN WATER RESOURCES PLANNER'S NOTE FOR FILE

CHANGES IN LICENSED VOLUMES ASSOCIATED WITH SWWSL OTTERTON LICENCE - 23.5.91

The following table summarises the changes in licensed volumes which occurred on 23.5.91 when the Otterton boreholes licence (01/0544) was issued and as a result of contemporaneous variations to the Harpford boreholes licence (01/0518) and the Dotton 4 & 5 boreholes licence (01/0520).

The Otterton borehole licence and the related variations are time limited for five years. When they expire on 23.5.96 the position will revert to the situation which existed immediately prior to granting the Otterton licence.

Table 1 : Changes in Licenced Volumes resulting from the Otterton Licence

Source Group	Licence No.	Former Max. Volumes Daily	Former Max. Volumes Annual	Current Max. Volumes Daily	Current Max. Volumes Annual
Otterton B/hs	01/0544	-	-	6.0/7.0*	2313
Dotton B/hs 4 & 5	01/0520	6.0	1592	2.5	230
Harpford B/hs	01/0518	7.6	2774	4.7	1716
	Totals	**13.6**	**4366**	**13.2/14.2***	**4259**

Ancillary Notes

1. (See * above) - The daily maximum abstraction rate for the Otterton boreholes is 7.0 Ml/d during May, June, July and August, 6.0 Ml/d during the rest of the year.

2. A further condition requires abstraction to cease if the groundwater level at a particular saline monitoring borehole falls below a prescribed level related to Ordnance Datum. This ensures that the aquifer is protected from saline intrusion.

3. The variations associated with the Dotton/Harpford licences transferred licenced resources down-catchment and slightly reduced the total annual volume which is authorised to be abstracted.

4. Groundwater modelling studies showed that:
   * the transfer of resources down-catchment benefits flows in the reach between Tipton St. John and Otterton, and
   * the cumulative impact adjacent to and downstream of the Otterton boreholes would not be increased. (The Otterton borehole sources partly intercept groundwater flowing direct to the coast, so abstraction from them also has less overall impact on river flow in the Otter than the equivalent abstraction taken from the Dotton/Harpford boreholes).

   These changes resulted in an element of environmental gain from this scheme.

7		4			0			0	ERR	ERR	
8		Total SWU	2208091	0	2208091	1281224	0	1281224	100	100	
9	Non - consumptive uses		64240	4368471	4432681	0	0	0	1 462519	0	
10	Total SWU + Total Non - SWU		2380208	28049	2408257	1366973	5495	1372468	98 79428	99 59563	
11	Non - SWU > =100m3/d + total SWU		2208091	17909	2226000	1281224	0	1281224	99 19546	100	
12	SWU + Non - SWU + Non Con uses		2444448	4387470	6831918	1366973	5495	1372468	35 77982	99 59963	
Reaches A - D											
13 D	Total NON - SWU		520119	67572	587691	258745	23222	282971	86 58935	91 79351	
14	Total SWU		2374000	909091	3283091	1423860	151284	1575144	72 30991	90 39664	
15	Total Non - consumptive uses		462923	4764656	5227821	0	0	0	8 864989	ERR	
16	Total NON - SWU + Total SWU		2894119	996663	3890782	1683609	174506	1858115	74 38399	90 60844	
17	NON - SWU > =100m3/d + Total SWU		2374000	965182	3356182	1423860	169011	1592871	70 67197	89 39994	
18	NON - SWU + SWU + Non Con uses		3357042	5761561	9118603	1683609	174506	1858115	36 81531	90 60844	

YEAR 1972

Row	Reach		Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contoured by groundwater to Auth	Actual
1	E	NON - SWU < 100 m3/d	72681		72681	36999		36999	100	100
2		> = 100m3/d			0			0	ERR	ERR
3		Total NON - SWU	72681	0	72681	36999	0	36999	100	100
4		SWU 1 Hamptore Group	2392909		2392909	1762321		1762321	100	100
5		2 Dotton Group	1592836		1592836	945686		945686	100	100
6		3			0			0	ERR	ERR
7		4			0			0	ERR	ERR
8		Total SWU	3985745	0	3985745	2708007	0	2708007	100	100
9	Non - consumptive uses		14344	18409091	18423435	0	0	0	0 077867	0
10	Total SWU + Total Non - SWU		4058426	0	4058426	2744006	0	2744006	100	100
11	Non - SWU > =100m3/d + total SWU		3985745	0	3985745	2708007	0	2708007	100	100
12	SWU + Non - SWU + Non Con uses		4072770	18409091	22481861	2744006	0	2744006	18 1158	100
Reaches A - E										
13	E	Total NON - SWU	592600	67572	660372	295746	23222	318970	87 12881	92 71969
14		Total SWU	6369745	909091	7278836	4131867	151284	4283151	87 48331	96 46793
15		Total Non - consumptive uses	477267	23173989	23651256	0	0	0	2 017635	ERR
16		Total NON - SWU + Total SWU	6962345	976663	7939008	4427615	174506	4602121	87 40111	96 20814
17		NON - SWU > =100m3/d + Total SWU	6369745	965182	7344927	4131867	169011	4300878	86 58691	96 07031
18		NON - SWU + SWU + Non Con uses	7429812	24170652	31600464	4427615	174506	4602121	23 51172	96 20814

YEAR 1972

Row	Reach		Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contoured by groundwater to Auth	Actual
1	F	NON - SWU < 100 m3/d	53528	1742	55270	26347	825	27172	98 6482	98 96379
2		> = 100m3/d		22727	22727		22573	22573	0	0
3		Total NON - SWU	53528	24469	77997	26347	23398	49745	68 62826	52 98412
4		SWU 1 Dotton 1 - 3,7	3318182		3318182	1932666		1932666	100	100
5		2 Dotton Rel 2,4	0		0			0	ERR	ERR
6		3 Criterior	0		0			0	ERR	ERR
7		4 Kerbrook/Tolwell	795455	597273	1392728	684004	868043	1552052	57 11489	37 62786
8		Total SWU	4113637	597273	4710910	2518669	968048	3486717	87 32149	72 22178
9	Non - consumptive uses		0	43182	43182	0	0	0	0	0
10	Total SWU + Total Non - SWU		4167165	621742	4788907	2543215	991446	3534662	87 01704	71 95076
11	Non - SWU > =100m3/d + total SWU		4113637	620000	4733637	2518669	990621	3507490	86 90225	71 75696
12	SWU + Non - SWU + Non Con uses		4167165	644924	4832089	2543215	991446	3534662	86 27641	71 95076
Reaches A - F										
13	F	Total NON - SWU	646326	112041	758368	322095	46620	368715	86 22606	87 35805
14		Total SWU	10473382	1506364	11979746	6648738	1319330	7788068	87 42574	85 5906
15		Total Non - consumptive uses	477267	23211171	23694438	0	0	0	2 014258	ERR
16		Total NON - SWU + Total SWU	11119710	1618405	12738115	6970631	1165952	8136583	87 26478	86 6706
17		NON - SWU > =100m3/d + Total SWU	10473382	1605182	12078564	6648736	1159830	7808566	86 71049	86 14886
18		NON - SWU + SWU + Non Con uses	11569977	24836676	36432563	6970631	1165952	8136583	31 85136	86 6706

YEAR 1972

Row	Reach			Total Authorised GW	Total Authorised SW	Total net Actual GW	Total net Actual SW	Total net Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	A	NON - SWU	<100 m3/d	10384		10384	6192	6192	100	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	10384	0	10384	6192	0 6192	100	100
4		SWU	1 Oberhead		909091	909091		151284 151284	0	0
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	0	909091	909091	0	151284 151284	0	0
9		Non - consumptive uses		3139		3139	0	0	100	0
10		Total SWU + Total Non - SWU		10384	909091	919475	6192	151284 156476	1.12934	3.318081
11		Non - SWU> =100m3/d + total SWU		0	909091	909091	0	151284 151284	0	0
12		SWU + Non - SWU + Non Con uses		13523	909091	922614	6192	151284 156476	1.465727	3.318081
	Reaches A									
13	A	Total NON - SWU		10384	0	10384	6192	0 6192	100	100
14		Total SWU		0	909091	909091	0	151284 151284	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0 0	100	ERR
16		Total NON - SWU + Total SWU		10384	909091	919475	6192	151284 156476	1.12934	3.318081
17		NON - SWU> =100m3/d + Total SWU		0	909091	909091	0	151284 151284	0	0
18		NON - SWU + SWU + Non Con uses		13523	909091	922614	6192	151284 156476	1.465727	3.318081

YEAR 1972

Row	Reach			Total Authorised GW	Total Authorised SW	Total net Actual GW	Total net Actual SW	Total net Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	B	NON - SWU	<100 m3/d	227804		227804	113902	113902	100	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	227804	0	227804	113902	0 113902	100	100
4		SWU	1 St Cyres Spring	165809		165809	142636	142636	100	100
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	165809	0	165809	142636	0 142636	100	100
9		Non - consumptive uses		337327		337327	0	0 0	100	0
10		Total SWU + Total Non - SWU		393713	0	393713	256638	0 256638	100	100
11		Non - SWU> =100m3/d + total SWU		165809	0	165809	142636	0 142636	100	100
12		SWU + Non - SWU + Non Con uses		731940	0	731940	256638	0 256638	100	100
	Reaches A - B									
13	B	Total NON - SWU		238188	0	238188	119894	0 119894	100	100
14		Total SWU		165809	909091	1075000	142636	151284 293920	15.4334	48.52886
15		Total Non - consumptive uses		340466	0	340466	0	0 0	100	ERR
16		Total NON - SWU + Total SWU		404097	909091	1313188	261730	151284 413014	30.77221	63.37073
17		NON - SWU> =100m3/d + Total SWU		165809	909091	1075000	142636	151284 293920	15.4334	48.52886
18		NON - SWU + SWU + Non Con uses		744563	909091	1653654	261730	151284 413014	46.02532	63.37073

YEAR 1972

Row	Reach			Total Authorised GW	Total Authorised SW	Total net Actual GW	Total net Actual SW	Total net Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	C	NON - SWU	<100 m3/d	109814	341	110155	54906	0 54906	99.69044	100
2			>=100m3/d		58182	58182		17727 17727	0	0
3			Total NON - SWU	109814	58523	168337	54906	17727 72633	65.23462	75.59374
4		SWU	1			0		0	ERR	ERR
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	0	0	0	0	0 0	ERR	ERR
9		Non - consumptive uses		58217	406477	464694	0	0 0	12.52803	0
10		Total SWU + Total Non - SWU		109814	58523	168337	54906	17727 72633	65.23462	75.59374
11		Non - SWU> =100m3/d + total SWU		0	58182	58182	0	17727 17727	0	0
12		SWU + Non - SWU + Non Con uses		168031	465000	633031	54906	17727 72633	26.94366	75.59374
	Reaches A - C									
13	C	Total NON - SWU		348092	58523	406615	174400	17727 192127	86.80429	90.75434
14		Total SWU		165809	909091	1075000	142636	151284 293920	15.4334	48.52886
15		Total Non - consumptive uses		398683	406477	805160	0	0 0	49.516	ERR
16		Total NON - SWU + Total SWU		513911	967614	1481525	316636	169011 485647	34.62797	65.1988
17		NON - SWU> =100m3/d + Total SWU		165809	967273	1133182	142636	169011 311647	14.64096	45.76845
18		NON - SWU + SWU + Non Con uses		913594	1374091	2286685	316636	169011 485647	39.80804	65.1988

YEAR 1972

Row	Reach			Total Authorised GW	Total Authorised SW	Total net Actual GW	Total net Actual SW	Total net Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	D	NON - SWU	<100 m3/d	172117	11140	183257	85749	5495 91244	93.97111	93.97765
2			>=100m3/d		17909	17909		0 0	0	ERR
3			Total NON - SWU	172117	29049	201166	85749	5495 91244	85.56969	93.97765
4		SWU	1 Greenwell Group	2208091		2208091	1281224	1281224	100	100
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR

YEAR 1973

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	<100 m3/d	10384		10384	6192		6192	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	10384	0	10384	6192	0	6192	100	100
4		SWU	1 Caerhead		909091	909091		68536	68536	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	68536	68536	0	0
9		Non - consumptive uses		3139	0	3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		10384	909091	919475	6192	68536	73728	1.12934	7.842101
11		Non - SWU>=100m3/d + total SWU		0	909091	909091	0	68536	68536	0	0
12		SWU + Non - SWU + Non Con uses		13523	909091	922614	6192	68536	73728	1.465727	7.842101
	Reaches A										
13	A	Total NON - SWU		10384	0	10384	6192	0	6192	100	100
14		Total SWU		0	909091	909091	0	68536	68536	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		10384	909091	919475	6192	68536	73728	1.12934	7.842101
17		NON - SWU>=100m3/d + Total SWU		0	909091	909091	0	68536	68536	0	0
18		NON - SWU + SWU + Non Con uses		13523	909091	922614	6192	68536	73728	1.465727	7.842101

YEAR 1973

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	<100 m3/d	224334		224334	112167		112167	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	224334	0	224334	112167	0	112167	100	100
4		SWU	1 St Cyres Spring	165909		165909	175236		175236	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165909	0	165909	175236	0	175236	100	100
9		Non - consumptive uses		367184	1582727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		390243	0	390243	287402	0	287402	100	100
11		Non - SWU>=100m3/d + total SWU		165909	0	165909	175236	0	175236	100	100
12		SWU + Non - SWU + Non Con uses		757427	1582727	2350154	287402	0	287402	32.22882	100
	Reaches A - B										
13	B	Total NON - SWU		234718	0	234718	117368	0	117368	100	100
14		Total SWU		165909	909091	1075000	175236	68536	243771	15.4334	71.88509
15		Total Non - consumptive uses		370323	1582727	1953050	0	0	0	18.96467	ERR
16		Total NON - SWU + Total SWU		400627	909091	1309718	292604	68536	361130	30.5888	81.02179
17		NON - SWU>=100m3/d + Total SWU		165909	909091	1075000	175236	68536	243771	15.4334	71.88509
18		NON - SWU + SWU + Non Con uses		770950	2501818	3272768	292604	68536	361130	23.55651	81.02179

YEAR 1973

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	<100 m3/d	107456	341	107797	53726	0	53726	99.68367	100
2			>=100m3/d		58182	58182		17727	17727	0	0
3			Total NON - SWU	107456	58523	165979	53726	17727	71453	64.74115	75.19138
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217	406477	464694	0	0	0	12.52803	0
10		Total SWU + Total Non - SWU		107456	58523	165979	53726	17727	71453	64.74115	75.19138
11		Non - SWU>=100m3/d + total SWU		0	58182	58182	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		165675	465000	630675	53726	17727	71453	26.26947	75.19138
	Reaches A - C										
13	C	Total NON - SWU		342174	58522	400699	171087	17727	188814	85.39477	90.6114
14		Total SWU		165909	909091	1075000	175236	68536	243771	15.4334	71.88509
15		Total Non - consumptive uses		428540	1989204	2427744	0	0	0	17.65178	ERR
16		Total NON - SWU + Total SWU		508085	967614	1475699	346322	86263	432585	34.43712	80.05872
17		NON - SWU>=100m3/d + Total SWU		165909	967273	1133182	175236	86263	261499	14.64086	67.01198
18		NON - SWU + SWU + Non Con uses		938625	2966818	3903443	346322	86263	432585	23.99484	80.05872

YEAR 1973

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	<100 m3/d	145014	3026	148040	74043	1456	75499	97.95596	98.0715
2			>=100m3/d		17909	17909		900	900	0	0
3			Total NON - SWU	145014	20935	165949	74043	2356	76399	87.38468	96.91619
4		SWU	1 Greatwell Group	2208091		2208091	1517868		1517868	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	2208091	0	2208091	1517868	0	1517868	100	100
9		Non - consumptive uses		64240	4358421	4422661	0	0	0	1.452519	0
10		Total SWU + Total Non - SWU		2353105	20936	2374040	1591911	2356	1594267	99.11817	99.85222
11		Non - SWU>=100m3/d + total SWU		2208091	17909	2226000	1517868	900	1518768	99.19544	99.94074
12		SWU + Non - SWU + Non Con uses		2417345	4379356	6796701	1591911	2356	1594267	35.56645	99.85222
	Reaches A - D										
13	D	Total NON - SWU		487190	79456	566646	245130	20083	265213	85.97754	92.4276
14		Total SWU		2374000	909091	3283091	1693103	68536	1761639	72.30991	96.10963
15		Total Non - consumptive uses		492780	6357625	6850405	0	0	0	7.193443	ERR
16		Total NON - SWU + Total SWU		2861190	988545	3849735	1938233	88619	2026852	74.32166	95.62775
17		NON - SWU>=100m3/d + Total SWU		2374000	995182	3369182	1693103	87163	1780266	70.67197	95.10393
18		NON - SWU + SWU + Non Con uses		3353970	7346174	10700144	1938233	88619	2026852	31.34509	95.62775

YEAR 1973

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	<100 m3/d	68250		68250	33783		33783	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	68250	0	68250	33783	0	33783	100	100
4		SWU	1 Hempford Group	2392909		2392909	1643992		1643992	100	100
5			2 Diston 4,5	1592836		1592836	566931		566931	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3985745	0	3985745	2210923	0	2210923	100	100
9		Non - consumptive uses		14344	18409091	18423435	0	0	0	0.077857	0
10		Total SWU + Total Non - SWU		4053995	0	4053995	2244706	0	2244706	100	100
11		Non - SWU>=100m3/d + total SWU		3985745	0	3985745	2210923	0	2210923	100	100
12		SWU + Non - SWU + Non Con uses		4068339	18409091	22477430	2244706	0	2244706	18.09966	100
	Reaches A - E										
13	E	Total NON - SWU		555440	79458	634898	278913	20083	298996	87.48402	93.28319
14		Total SWU		6359745	909091	7268836	3804026	68536	3872562	87.49331	98.23477
15		Total Non - consumptive uses		507124	24766716	25273840	0	0	0	2.006517	ERR
16		Total NON - SWU + Total SWU		6915185	988545	7903734	4182939	88619	4271558	87.49263	97.92537
17		NON - SWU>=100m3/d + Total SWU		6359745	985182	7344927	3804026	87163	3891189	86.58591	97.81011
18		NON - SWU + SWU + Non Con uses		7422309	25755266	33177574	4182939	88619	4271558	22.37146	97.92537

YEAR 1973

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	<100 m3/d	51869	1742	53611	26350	825	27175	96.75067	96.96412
2			>=100m3/d		22727	22727		3801	3801	0	0
3			Total NON - SWU	51869	24469	76338	26350	4626	30976	67.9485	85.06586
4		SWU	1 Dozon 1 - 3,7	3815456		3815456	2719925		2719925	100	100
5			2 Coaston Rd. 2,4			0			0	ERR	ERR
6			3 Onerton			0			0	ERR	ERR
7			4 Karsbrook/Towell	795456	597273	1392729	554915	314460	869375	57.11486	63.82919
8			Total SWU	4710910	597273	5308183	2774840	314460	3089300	88.74807	89.821
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		4762779	621742	5384521	2801190	319086	3120276	88.45316	89.77379
11		Non - SWU>=100m3/d + total SWU		4710910	620000	5330910	2774840	318261	3093101	88.36972	89.71062
12		SWU + Non - SWU + Non Con uses		4762779	664924	5427703	2801190	319086	3120276	87.74944	89.77379
	Reaches A - F										
13	F	Total NON - SWU		607386	103927	711236	305263	24709	329972	85.38783	92.51179
14		Total SWU		11070656	1506364	12577019	6678866	382996	7061862	88.02265	94.57856
15		Total Non - consumptive uses		507124	24809898	25317022	0	0	0	2.003095	ERR
16		Total NON - SWU + Total SWU		11677964	1610291	13288255	6984129	407705	7391834	87.88186	94.48436
17		NON - SWU>=100m3/d + Total SWU		11070656	1605182	12675837	6678864	405424	7084290	87.33666	94.27714
18		NON - SWU + SWU + Non Con uses		12185088	26420189	38605277	6984129	407705	7391834	31.56327	94.48436

YEAR 1974

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	A	NON - SWU	<100 m3/d	7782		7782	3891		3891	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7782	0	7782	3891	0	3891	100	100
4		SWU	1 [illegible]		909091	909091		47734	47734	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	47734	47734	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7782	909091	916873	3891	47734	51625	0.848754	7.537046
11		Non - SWU>=100m3/d + total SWU		0	909091	909091	0	47734	47734	0	0
12		SWU + Non - SWU + Non Con uses		10921	909091	920012	3891	47734	51625	1.18705	7.537046
	Reaches A										
13	A	Total NON - SWU		7782	0	7782	3891	0	3891	100	100
14		Total SWU		0	909091	909091	0	47734	47734	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7782	909091	916873	3891	47734	51625	0.848754	7.537046
17		NON - SWU>=100m3/d + Total SWU		0	909091	909091	0	47734	47734	0	0
18		NON - SWU + SWU + Non Con uses		10921	909091	920012	3891	47734	51625	1.18705	7.537046

YEAR 1974

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	B	NON - SWU	<100 m3/d	225995		225995	112997		112997	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	225995	0	225995	112997	0	112997	100	100
4		SWU	1 St Cyres Spring	165909		165909	117379		117379	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165909	0	165909	117379	0	117379	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		391904	0	391904	230376	0	230376	100	100
11		Non - SWU>=100m3/d + total SWU		165909	0	165909	117379	0	117379	100	100
12		SWU + Non - SWU + Non Con uses		759088	1592727	2351815	230376	0	230376	32.27865	100
	Reaches A - B										
13	B	Total NON - SWU		233777	0	233777	116888	0	116888	100	100
14		Total SWU		165909	909091	1075000	117379	47734	165113	15.4334	71.0896
15		Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18.86457	ERR
16		Total NON - SWU + Total SWU		399686	909091	1308777	234267	47734	282001	30.53869	83.07311
17		NON - SWU>=100m3/d + Total SWU		165909	909091	1075000	117379	47734	165113	15.4334	71.0896
18		NON - SWU + SWU + Non Con uses		770009	2501818	3271827	234267	47734	282001	23.53453	83.07311

YEAR 1974

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	C	NON - SWU	<100 m3/d	107458	341	107799	53726	0	53726	99.68367	100
2			>=100m3/d		58182	58182		17727	17727	0	0
3			Total NON - SWU	107458	58523	165981	53726	17727	71453	64.74115	75.19138
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217	406477	464694	0	0	0	12.52803	0
10		Total SWU + Total Non - SWU		107458	58523	165981	53726	17727	71453	64.74115	75.19138
11		Non - SWU>=100m3/d + total SWU		0	58182	58182	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		165675	465000	630675	53726	17727	71453	26.26947	75.19138
	Reaches A - C										
13	C	Total NON - SWU		341235	58523	399758	170614	17727	188341	85.36039	90.58792
14		Total SWU		165909	909091	1075000	117379	47734	165113	15.4334	71.0896
15		Total Non - consumptive uses		428540	1999204	2427744	0	0	0	17.65178	ERR
16		Total NON - SWU + Total SWU		507144	967614	1474758	287993	65461	353454	34.38829	81.47973
17		NON - SWU>=100m3/d + Total SWU		165909	967273	1133182	117379	65461	182840	14.64086	64.19766
18		NON - SWU + SWU + Non Con uses		935684	2966818	3902502	287993	65461	353454	23.97652	81.47973

YEAR 1974

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	D	NON - SWU	<100 m3/d	145014	3026	148040	74043	1467	75510	97.95596	98.05721
2			>=100m3/d		17909	17909		1441	1441	0	0
3			Total NON - SWU	145014	20935	165949	74043	2908	76951	87.38468	96.22097
4		SWU	1 Greatwell Group	2208091		2208091	1429775		1429775	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR

7			4			0			0	ERR	ERR
8			Total SWU	2208091	0	2208091	1429775	0	1429775	100	100
9		Non - consumptive uses		64240	4358421	4422661	0	0	0	1 452519	0
10		Total SWU + Total Non - SWU		2353106	20936	2374040	1603818	2908	1506726	99 11817	99 807
11		Non - SWU > = 100m3/d + total SWU		2208091	17909	2226000	1429775	1441	1431216	99 19546	99 89932
12		SWU + Non - SWU + Non Con uses		2417345	4379356	6796701	1603818	2908	1506726	35 56645	99 807
	Reaches A - D										
13	D	Total NON - SWU		486249	79458	565707	244658	20636	265294	85 95421	92 22184
14		Total SWU		2374000	909091	3283091	1547154	47734	1594888	72 30991	97 00706
15		Total Non - consumptive uses		492780	6357625	6850405	0	0	0	7 193443	ERR
16		Total NON - SWU + Total SWU		2860245	988549	3848796	1791813	68369	1860182	74 31638	96 32461
17		NON - SWU > = 100m3/d + Total SWU		2374000	985182	3359182	1547164	66902	1614066	70 67197	95 85604
18		NON - SWU + SWU + Non Con uses		3353029	7346174	10699203	1791813	68369	1860182	31 33905	96 32461

YEAR 1974

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	< 100 m3/d	67932		67932	33624		33624	100	100
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	67932	0	67932	33624	0	33624	100	100
4		SWU	1 Harpford Group	2362906		2362906	1137381		1137381	100	100
5			2 Dotton 4,5	1592836		1592836	619967		619967	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3985745	0	3985745	1757348	0	1757348	100	100
9		Non - consumptive uses		14344	1691145	1705489	0	0	0	0 841049	0
10		Total SWU + Total Non - SWU		4053677	0	4053677	1790972	0	1790972	100	100
11		Non - SWU > = 100m3/d + total SWU		3985745	0	3985745	1757348	0	1757348	100	100
12		SWU + Non - SWU + Non Con uses		4068021	1691145	5759166	1790972	0	1790972	70 63659	100
	Reaches A - E										
13	E	Total NON - SWU		554181	79458	633639	278283	20636	298918	87 46005	93 09677
14		Total SWU		6359745	909091	7268836	3304502	47734	3352236	87 49331	98 57605
15		Total Non - consumptive uses		507124	8048770	8555894	0	0	0	5 927189	ERR
16		Total NON - SWU + Total SWU		6913926	988549	7902475	3582785	68369	3651154	87 49064	98 12747
17		NON - SWU > = 100m3/d + Total SWU		6359745	985182	7344927	3304502	66902	3371404	86 58691	98 0156
18		NON - SWU + SWU + Non Con uses		7421050	9037319	16458369	3582785	68369	3651154	45 08983	98 12747

YEAR 1974

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	< 100 m3/d	51869	1742	53611	26350	825	27175	96 75067	96 96412
2			> = 100m3/d		22727	22727		4049	4049	0	0
3			Total NON - SWU	51869	24469	76338	26350	4874	31224	67 9466	84 39021
4		SWU	1 Dotton 1 - 3,7	3915456		3915456	2389730		2389730	100	100
5			2 Common Rar 2,4	259071		259071	0		0	100	ERR
6			3 Otterton			0			0	ERR	ERR
7			4 Aerator pool/Tipwell	795456	597273	1392729	588789	423393	1012182	57 11489	58 17027
8			Total SWU	4969931	597273	5567204	2978519	423393	3401912	89 27158	87 55426
9		Non - consumptive uses			43162	43162	0	0	0	0	0
10		Total SWU + Total Non - SWU		5021800	621742	5643542	3004869	428267	3433136	88 98312	87 52549
11		Non - SWU > = 100m3/d + total SWU		4969931	620000	5589931	2978519	427442	3405961	88 90063	87 45016
12		SWU + Non - SWU + Non Con uses		5021800	664924	5686724	3004869	428267	3433136	88 30743	87 52549
	Reaches A - F										
13	F	Total NON - SWU		606050	103927	709977	304633	25509	330142	85 36199	92 27332
14		Total SWU		11329676	1506364	12836040	6283021	471127	6754148	88 26457	93 02463
15		Total Non - consumptive uses		507124	8091952	8599076	0	0	0	5 897424	ERR
16		Total NON - SWU + Total SWU		11935726	1610291	13546017	6587654	496636	7084290	88 11244	92 98962
17		NON - SWU > = 100m3/d + Total SWU		11329676	1605182	12934858	6283021	494344	6777365	87 59026	92 70596
18		NON - SWU + SWU + Non Con uses		12442850	9702243	22145093	6587654	496636	7084290	56 18794	92 98962

YEAR 1975

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	<100 m3/d	7782		7782	3891		3891	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7782	0	7782	3891	0	3891	100	100
4		SWU	1 Clumead		909091	909091		700950	700950	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	700950	700950	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7782	909091	916873	3891	700950	704841	0.848754	0.552039
11		Non - SWU >=100m3/d + total SWU		0	909091	909091	0	700950	700950	0	0
12		SWU + Non - SWU + Non Con uses		10921	909091	920012	3891	700950	704841	1.18705	0.552039
	Reaches A										
13	A	Total NON - SWU		7782	0	7782	3891	0	3891	100	100
14		Total SWU		0	909091	909091	0	700950	700950	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7782	909091	916873	3891	700950	704841	0.848754	0.552039
17		NON - SWU >=100m3/d + Total SWU		0	909091	909091	0	700950	700950	0	0
18		NON - SWU + SWU + Non Con uses		10921	909091	920012	3891	700950	704841	1.18705	0.552039

YEAR 1975

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	<100 m3/d	223606		223606	111753		111753	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	223606	0	223606	111753	0	111753	100	100
4		SWU	1 St Cyres Spring	165809		165809	107996		107996	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165809	0	165809	107996	0	107996	100	100
9		Non - consumptive uses		367184	1582727	1949911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		389415	0	389415	219749	0	219749	100	100
11		Non - SWU >=100m3/d + total SWU		165809	0	165809	107996	0	107996	100	100
12		SWU + Non - SWU + Non Con uses		756599	1582727	2339326	219749	0	219749	32.2049	100
	Reaches A - B										
13	B	Total NON - SWU		231388	0	231388	115644	0	115644	100	100
14		Total SWU		165809	909091	1075000	107996	700950	808946	15.4334	13.35021
15		Total Non - consumptive uses		370323	1582727	1953050	0	0	0	18.96467	ERR
16		Total NON - SWU + Total SWU		397197	909091	1306288	223640	700950	924590	30.40654	24.18802
17		NON - SWU >=100m3/d + Total SWU		165806	909091	1075000	107996	700950	808946	15.4334	13.35021
18		NON - SWU + SWU + Non Con uses		767520	2491818	3259338	223640	700950	924590	23.47631	24.18802

YEAR 1975

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	<100 m3/d	107458	341	107799	53726	0	53726	99.68367	100
2			>=100m3/d		58182	58182		17727	17727	0	0
3			Total NON - SWU	107458	58523	165981	53729	17727	71456	64.74115	75.19138
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217	406477	464694	0	0	0	12.52803	0
10		Total SWU + Total Non - SWU		107458	58523	165981	53729	17727	71456	64.74115	75.19138
11		Non - SWU >=100m3/d + total SWU		0	58182	58182	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		165675	465000	630675	53729	17727	71456	26.26917	75.19138
	Reaches A - C										
13	C	Total NON - SWU		338746	58523	397269	169372	17727	187099	85.26867	90.52534
14		Total SWU		165909	909091	1075000	107996	700950	808946	15.4334	13.35021
15		Total Non - consumptive uses		428540	1999204	2427744	0	0	0	17.85178	ERR
16		Total NON - SWU + Total SWU		504655	967614	1472269	277369	718677	996045	34.27736	27.84690
17		NON - SWU >=100m3/d + Total SWU		165806	967273	1133182	107996	718677	826673	14.64096	13.06393
18		NON - SWU + SWU + Non Con uses		933195	2966818	3900013	277368	718677	996045	23.929	27.84693

YEAR 1975

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	<100 m3/d	145014	3026	148040	74703	1573	76276	97.95596	97.93775
2			>=100m3/d		17909	17909		8064	8064	0	0
3			Total NON - SWU	145014	20935	165949	74703	8637	83340	87.38468	89.74411
4		SWU	1 Greatwell Group	2208091		2208091	1436231		1436231	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	2208091	0	2208091	1436231	0	1436231	100	100
9		Non - consumptive uses		64240	4358421	4422661	0	0	0	1.452519	0
10		Total SWU + Total Non - SWU		2353105	20935	2374040	1510934	8637	1519471	99.11817	99.43816
11		Non - SWU >=100m3/d + total SWU		2208091	17909	2226000	1436231	8064	1443195	99.19544	99.51746
12		SWU + Non - SWU + Non Con uses		2417345	4379356	6796701	1510934	8637	1519471	35.56645	99.43816
	Reaches A - D										
13	D	Total NON - SWU		483760	79458	563218	244075	26264	270339	85.89214	90.28479
14		Total SWU		2374000	909091	3283091	1544227	700950	2245177	72.30991	68.77974
15		Total Non - consumptive uses		492780	6357625	6850405	0	0	0	7.193443	ERR
16		Total NON - SWU + Total SWU		2857760	988549	3846309	1788302	727214	2515516	74.29876	71.09086
17		NON - SWU >=100m3/d + Total SWU		2374000	986182	3360182	1544227	725641	2269868	70.67157	68.03156
18		NON - SWU + SWU + Non Con uses		3350640	7346174	10696714	1788302	727214	2515516	31.32308	71.09086

YEAR 1975

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	<100 m3/d	67932		67932	33624		33624	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	67932	0	67932	33624	0	33624	100	100
4		SWU	1 Harpford Group	2392909		2392909	1518037		1518037	100	100
5			2 Dotton 4,5	1592836		1592836	411899		411899	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3985745	0	3985745	1929936	0	1929936	100	100
9		Non - consumptive uses		14344	1691145	1705489	0	0	0	0.841049	0
10		Total SWU + Total Non - SWU		4053677	0	4053677	1963560	0	1963560	100	100
11		Non - SWU >=100m3/d + total SWU		3985745	0	3985745	1929936	0	1929936	100	100
12		SWU + Non - SWU + Non Con uses		4068021	1691145	5759166	1963560	0	1963560	70.63569	100
	Reaches A - E										
13	E	Total NON - SWU		551692	79458	631150	277699	26264	303963	87.4106	91.36047
14		Total SWU		6359745	909091	7268836	3474163	700950	4175113	87.49331	83.21123
15		Total Non - consumptive uses		507124	8048770	8555894	0	0	0	5.927189	ERR
16		Total NON - SWU + Total SWU		6911437	988549	7899986	3751862	727214	4479076	87.4867	83.7642
17		NON - SWU >=100m3/d + Total SWU		6359745	985182	7344927	3474163	725641	4199804	86.58691	82.72203
18		NON - SWU + SWU + Non Con uses		7418561	9037319	16455880	3751862	727214	4479076	45.08152	83.7642

YEAR 1975

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	<100 m3/d	51869	1742	53611	26350	825	27175	96.75087	96.96412
2			>=100m3/d		22727	22727		3317	3317	0	0
3			Total NON - SWU	51869	24469	76338	26350	4142	30492	67.9461	86.41611
4		SWU	1 Colaton 1 - 3,7	3815456		3815456	2743072		2743072	100	100
5			2 Colaton Ral. 2,4	259091		259091	39150		39150	100	100
6			3 Coanor			0			0	ERR	ERR
7			4 Kersbrook/Lowal	795456	597273	1392728	585037	388330	973367	57.11489	60.10446
8			Total SWU	4870001	597273	5467274	3367259	388330	3755589	89.27172	89.65994
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		4921870	621742	5543612	3393609	392472	3786081	88.96326	89.63382
11		Non - SWU >=100m3/d + total SWU		4870001	620000	5490001	3367259	391647	3758906	88.90677	89.58062
12		SWU + Non - SWU + Non Con uses		4921870	664924	5586794	3393609	392472	3786081	88.09758	89.63382
	Reaches A - F										
13	F	Total NON - SWU		603561	103927	707488	304049	30406	334455	85.31042	90.90675
14		Total SWU		11329746	1506364	12836110	6841422	1089280	7930702	88.26464	86.26522
15		Total Non - consumptive uses		507124	8091952	8599076	0	0	0	5.897424	ERR
16		Total NON - SWU + Total SWU		11933307	1610291	13543598	7145471	1119686	8265157	88.11032	86.45294
17		NON - SWU >=100m3/d + Total SWU		11329746	1605182	12934928	6841422	1117288	7958710	87.59033	85.96144
18		NON - SWU + SWU + Non Con uses		12440431	9702243	22142674	7145471	1119686	8265157	56.18306	86.45294

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	< 100 m3/d	7782		7782	3891		3891	100	100
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7782	0	7782	3891	0	3891	100	100
4		SWU	1 Oberhead		909091	909091		1470655	1470655	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	1470655	1470655	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7782	909091	916873	3891	1470655	1474546	0.848754	0.263878
11		Non - SWU > = 100m3/d + total SWU		0	909091	909091	0	1470655	1470655	0	0
12		SWU + Non - SWU + Non Con uses		10921	909091	920012	3891	1470655	1474546	1.18705	0.263878
	Reaches A										
13	A	Total NON - SWU		7782	0	7782	3891	0	3891	100	100
14		Total SWU		0	909091	909091	0	1470655	1470655	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7782	909091	916873	3891	1470655	1474546	0.848754	0.263878
17		NON - SWU > = 100m3/d + Total SWU		0	909091	909091	0	1470655	1470655	0	0
18		NON - SWU + SWU + Non Con uses		10921	909091	920012	3891	1470655	1474546	1.18705	0.263878

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	< 100 m3/d	225206		225206	112802		112802	100	100
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	225206	0	225206	112802	0	112802	100	100
4		SWU	1 St Cyles Spring	165809		165809	106684		106684	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165809	0	165809	106684	0	106684	100	100
9		Non - consumptive uses		387184	1582727	1958911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		391115	0	391115	219286	0	219286	100	100
11		Non - SWU > = 100m3/d + total SWU		165809	0	165809	106684	0	106684	100	100
12		SWU + Non - SWU + Non Con uses		758299	1582727	2351026	219286	0	219286	32.25386	100
	Reaches A - B										
13	B	Total NON - SWU		232988	0	232988	116493	0	116493	100	100
14		Total SWU		165909	909091	1075000	106684	1470655	1577339	15.4334	6.763643
15		Total Non - consumptive uses		370323	1582727	1963050	0	0	0	18.86467	ERR
16		Total NON - SWU + Total SWU		398897	909091	1307988	223177	1470655	1693832	30.49689	13.17586
17		NON - SWU > = 100m3/d + Total SWU		165909	909091	1075000	106684	1470655	1577339	15.4334	6.763643
18		NON - SWU + SWU + Non Con uses		769220	2501818	3271038	223177	1470655	1693832	23.51606	13.17586

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	< 100 m3/d	109739		109739	54869		54869	100	100
2			> = 100m3/d		58182	58182		17727	17727	0	0
3			Total NON - SWU	109739	58182	167921	54869	17727	72596	65.35156	75.5813
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217	406477	464694	0	0	0	12.52803	0
10		Total SWU + Total Non - SWU		109739	58182	167921	54869	17727	72596	65.35156	75.5813
11		Non - SWU > = 100m3/d + total SWU		0	58182	58182	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		167956	464659	632615	54869	17727	72596	26.54946	75.5813
	Reaches A - C										
13	C	Total NON - SWU		342727	58182	400909	171362	17727	189089	86.48748	90.62505
14		Total SWU		165909	909091	1075000	106684	1470655	1577339	15.4334	6.763543
15		Total Non - consumptive uses		428540	1999204	2427744	0	0	0	17.65178	ERR
16		Total NON - SWU + Total SWU		508636	967273	1475909	278046	1488382	1766428	34.46256	15.74058
17		NON - SWU > = 100m3/d + Total SWU		165909	967273	1133182	106684	1488382	1595066	14.64098	6.688375
18		NON - SWU + SWU + Non Con uses		937176	2966477	3903653	278046	1488382	1766428	24.00767	15.74058

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	< 100 m3/d	144765	3026	147791	81647	1589	83236	97.95254	98.09215
2			> = 100m3/d		17909	17909		18606	18606	0	0
3			Total NON - SWU	144765	20935	165700	81647	20194	101841	87.36572	80.17105
4		SWU	1 Greenwell Group	2208091		2208091	1354903		1354903	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	2208091	0	2208091	1354903	0	1354903	100	100
9		Non - consumptive uses		64240	4358421	4422661	0	0	0	1.452519	0
10		Total SWU + Total Non - SWU		2352856	20935	2373791	1436550	20194	1456744	99.11808	98.61376
11		Non - SWU > = 100m3/d + total SWU		2208091	17909	2226000	1354903	18606	1373509	99.19546	98.64537
12		SWU + Non - SWU + Non Con uses		2417096	4379356	6796452	1436550	20194	1456744	35.56409	98.61376
	Reaches A - D										
13	D	Total NON - SWU		487492	79117	566609	253009	37921	290930	86.03676	86.96559
14		Total SWU		2374000	909091	3283091	1461587	1470655	2932242	72.30891	49.84537
15		Total Non - consumptive uses		492780	6357625	6850405	0	0	0	7.193443	ERR
16		Total NON - SWU + Total SWU		2861492	988208	3849700	1714596	1508576	3223172	74.33026	53.19592
17		NON - SWU > = 100m3/d + Total SWU		2374000	985182	3359182	1461587	1508988	2970575	70.67197	49.23531
18		NON - SWU + SWU + Non Con uses		3354272	7345833	10700105	1714596	1508576	3223172	31.34803	53.19592

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	< 100 m3/d	67932		67932	33624		33624	100	100
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	67932	0	67932	33624	0	33624	100	100
4		SWU	1 Harpford Group	2302909		2302909	1401160		1401160	100	100
5			2 Dotton 4,5	1582836		1582836	492850		492850	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3885745	0	3885745	1894010	0	1894010	100	100
9		Non - consumptive uses		14344	1691145	1705489	0	0	0	0.841049	0
10		Total SWU + Total Non - SWU		4053677	0	4053677	1927634	0	1927634	100	100
11		Non - SWU > = 100m3/d + total SWU		3885745	0	3885745	1894010	0	1894010	100	100
12		SWU + Non - SWU + Non Con uses		4068021	1691145	5759166	1927634	0	1927634	70.63669	100
	Reaches A - E										
13	E	Total NON - SWU		555424	79117	634541	286633	37921	324554	87.53162	88.31587
14		Total SWU		6359745	909091	7268836	3356687	1470655	4827252	87.49331	69.53601
15		Total Non - consumptive uses		507124	8048770	8555894	0	0	0	5.927109	ERR
16		Total NON - SWU + Total SWU		6915169	988208	7903377	3642230	1508576	5150806	87.49632	70.71186
17		NON - SWU > = 100m3/d + Total SWU		6358745	985182	7344927	3356597	1508988	4865585	86.58691	68.0085
18		NON - SWU + SWU + Non Con uses		7422293	9036978	16459271	3642230	1508576	5150806	45.09491	70.71186

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	< 100 m3/d	51869	1742	53611	26350	825	27175	96.75067	96.96412
2			> = 100m3/d		22727	22727		31030	31030	0	0
3			Total NON - SWU	51869	24469	76338	26350	31866	58206	67.9466	46.27102
4		SWU	1 Dotton 1 - 3,7	3915456		3915456	2478932		2478932	100	100
5			2 Colaton Ral. 2,4	259091		259091	76440		76440	100	100
6			3 Otterton			0			0	ERR	ERR
7			4 Kerswell/Tidwell	795456	829645	1625000	640140	180034	820174	48.95108	68.29626
8			Total SWU	4970001	829545	5799546	3115512	260034	3375546	85.69638	92.29654
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		5021870	854014	5875884	3141862	291889	3433751	85.46578	91.49941
11		Non - SWU > = 100m3/d + total SWU		4970001	852272	5822273	3115512	291064	3406576	85.36187	91.45580
12		SWU + Non - SWU + Non Con uses		5021870	897196	5919066	3141862	291889	3433751	84.84227	91.49941
	Reaches A - F										
13	F	Total NON - SWU		607293	103586	710879	312983	69776	382759	85.42846	81.77025
14		Total SWU		11329746	1738636	13068382	6471109	1730689	8201798	86.69569	78.89862
15		Total Non - consumptive uses		507124	8091952	8599076	0	0	0	5.897424	ERR
16		Total NON - SWU + Total SWU		11937039	1842222	13779261	6784092	1800465	8584557	86.63047	79.0267
17		NON - SWU > = 100m3/d + Total SWU		11329746	1837454	13167200	6471108	1798062	8269161	86.04522	78.25680
18		NON - SWU + SWU + Non Con uses		12444163	9834174	22278337	6784092	1800465	8584557	55.80609	79.0267

YEAR 1977

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	A	NON - SWU	<100 m3/d	7782		7782	3891		3891	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7782	0	7782	3891	0	3891	100	100
4		SWU	1 Overhead		909091	909091		0	0	0	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	0	0	0	ERR
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7782	909091	916873	3891	0	3891	0.848754	100
11		Non - SWU>=100m3/d + total SWU		0	909091	909091	0	0	0	0	ERR
12		SWU + Non - SWU + Non Con uses		10921	909091	920012	3891	0	3891	1.18705	100
	Reaches A										
13	A	Total NON - SWU		7782	0	7782	3891	0	3891	100	100
14		Total SWU		0	909091	909091	0	0	0	0	ERR
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7782	909091	916873	3891	0	3891	0.848754	100
17		NON - SWU>=100m3/d + Total SWU		0	909091	909091	0	0	0	0	ERR
18		NON - SWU + SWU + Non Con uses		10921	909091	920012	3891	0	3891	1.18705	100

YEAR 1977

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	B	NON - SWU	<100 m3/d	232199		232199	113017		113017	100	100
2			>=100m3/d			0	0		0	ERR	ERR
3			Total NON - SWU	232199	0	232199	113017	0	113017	100	100
4		SWU	1 St Cyres Spring	186909		186909	142864		142864	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	186909	0	186909	142864	0	142864	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		398108	0	398108	255871	0	255871	100	100
11		Non - SWU>=100m3/d + total SWU		186909	0	186909	142864	0	142864	100	100
12		SWU + Non - SWU + Non Con uses		765292	1592727	2358019	255871	0	255871	32.46487	100
	Reaches A - B										
13	B	Total NON - SWU		239981	0	239981	116908	0	116908	100	100
14		Total SWU		186909	909091	1096000	142864	0	142864	15.4334	100
15		Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18.86447	ERR
16		Total NON - SWU + Total SWU		405890	909091	1314981	259762	0	259762	30.86661	100
17		NON - SWU>=100m3/d + Total SWU		186909	909091	1096000	142864	0	142864	16.4334	100
18		NON - SWU + SWU + Non Con uses		776213	2501818	3278031	259762	0	259762	23.67925	100

YEAR 1977

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	C	NON - SWU	<100 m3/d	111533		111533	55766		55766	100	100
2			>=100m3/d		58182	58182		17727	17727	0	0
3			Total NON - SWU	111533	58182	169715	55766	17727	73493	65.71782	75.87934
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58717	405477	464194	0	0	0	12.52803	0
10		Total SWU + Total Non - SWU		111533	58182	169715	55766	17727	73493	65.71782	75.87934
11		Non - SWU>=100m3/d + total SWU		0	58182	58182	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		169750	464659	634409	55766	17727	73493	26.75719	75.87934
	Reaches A - C										
13	C	Total NON - SWU		351514	58182	409696	172674	17727	190401	86.79874	90.68965
14		Total SWU		186909	909091	1096000	142864	0	142864	15.4334	100
15		Total Non - consumptive uses		428540	1999204	2427744	0	0	0	17.65178	ERR
16		Total NON - SWU + Total SWU		517423	967273	1484696	315528	17727	333255	34.85043	94.68065
17		NON - SWU>=100m3/d + Total SWU		186909	967273	1133182	142864	17727	160591	14.64096	88.96071
18		NON - SWU + SWU + Non Con uses		945963	2966477	3912440	315528	17727	333255	24.17834	94.68065

YEAR 1977

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	D	NON - SWU	<100 m3/d	141280	3026	144306	72494	1438	73932	97.90307	98.05497
2			>=100m3/d		17909	17909		0	0	0	ERR
3			Total NON - SWU	141280	20935	162215	72494	1438	73932	87.09429	98.05497
4		SWU	1 Greenwell Group	2208091		2208091	1348348		1348348	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	2208091	0	2208091	1348348	0	1348348	100	100
9		Non - consumptive uses		64240	4358421	4422661	0	0	0	1.452519	0
10		Total SWU + Total Non - SWU		2349371	20935	2370306	1420842	1438	1422280	99.11678	99.89889
11		Non - SWU>=100m3/d + total SWU		2208091	17909	2226000	1348348	0	1348348	99.19546	100
12		SWU + Non - SWU + Non Con uses		2413611	4379356	6792967	1420842	1438	1422280	35.53103	99.89889
	Reaches A - D										
13	D	Total NON - SWU		492794	79117	571911	245168	19165	264333	86.1662	92.74968
14		Total SWU		2374000	909091	3283091	1491202	0	1491202	72.30891	100
15		Total Non - consumptive uses		492780	6357625	6850405	0	0	0	7.193443	ERR
16		Total NON - SWU + Total SWU		2866794	988208	3855002	1736370	19165	1755535	74.38666	98.90831
17		NON - SWU>=100m3/d + Total SWU		2374000	985182	3359182	1491202	17727	1508929	70.67157	98.82519
18		NON - SWU + SWU + Non Con uses		3359574	7345833	10705407	1736370	19165	1755535	31.38203	98.90831

YEAR 1977

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	E	NON - SWU	<100 m3/d	67932		67932	33624		33624	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	67932	0	67932	33624	0	33624	100	100
4		SWU	1 Harpford Group	2883816		2883816	1839956		1839956	100	100
5			2 Dotton 4,5	1592838		1592838	279978		279978	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4476654	0	4476654	2119933	0	2119933	100	100
9		Non - consumptive uses		14344	1691145	1705489	0	0	0	0.841049	0
10		Total SWU + Total Non - SWU		4544586	0	4544586	2153557	0	2153557	100	100
11		Non - SWU>=100m3/d + total SWU		4476654	0	4476654	2119933	0	2119933	100	100
12		SWU + Non - SWU + Non Con uses		4558930	1691145	6250075	2153557	0	2153557	72.942	100
	Reaches A - E										
13	E	Total NON - SWU		560726	79117	639843	278792	19165	297957	87.63494	93.56798
14		Total SWU		6850654	909091	7759745	3611136	0	3611136	88.26452	100
15		Total Non - consumptive uses		507124	8048770	8555894	0	0	0	5.927189	ERR
16		Total NON - SWU + Total SWU		7411380	988208	8399588	3889927	19165	3909092	88.23604	99.50973
17		NON - SWU>=100m3/d + Total SWU		6850654	985182	7835836	3611136	17727	3628862	87.42723	99.5115
18		NON - SWU + SWU + Non Con uses		7918504	9036978	16955482	3889927	19165	3909092	46.70173	99.50973

YEAR 1977

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	F	NON - SWU	<100 m3/d	51869	1742	53611	26350	825	27175	96.75067	96.96412
2			>=100m3/d		27272	27272		16523	16523	0	0
3			Total NON - SWU	51869	29014	80883	26350	17348	43698	64.12843	60.30024
4		SWU	1 Coaton 1 - 3,7	3815456		3815456	2488649		2488649	100	100
5			2 Colaton Ral 2,4	268091		268091	310010		310010	100	100
6			3 Otterton			0			0	ERR	ERR
7			4 Aerodrome/Tidwell	786456	829646	1626000	671064	452730	1023784	48.96108	66.77876
8			Total SWU	4970001	829645	5799646	3367713	452730	3820443	85.69838	88.1496
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		5021870	858559	5880429	3394063	470078	3864141	85.39972	87.83486
11		Non - SWU>=100m3/d + total SWU		4970001	856817	5826818	3367713	469253	3836966	85.29520	87.77021
12		SWU + Non - SWU + Non Con uses		5021870	901741	5923611	3394063	470078	3864141	84.77717	87.83486
	Reaches A - F										
13	F	Total NON - SWU		612595	108131	720726	305142	36513	341655	84.99683	89.3129
14		Total SWU		11820655	1738636	13559291	6978848	452730	7431578	87.17753	93.90802
15		Total Non - consumptive uses		507124	8091952	8599076	0	0	0	5.897424	ERR
16		Total NON - SWU + Total SWU		12433250	1846767	14280017	7283990	489243	7773233	87.06747	93.70606
17		NON - SWU>=100m3/d + Total SWU		11820666	1841999	13662664	6978848	486680	7465528	86.518	93.47721
18		NON - SWU + SWU + Non Con uses		12940374	9938719	22879093	7283990	489243	7773233	56.55982	93.70606

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	<100 m3/d	7782		7782	3891		3891	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7782	0	7782	3891	0	3891	100	100
4		SWU	1 Oberhead		909091	909091		440392	440392	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	440392	440392	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7782	909091	916873	3891	440392	444283	0.846754	0.875793
11		Non - SWU>=100m3/d + total SWU		0	909091	909091	0	440392	440392	0	0
12		SWU + Non - SWU + Non Con uses		10921	909091	920012	3891	440392	444283	1.18705	0.875793
	Reaches A										
13	A	Total NON - SWU		7782	0	7782	3891	0	3891	100	100
14		Total SWU		0	909091	909091	0	440392	440392	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7782	909091	916873	3891	440392	444283	0.846754	0.875793
17		NON - SWU>=100m3/d + Total SWU		0	909091	909091	0	440392	440392	0	0
18		NON - SWU + SWU + Non Con uses		10921	909091	920012	3891	440392	444283	1.18705	0.875793

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	<100 m3/d	229567		229567	111701		111701	100	100
2			>=100m3/d			0	0		0	ERR	ERR
3			Total NON - SWU	229567	0	229567	111701	0	111701	100	100
4		SWU	1 St Cyres Spring	166809		166809	124931		124931	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	166809	0	166809	124931	0	124931	100	100
9		Non - consumptive uses		357184	1592727	1949911	0	0	0	18.73673	0
10		Total SWU + Total Non - SWU		395476	0	395476	236632	0	236632	100	100
11		Non - SWU>=100m3/d + total SWU		166809	0	166809	124931	0	124931	100	100
12		SWU + Non - SWU + Non Con uses		752660	1592727	2345387	236632	0	236632	32.37838	100
	Reaches A - B										
13	B	Total NON - SWU		237349	0	237349	115592	0	115592	100	100
14		Total SWU		166809	909091	1075900	124931	440392	565323	15.4334	22.09905
15		Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18.86467	ERR
16		Total NON - SWU + Total SWU		403258	909091	1312349	240523	440392	680915	30.72795	35.3236
17		NON - SWU>=100m3/d + Total SWU		166809	909091	1075900	124931	440392	565323	15.4334	22.09905
18		NON - SWU + SWU + Non Con uses		773581	2501818	3275399	240523	440392	680915	23.61792	35.3236

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	<100 m3/d	114846		114846	57422		57422	100	100
2			>=100m3/d		35456	35456		17727	17727	0	0
3			Total NON - SWU	114846	35456	150301	57422	17727	75149	76.41067	76.41086
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non - SWU		114846	35456	150301	57422	17727	75149	76.41067	76.41086
11		Non - SWU>=100m3/d + total SWU		0	35456	35456	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		173063	35456	208518	57422	17727	75149	82.99667	76.41086
	Reaches A - C										
13	C	Total NON - SWU		352195	35456	387650	173014	17727	190741	90.85386	90.70625
14		Total SWU		166809	909091	1075900	124931	440392	565323	15.4334	22.09905
15		Total Non - consumptive uses		428540	1592727	2021267	0	0	0	21.20156	ERR
16		Total NON - SWU + Total SWU		519104	944546	1463650	297945	458119	756064	35.42225	39.40738
17		NON - SWU>=100m3/d + Total SWU		166809	944546	1110456	124931	458119	583050	14.94053	21.42715
18		NON - SWU + SWU + Non Con uses		946644	2537273	3483917	297945	458119	756064	27.17183	39.40738

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	<100 m3/d	141197	2694	143891	72453	1299	73752	98.12775	98.23869
2			>=100m3/d		17909	17909		1516	1516	0	0
3			Total NON - SWU	141197	20603	161800	72453	2815	75268	87.26638	96.26003
4		SWU	1 Greatwell Group	2208091		2208091	1517011		1517011	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	2208091	0	2208091	1517011	0	1517011	100	100
9		Non - consumptive uses		64240	4358421	4422661	0	0	0	1.452518	0
10		Total SWU + Total Non - SWU		2349288	20603	2369891	1589464	2815	1592279	99.13064	99.82321
11		Non - SWU>=100m3/d + total SWU		2208091	17909	2226000	1517011	1516	1518527	99.19546	99.90017
12		SWU + Non - SWU + Non Con uses		2413528	4379024	6792552	1589464	2815	1592279	35.53198	99.82321
	Reaches A - D										
13	D	Total NON - SWU		493392	56058	549450	245467	20542	266009	89.79743	92.2777
14		Total SWU		2374900	909091	3283991	1641942	440392	2082334	72.30891	78.85104
15		Total Non - consumptive uses		492780	5951148	6443928	0	0	0	7.647199	ERR
16		Total NON - SWU + Total SWU		2867392	965149	3832541	1887409	460934	2348343	74.81699	80.37195
17		NON - SWU>=100m3/d + Total SWU		2374900	962456	3336456	1641942	464635	2101577	71.16336	78.12904
18		NON - SWU + SWU + Non Con uses		3360172	6916297	10276469	1887409	460934	2348343	32.69773	80.37195

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	<100 m3/d	69259		69259	34288		34288	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	69259	0	69259	34288	0	34288	100	100
4		SWU	1 Hempton Group	2883818		2883818	1547102		1547102	100	100
5			2 Doddon 4,5	1592836		1592836	679521		679521	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4476654	0	4476654	2226623	0	2226623	100	100
9		Non - consumptive uses		14344	1691145	1705489	0	0	0	0.841048	0
10		Total SWU + Total Non - SWU		4545913	0	4545913	2260911	0	2260911	100	100
11		Non - SWU>=100m3/d + total SWU		4476654	0	4476654	2226623	0	2226623	100	100
12		SWU + Non - SWU + Non Con uses		4560257	1691145	6251402	2260911	0	2260911	72.94775	100
	Reaches A - E										
13	E	Total NON - SWU		562651	56058	618709	279755	20542	300297	90.93952	93.15944
14		Total SWU		6850654	909091	7759745	3868565	440392	4308957	88.28452	89.77951
15		Total Non - consumptive uses		507124	7642293	8149417	0	0	0	6.222826	ERR
16		Total NON - SWU + Total SWU		7413305	965149	8378454	4148320	460934	4609254	88.48058	89.99981
17		NON - SWU>=100m3/d + Total SWU		6850654	962456	7813109	3868565	458535	4326200	87.68154	89.38046
18		NON - SWU + SWU + Non Con uses		7920429	8607442	16527871	4148320	460934	4609254	47.92186	89.99981

YEAR 1976

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	<100 m3/d	51869	1742	53611	26350	825	27175	96.75067	96.96412
2			>=100m3/d		27272	27272		22425	22425	0	0
3			Total NON - SWU	51869	29014	80883	26350	23250	49600	64.12843	53.125
4		SWU	1 Doddon 1 - 3,7	3915456		3915456	2568636		2568636	100	100
5			2 Coleston Rd. 2,4	259091		259091	548020		548020	100	100
6			3 Oberton			0			0	ERR	ERR
7			4 Kerdbrook/Tidwell	795456	1329646	2125000	580035	468305	1048340	37.43318	55.75099
8			Total SWU	4970001	1329545	6299546	3706990	468305	4175295	78.89458	88.78391
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		5021870	1358559	6380429	3733340	491555	4224895	78.7074	88.36527
11		Non - SWU>=100m3/d + total SWU		4970001	1356817	6326818	3706990	490730	4197720	78.55451	88.30961
12		SWU + Non - SWU + Non Con uses		6021870	1401741	6423611	3733340	491555	4224895	78.1783	88.36527
	Reaches A - F										
13	F	Total NON - SWU		614520	85072	699592	306106	43792	349897	87.83977	87.48432
14		Total SWU		11820655	2238636	14059291	7575555	908697	8484252	84.07718	89.2896
15		Total Non - consumptive uses		507124	7685475	8192599	0	0	0	6.190026	ERR
16		Total NON - SWU + Total SWU		12435175	2323708	14758883	7881660	952489	8834149	84.25563	89.2181
17		NON - SWU>=100m3/d + Total SWU		11820655	2318272	14138927	7575556	950365	8525920	83.59771	88.85322
18		NON - SWU + SWU + Non Con uses		12942299	10009183	22951482	7881660	952489	8834149	56.38982	89.2181

YEAR 1979

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	A	NON - SWU	<100 m3/d	7782		7782	3891		3891	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7782	0	7782	3891	0	3891	100	100
4		SWU	1 Caerhead		909091	909091		489939	489939	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	489939	489939	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7782	909091	916873	3891	489939	493830	0.846754	0.787923
11		Non - SWU >=100m3/d + total SWU		0	909091	909091	0	489939	489939	0	0
12		SWU + Non - SWU + Non Con uses		10921	909091	920012	3891	489939	493830	1.18705	0.787923
	Reaches A										
13	A	Total NON - SWU		7782	0	7782	3891	0	3891	100	100
14		Total SWU		0	909091	909091	0	489939	489939	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7782	909091	916873	3891	489939	493830	0.846754	0.787923
17		NON - SWU >=100m3/d + Total SWU		0	909091	909091	0	489939	489939	0	0
18		NON - SWU + SWU + Non Con uses		10921	909091	920012	3891	489939	493830	1.18705	0.787923

YEAR 1979

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	B	NON - SWU	<100 m3/d	231800		231800	112863		112863	100	100
2			>=100m3/d			0	0		0	ERR	ERR
3			Total NON - SWU	231800	0	231800	112863	0	112863	100	100
4		SWU	1 St Cyres Spring	165909		165909	161869		161869	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165909	0	165909	161869	0	161869	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		397709	0	397709	274732	0	274732	100	100
11		Non - SWU >=100m3/d + total SWU		165909	0	165909	161869	0	161869	100	100
12		SWU + Non - SWU + Non Con uses		764893	1592727	2357620	274732	0	274732	32.44002	100
	Reaches A - B										
13	B	Total NON - SWU		239582	0	239582	116754	0	116754	100	100
14		Total SWU		165909	909091	1075000	161869	489939	651808	15.4334	24.83398
15		Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18.86467	ERR
16		Total NON - SWU + Total SWU		405491	909091	1314582	278623	489939	768562	30.85036	36.41214
17		NON - SWU >=100m3/d + Total SWU		165909	909091	1075000	161869	489939	651808	15.4334	24.83398
18		NON - SWU + SWU + Non Con uses		775814	2501818	3277632	278623	489939	768562	23.67005	36.41214

YEAR 1975

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	C	NON - SWU	<100 m3/d	117252		117252	68625		68625	100	100
2			>=100m3/d		54546	54546		27273	27273	0	0
3			Total NON - SWU	117252	54546	171798	68625	27273	95898	68.24992	68.24956
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non - SWU		117252	54546	171798	68625	27273	95898	68.24992	68.24956
11		Non - SWU >=100m3/d + total SWU		0	54546	54546	0	27273	27273	0	0
12		SWU + Non - SWU + Non Con uses		175469	54546	230015	68625	27273	95898	76.28589	68.24956
	Reaches A - C										
13	C	Total NON - SWU		356834	54546	411380	175379	27273	202652	86.74063	86.54196
14		Total SWU		165909	909091	1075000	161869	489939	651808	15.4334	24.83398
15		Total Non - consumptive uses		428540	1592727	2021267	0	0	0	21.20195	ERR
16		Total NON - SWU + Total SWU		522743	963637	1486380	337248	517212	854460	35.17279	39.47004
17		NON - SWU >=100m3/d + Total SWU		165909	963637	1129546	161869	517212	679081	14.68811	23.83615
18		NON - SWU + SWU + Non Con uses		951283	2556364	3507647	337248	517212	854460	27.12013	39.47004

YEAR 1975

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	D	NON - SWU	<100 m3/d	143548	3026	146574	72325	1495	73820	97.93554	97.9748
2			>=100m3/d		17909	17909		3047	3047	0	0
3			Total NON - SWU	143548	20935	164483	72325	4542	76867	87.27224	94.09106
4		SWU	1 Greenwell Group	3117182		3117182	1656780		1656780	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117182	0	3117182	1656780	0	1656780	100	100
9		Non - consumptive uses		64240	4358421	4422661	0	0	0	1.452519	0
10		Total SWU + Total Non - SWU		3260730	20935	3281665	1729105	4542	1733647	99.36206	99.72197
11		Non - SWU >=100m3/d + total SWU		3117182	17909	3135091	1656780	3047	1659827	99.42876	99.81644
12		SWU + Non - SWU + Non Con uses		3324970	4379356	7704326	1729105	4542	1733647	43.15718	99.72197
	Reaches A - D										
13	D	Total NON - SWU		500472	75481	575953	247704	31815	279519	86.89459	88.61796
14		Total SWU		3283091	909091	4192182	1778649	489939	2268588	78.31481	77.71574
15		Total Non - consumptive uses		492780	5951148	6443928	0	0	0	7.647199	ERR
16		Total NON - SWU + Total SWU		3783563	984572	4768135	1996353	521754	2478107	79.351	78.94546
17		NON - SWU >=100m3/d + Total SWU		3283091	981546	4264637	1778649	520256	2228905	76.98407	76.85867
18		NON - SWU + SWU + Non Con uses		4276343	6935720	11212063	1956353	521754	2478107	38.14066	78.94546

YEAR 1979

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	E	NON - SWU	<100 m3/d	71918		71918	35617		35617	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	71918	0	71918	35617	0	35617	100	100
4		SWU	1 Harpford Group	2883818		2883818	1698651		1698651	100	100
5			2 Dotton 4.5	1592836		1592836	721419		721419	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4476654	0	4476654	2420070	0	2420070	100	100
9		Non - consumptive uses		14344	1691145	1705489	0	0	0	0.841049	0
10		Total SWU + Total Non - SWU		4548572	0	4548572	2455687	0	2455687	100	100
11		Non - SWU >=100m3/d + total SWU		4476654	0	4476654	2420070	0	2420070	100	100
12		SWU + Non - SWU + Non Con uses		4562916	1691145	6254061	2455687	0	2455687	72.95925	100
	Reaches A - E										
13	E	Total NON - SWU		572380	75481	647871	283321	31815	315136	88.34938	89.90436
14		Total SWU		7759745	909091	8668836	4198719	489939	4688658	89.51311	89.55216
15		Total Non - consumptive uses		507124	7642293	8149417	0	0	0	6.222826	ERR
16		Total NON - SWU + Total SWU		8332135	984572	9316707	4412040	521754	4933794	89.43219	89.42489
17		NON - SWU >=100m3/d + Total SWU		7759745	981546	8741291	4198719	520256	4648975	88.77116	88.80917
18		NON - SWU + SWU + Non Con uses		8839259	8626866	17466124	4412040	521754	4933794	50.60802	89.42489

YEAR 1979

Row	Reach			Total Authorised G/W	Total Authorised S/W	Total Authorised Total	Total nett Actual G/W	Total nett Actual S/W	Total nett Actual Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	F	NON - SWU	<100 m3/d	51869	1742	53611	28033	825	28858	96.75067	97.14129
2			>=100m3/d		65454	65454		25910	25910	0	0
3			Total NON - SWU	51869	67196	119065	28033	26735	54768	43.5636	51.18462
4		SWU	1 Colston 1 - 3.7	3815456		3815456	2676456		2676456	100	100
5			2 Coleton Fie 2.4	259091		259091	143467		143467	100	100
6			3 Otterton			0			0	ERR	ERR
7			4 Aerdra consl'dated	795456	1329545	2125000	613710	386927	1000637	37.43316	61.33193
8			Total SWU	4970001	1329545	6299546	3433635	386927	3820562	78.89459	89.87251
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		5021870	1396741	6418611	3461668	413662	3875330	78.2392	89.32025
11		Non - SWU >=100m3/d + total SWU		4970001	1394999	6365000	3433635	412837	3846472	78.08328	89.26713
12		SWU + Non - SWU + Non Con uses		5021870	1439923	6461793	3461668	413662	3875330	77.71636	89.32025
	Reaches A - F										
13	F	Total NON - SWU		624259	142677	766936	309354	58550	367904	81.39649	84.08562
14		Total SWU		12729746	2238636	14968382	7562354	876866	8439220	85.04424	89.60963
15		Total Non - consumptive uses		507124	7685475	8192599	0	0	0	6.190026	ERR
16		Total NON - SWU + Total SWU		13354005	2381313	15735318	7871706	935416	8807124	84.86645	89.37867
17		NON - SWU >=100m3/d + Total SWU		12729744	2376645	15106291	7562364	933096	8496450	84.26785	89.01862
18		NON - SWU + SWU + Non Con uses		13861129	10066788	23927917	7871706	935418	8807124	57.92889	89.37867

YEAR 1980

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	<100 m3/d	7782		7782	3891		3891	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7782	0	7782	3891	0	3891	100	100
4		SWU	1 Otamiwai		908091	908091		476988	476988	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	908091	908091	0	476988	476988	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7782	908091	916873	3891	476988	480879	0.948754	0.809143
11		Non - SWU> =100m3/d + total SWU		0	908091	908091	0	476988	476988	0	0
12		SWU + Non - SWU + Non Con uses		10921	908091	920012	3891	476988	480879	1.18705	0.809143
Reaches A											
13	B	Total NON - SWU		7782	0	7782	3891	0	3891	100	100
14		Total SWU		0	908091	908091	0	476988	476988	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7782	908091	916873	3891	476988	480879	0.948754	0.809143
17		NON - SWU> =100m3/d + Total SWU		0	908091	908091	0	476988	476988	0	0
18		NON - SWU + SWU + Non Con uses		10921	908091	920012	3891	476988	480879	1.18705	0.809143

YEAR 1980

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	<100 m3/d	232463		232463	113149		113149	100	100
2			>=100m3/d			0	0		0	ERR	ERR
3			Total NON - SWU	232463	0	232463	113149	0	113149	100	100
4		SWU	1 St Cyres Spring	185809		185809	167674		167674	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	185809	0	185809	167674	0	167674	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		368372	0	368372	280823	0	280823	100	100
11		Non - SWU> =100m3/d + total SWU		185809	0	185809	167674	0	167674	100	100
12		SWU + Non - SWU + Non Con uses		785666	1592727	2358263	280823	0	280823	32.46243	100
Reaches A - B											
13	B	Total NON - SWU		240245	0	240246	117040	0	117040	100	100
14		Total SWU		166609	909091	1075000	167674	476988	644662	15.4334	26.0096
15		Total Non - consumptive uses		370323	1592727	1863050	0	0	0	18.86467	ERR
16		Total NON - SWU + Total SWU		406154	909091	1315245	284714	476988	761702	30.88048	37.37856
17		NON - SWU> =100m3/d + Total SWU		166609	909091	1075000	167674	476988	644662	15.4334	26.0096
18		NON - SWU + SWU + Non Con uses		776477	2501818	3278295	284714	476988	761702	23.68539	37.37856

YEAR 1980

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	<100 m3/d	116095		116095	57547		57547	100	100
2			>=100m3/d		35455	35455		17727	17727	0	0
3			Total NON - SWU	116095	35455	150550	57547	17727	75274	78.44988	76.45004
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non - SWU		115095	35455	150550	57547	17727	75274	78.44988	76.45004
11		Non - SWU> =100m3/d + total SWU		0	35455	35455	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		173312	35455	208767	57547	17727	75274	63.01695	76.46004
Reaches A - C											
13	C	Total NON - SWU		355340	35455	390795	174587	17727	192314	90.92747	89.78226
14		Total SWU		165909	909091	1075000	167674	476988	644662	15.4334	26.0096
15		Total Non - consumptive uses		429540	1592727	2021267	0	0	0	21.20165	ERR
16		Total NON - SWU + Total SWU		521249	944546	1466795	342261	494715	836976	36.58064	40.89257
17		NON - SWU> =100m3/d + Total SWU		165909	944546	1110456	167674	494715	662389	14.94063	25.31352
18		NON - SWU + SWU + Non Con uses		949789	2537273	3487062	342261	494715	836976	37.23751	40.89257

YEAR 1980

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	<100 m3/d	143648	3179	146727	71876	1535	73411	97.83339	97.90903
2			>=100m3/d		17909	17909		1000	1000	0	0
3			Total NON - SWU	143648	21088	164636	71876	2535	74411	87.19114	96.59325
4		SWU	1 Greenwell Group	3117182		3117182	1666152		1666152	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117182	0	3117182	1666152	0	1666152	100	100
9		Non - consumptive uses		84240	4364991	4449191	0	0	0	1.462917	0
10		Total SWU + Total Non - SWU		3260730	21088	3281818	1627026	2535	1629563	99.35743	99.84444
11		Non - SWU> =100m3/d + total SWU		3117182	17909	3135091	1666152	1000	1666152	99.42876	99.93574
12		SWU + Non - SWU + Non Con uses		3324970	4381039	7706009	1627026	2535	1629563	43.14778	99.84444
Reaches A - D											
13	D	Total NON - SWU		498888	66543	565431	246463	20262	266725	66.81998	92.40341
14		Total SWU		3263091	909091	4172182	1722626	476988	2199614	78.31461	78.31869
15		Total Non - consumptive uses		492780	5952678	6445458	0	0	0	7.645384	ERR
16		Total NON - SWU + Total SWU		3761979	975634	4737613	1969089	497250	2466339	79.86064	79.84017
17		NON - SWU> =100m3/d + Total SWU		3263091	982455	4245546	1722626	495715	2218341	77.33024	77.65581
18		NON - SWU + SWU + Non Con uses		4274759	6918312	11193071	1969089	497250	2466339	39.19112	79.84017

YEAR 1980

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	<100 m3/d	71918		71918	35617		35617	100	100
2			>=100m3/d		22727	22727		11363	11363	0	0
3			Total NON - SWU	71918	22727	94645	35617	11363	46980	75.98711	75.81311
4		SWU	1 Hampton Group	2683816		2683816	1801336		1801336	100	100
5			2 Dobson 4,5	1582838		1582838	419095		419095	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4476654	0	4476654	2220431	0	2220431	100	100
9		Non - consumptive uses		14344	1691145	1705489	0	0	0	0.841049	0
10		Total SWU + Total Non - SWU		4548572	22727	4571299	2256048	11363	2267411	99.50023	99.49886
11		Non - SWU> =100m3/d + total SWU		4476664	22727	4499391	2220431	11363	2231794	99.49489	99.49886
12		SWU + Non - SWU + Non Con uses		4562916	1713872	6276788	2256048	11363	2267411	72.69505	99.49886
Reaches A - E											
13	E	Total NON - SWU		570806	79270	650076	282086	31625	313706	67.80804	89.91887
14		Total SWU		7759745	909091	8668836	3943257	476988	4420245	89.51311	89.20801
15		Total Non - consumptive uses		507124	7643823	8150947	0	0	0	6.221857	ERR
16		Total NON - SWU + Total SWU		8330551	988361	9318912	4225337	508613	4733950	89.38423	89.25605
17		NON - SWU> =100m3/d + Total SWU		7759745	985182	8744927	3943257	507078	4450335	88.73425	88.68585
18		NON - SWU + SWU + Non Con uses		8807675	8632184	17469859	4225337	508613	4733950	50.68813	89.25605

YEAR 1980

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	<100 m3/d	51869	1742	53611	26000	825	26825	88.75067	86.92451
2			>=100m3/d		49999	49999		12021	12021	0	0
3			Total NON - SWU	51869	51741	103610	26000	12846	38846	60.08177	66.83086
4		SWU	1 Dobson 1 - 3,7	3915456		3915456	2589648		2589648	100	100
5			2 Dobson Flat 2,6	945456		945456	222571		222571	100	100
6			3 Clarion			0			0	ERR	ERR
7			4 Kelvinbank Road	795456	1329945	2125000	633881	373310	1007191	37.43318	62.93663
8			Total SWU	5656368	1329945	6986310	3446060	373310	3819360	90.22819	90.27676
9		Non - consumptive uses		43182		43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		5708254	1381286	7089540	3472060	386156	3858216	90.01861	90.04292
11		Non - SWU> =100m3/d + total SWU		5656368	1379944	7036905	3446060	386331	3851391	90.39281	89.99499
12		SWU + Non - SWU + Non Con uses		5708234	1424468	7132702	3472060	386156	3878206	90.02909	90.04292
Reaches A - F											
13	F	Total NON - SWU		622675	131011	753686	338080	44471	382551	82.6173	87.38584
14		Total SWU		13416110	2238636	15654746	7408307	892098	8259905	89.63995	89.78534
15		Total Non - consumptive uses		507124	7687205	8194329	0	0	0	6.18887	ERR
16		Total NON - SWU + Total SWU		14038786	2369647	16408432	7771387	894769	8617156	89.66836	89.61036
17		NON - SWU> =100m3/d + Total SWU		13416110	2364726	15780836	7408301	892409	8301715	89.0152	89.25021
18		NON - SWU + SWU + Non Con uses		14646809	10056852	24802561	7771387	894769	8617156	58.12366	89.61039

YEAR 1981

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	< 100 m3/d	7782		7782	3891		3891	100	100
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7782	0	7782	3891	0	3891	100	100
4		SWU	1 Clearhead		908091	908091		430786	430786	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	908091	908091	0	430786	430786	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7782	908091	915873	3891	430786	434677	0.848754	0.895147
11		Non - SWU > = 100m3/d + total SWU		0	908091	908091	0	430786	430786	0	0
12		SWU + Non - SWU + Non Con uses		10921	908091	919012	3891	430786	434677	1.18705	0.895147
	Reaches A										
13	A	Total NON - SWU		7782	0	7782	3891	0	3891	100	100
14		Total SWU		0	908091	908091	0	430786	430786	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7782	908091	915873	3891	430786	434677	0.848754	0.895147
17		NON - SWU > = 100m3/d + Total SWU		0	908091	908091	0	430786	430786	0	0
18		NON - SWU + SWU + Non Con uses		10921	908091	919012	3891	430786	434677	1.18705	0.895147

YEAR 1981

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	< 100 m3/d	233044		233044	113439		113439	100	100
2			> = 100m3/d			0	0		0	ERR	ERR
3			Total NON - SWU	233044	0	233044	113439	0	113439	100	100
4		SWU	1 St Cyres Spring	165909		165909	143623		143623	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165909	0	165909	143623	0	143623	100	100
9		Non - consumptive uses		367184	1582727	1949911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		398953	0	398953	257062	0	257062	100	100
11		Non - SWU > = 100m3/d + total SWU		165909	0	165909	143623	0	143623	100	100
12		SWU + Non - SWU + Non Con uses		766137	1582727	2348864	257062	0	257062	32.47907	100
	Reaches A - B										
13	B	Total NON - SWU		240826	0	240826	117330	0	117330	100	100
14		Total SWU		165909	909091	1075000	143623	430786	574409	15.4334	25.00361
15		Total Non - consumptive uses		370323	1582727	1953050	0	0	0	18.86467	ERR
16		Total NON - SWU + Total SWU		406735	909091	1315826	260953	430786	691739	30.911	37.7242
17		NON - SWU > = 100m3/d + Total SWU		165909	909091	1075000	143623	430786	574409	15.4334	25.00361
18		NON - SWU + SWU + Non Con uses		777058	2501818	3278876	260953	430786	691739	23.6991	37.7242

YEAR 1981

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	< 100 m3/d	118920		118920	58459		58459	100	100
2			> = 100m3/d		35456	35456		17727	17727	0	0
3			Total NON - SWU	118920	35456	154376	58459	17727	76186	76.73175	76.73195
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non - SWU		118920	35456	154376	58459	17727	76186	76.73175	76.73195
11		Non - SWU > = 100m3/d + total SWU		0	35456	35456	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		175137	35456	210593	58459	17727	76186	83.16413	76.73195
	Reaches A - C										
13	C	Total NON - SWU		357746	35456	393201	175782	17727	193515	90.98296	90.83962
14		Total SWU		165909	909091	1075000	143623	430786	574409	15.4334	25.00361
15		Total Non - consumptive uses		428540	1582727	2011267	0	0	0	21.20156	ERR
16		Total NON - SWU + Total SWU		523655	944546	1468201	319412	448513	767925	35.66644	41.59417
17		NON - SWU > = 100m3/d + Total SWU		165909	944546	1110456	143623	448513	592136	14.94063	24.25507
18		NON - SWU + SWU + Non Con uses		952195	2537273	3489468	319412	448513	767925	27.28768	41.59417

YEAR 1981

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	< 100 m3/d	144046	3026	147072	72393	1472	73865	97.9425	98.00718
2			> = 100m3/d		17909	17909		2100	2100	0	0
3			Total NON - SWU	144046	20935	164981	72393	3572	75965	87.31066	95.29783
4		SWU	1 Greywell Group	3117182		3117182	1747922		1747922	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117182	0	3117182	1747922	0	1747922	100	100
9		Non - consumptive uses		64740	4359451	4424191	0	0	0	1.462017	0
10		Total SWU + Total Non - SWU		3261228	20935	3282163	1820315	3572	1823887	99.36216	99.80415
11		Non - SWU > = 100m3/d + total SWU		3117182	17909	3135091	1747922	2100	1750022	99.42876	99.88
12		SWU + Non - SWU + Non Con uses		3325468	4380386	7706364	1820315	3572	1823887	43.15229	99.80415
	Reaches A - D										
13	D	Total NON - SWU		501792	56390	558182	248182	21299	269481	89.89756	92.09629
14		Total SWU		3283091	909091	4192182	1891545	430786	2322331	78.31461	81.45028
15		Total Non - consumptive uses		492780	5952678	6445458	0	0	0	7.646384	ERR
16		Total NON - SWU + Total SWU		3784883	965481	4750364	2139727	452085	2591812	79.67564	82.55718
17		NON - SWU > = 100m3/d + Total SWU		3283091	962456	4245646	1891545	450613	2342158	77.33024	80.76076
18		NON - SWU + SWU + Non Con uses		4277663	6918159	11195822	2139727	452085	2591812	38.20767	82.55718

YEAR 1981

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	< 100 m3/d	71918		71918	35617		35617	100	100
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	71918	0	71918	35617	0	35617	100	100
4		SWU	1 Harpford Group	2883818		2883818	1597545		1597545	100	100
5			2 Dotton 4,5	1592836		1592836	690691		690691	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4476654	0	4476654	2288236	0	2288236	100	100
9		Non - consumptive uses		14344	1691145	1705489	0	0	0	0.841049	0
10		Total SWU + Total Non - SWU		4548572	0	4548572	2323853	0	2323853	100	100
11		Non - SWU > = 100m3/d + total SWU		4476654	0	4476654	2288236	0	2288236	100	100
12		SWU + Non - SWU + Non Con uses		4562916	1691145	6254061	2323853	0	2323853	72.95925	100
	Reaches A - E										
13	E	Total NON - SWU		573710	56390	630100	283799	21299	305098	91.05063	93.01896
14		Total SWU		7759745	909091	8668836	4179781	430786	4610567	89.51311	90.65655
15		Total Non - consumptive uses		507124	7643623	8150947	0	0	0	6.221957	ERR
16		Total NON - SWU + Total SWU		8333455	965481	9298936	4463580	452085	4915665	89.6173	90.80318
17		NON - SWU > = 100m3/d + Total SWU		7759745	962456	8722200	4179781	450613	4630394	88.96546	90.26837
18		NON - SWU + SWU + Non Con uses		8840579	8609304	17449883	4463580	452085	4915665	50.66268	90.80318

YEAR 1981

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	< 100 m3/d	51869	1742	53611	26000	825	26825	96.75067	96.92461
2			> = 100m3/d		27272	27272		7937	7937	0	0
3			Total NON - SWU	51865	29014	80883	26000	8762	34762	64.12843	74.79432
4		SWU	1 Dotton 1 - 3,7	3815456		3815456	2366402		2366402	100	100
5			2 Colaton Ral 2,4	945456		945456	278803		278803	100	100
6			3 Otterton			0			0	ERR	ERR
7			4 Kersbrook/Tipwell	795456	1329545	2125000	725878	411236	1137114	37.43318	63.83511
8			Total SWU	5556368	1329545	6885910	3371083	411236	3782319	80.69819	89.12741
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		5708234	1358568	7066793	3397083	419998	3817081	80.77646	88.99688
11		Non - SWU > = 100m3/d + total SWU		5656385	1356817	7013182	3371083	419173	3790256	80.65333	88.94077
12		SWU + Non - SWU + Non Con uses		5708234	1401741	7109975	3397083	419998	3817081	80.28487	88.99688
	Reaches A - F										
13	F	Total NON - SWU		625579	85404	710983	309799	30061	339860	87.9879	91.15489
14		Total SWU		13416110	2238636	15654746	7550864	842022	8392886	85.69995	89.96743
15		Total Non - consumptive uses		507124	7687005	8194129	0	0	0	6.18887	ERR
16		Total NON - SWU + Total SWU		14041689	2324040	16365729	7860663	872083	8732746	85.79035	90.01365
17		NON - SWU > = 100m3/d + Total SWU		13416110	2319772	15735882	7550864	869786	8420650	85.26078	89.6709
18		NON - SWU + SWU + Non Con uses		14548813	10011045	24559858	7860663	872083	8732746	59.23818	90.01365

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
7			4			0			0	ERR	ERR
8			Total SWU	3117182	0	3117182	1617086	0	1617086	100	100
9		Non - consumptive uses		64240	4359951	4424191	0	0	0	1 452017	0
10		Total SWU + Total Non - SWU		3261226	20935	3282163	1691353	2276	1693629	99 36216	99 86561
11		Non - SWU > = 100m3/d + total SWU		3117182	17906	3135091	1617086	822	1617908	99 42876	99 94919
12		SWU + Non - SWU + Non Con uses		3325466	4380886	7706354	1691353	2276	1693629	43 15229	99 86561
	Reaches 4 - D										
13 D		Total NON - SWU		507340	56390	563730	252831	20003	272834	89 99695	92 66844
14		Total SWU		3283091	909091	4192182	1790390	433623	2224013	78 31461	80 50268
15		Total Non - consumptive uses		492780	5952678	6445458	0	0	0	7 645384	ERR
16		Total NON - SWU + Total SWU		3790431	966481	4756912	2043221	453626	2496847	79 68935	81 83206
17		NON - SWU > = 100m3/d + Total SWU		3283091	962456	4245646	1790390	452172	2242562	77 33024	79 83681
18		NON - SWU + SWU + Non Con uses		4283211	6918159	11201370	2043221	453626	2496847	38 23826	81 83206

YEAR 1982

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 E		NON - SWU	< 100 m3/d	71752		71752	35617		35617	100	100
2			> = 100m3/d		6164	6164		411	411	0	0
3			Total NON - SWU	71752	6164	77916	35617	411	36028	92 08892	98 85922
4		SWU	1 Hereford Group	2883816		2883818	1663647		1663647	100	100
5			2 Doston 4,5	1592836		1592836	729721		729721	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4476654	0	4476654	2393368	0	2393368	100	100
9		Non - consumptive uses		13578	1691145	1704723	0	0	0	0 796493	0
10		Total SWU + Total Non - SWU		4548406	6164	4554570	2428985	411	2429396	99 86466	99 98308
11		Non - SWU > = 100m3/d + total SWU		4476654	6164	4482818	2393368	411	2393779	99 8625	99 98283
12		SWU + Non - SWU + Non Con uses		4561984	1697309	6259293	2428985	411	2429396	72 88336	99 98308
	Reaches 4 - E										
13 E		Total NON - SWU		579092	62564	641646	288448	20414	308862	90 25101	93 39058
14		Total SWU		7759745	909091	8668836	4183758	433623	4617381	89 51311	90 6089
15		Total Non - consumptive uses		506358	7643823	8150181	0	0	0	6 212844	ERR
16		Total NON - SWU + Total SWU		8338837	971645	9310482	4472206	454037	4926243	89 56397	90 7833
17		NON - SWU > = 100m3/d + Total SWU		7759745	968619	8728364	4183758	452583	4636341	88 90263	90 23836
18		NON - SWU + SWU + Non Con uses		8845195	8615468	17460663	4472206	454037	4926243	50 65784	90 7833

YEAR 1982

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 F		NON - SWU	< 100 m3/d	48261	1742	50003	24546	825	25371	96 51621	96 74826
2			> = 100m3/d		27272	27272		11123	11123	0	0
3			Total NON - SWU	48261	29014	77275	24646	11948	36494	62 45367	67 26037
4		SWU	1 Dolton 1 - 3,7	3015456		3015456	2869064		2869064	100	100
5			2 Cannon Rd 2/4	945455		945455	163398		163398	100	100
6			3 Otterton			0			0	ERR	ERR
7			4 Kersbrook/Tidwell	795456	1329645	2125000	558006	357702	916711	37 43318	60 97986
8			Total SWU	5656365	1329545	6985910	3611471	357702	3969173	80 96819	90 988
9		Non - consumptive uses			43115	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		5704626	1358559	7063185	3636017	369650	4005667	80 78663	90 77182
11		Non - SWU > = 100m3/d + total SWU		5656365	1356817	7013182	3611471	368825	3980296	80 65332	90 73373
12		SWU + Non - SWU + Non Con uses		5704626	1401741	7106367	3636017	369650	4005667	80 27486	90 77182
	Reaches 4 - F										
13 F		Total NON - SWU		627363	91668	718921	312964	32362	345366	87 26313	90 62936
14		Total SWU		13416110	2238636	15654746	7795229	791325	8586554	85 69995	90 78414
15		Total Non - consumptive uses		506358	7687005	8193363	0	0	0	6 1801	ERR
16		Total NON - SWU + Total SWU		14043463	2330204	16373667	8108223	823687	8931910	85 76866	90 77815
17		NON - SWU > = 100m3/d + Total SWU		13416110	2325436	15741546	7795229	821408	8616637	85 2274	90 46719
18		NON - SWU + SWU + Non Con uses		14549821	10017209	24567030	8108223	823687	8931910	59 22499	90 77815

YEAR: 1981

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	<100 m3/d	7946		7946	3974		3974	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7946	0	7946	3974	0	3974	100	100
4		SWU	1 Clearhead		908091	908091		433623	433623	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	908091	908091	0	433623	433623	0	0
9		Non - consumptive uses		31139		31139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7946	908091	916037	3974	433623	437597	0.866703	0.908142
11		Non - SWU> =100m3/d + total SWU		0	908091	908091	0	433623	433623	0	0
12		SWU + Non - SWU + Non Con uses		11087	908091	920178	3974	433623	437597	1.204676	0.908142
	Reaches A										
13	A	Total NON - SWU		7946	0	7946	3974	0	3974	100	100
14		Total SWU		0	908091	908091	0	433623	433623	0	0
15		Total Non - consumptive uses		31139	0	31139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7946	908091	916037	3974	433623	437597	0.866703	0.908142
17		NON - SWU> =100m3/d + Total SWU		0	908091	908091	0	433623	433623	0	0
18		NON - SWU + SWU + Non Con uses		11087	908091	920178	3974	433623	437597	1.204676	0.908142

YEAR: 1982

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	<100 m3/d	233136		233136	113486		113486	100	100
2			>=100m3/d			0	0		0	ERR	ERR
3			Total NON - SWU	233136	0	233136	113486	0	113486	100	100
4		SWU	1 St Cyres Spring	165809		165809	173304		173304	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165809	0	165809	173304	0	173304	100	100
9		Non - consumptive uses		3571184	1582727	1992911	0	0	0	18 73473	0
10		Total SWU + Total Non - SWU		3736045	0	3736045	286790	0	286790	100	100
11		Non - SWU> =100m3/d + total SWU		165809	0	165809	173304	0	173304	100	100
12		SWU + Non - SWU + Non Con uses		766229	1582727	2348956	286790	0	286790	32 4817	100
	Reaches A - B										
13	B	Total NON - SWU		241284	0	241284	117480	0	117480	100	100
14		Total SWU		165809	908091	1073900	173304	433623	606927	15 4334	28 56434
15		Total Non - consumptive uses		3703223	1582727	1963950	0	0	0	18 86467	ERR
16		Total NON - SWU + Total SWU		406993	909091	1318884	290784	433623	724387	30 82456	40 13932
17		NON - SWU> =100m3/d + Total SWU		165809	908091	1073900	173304	433623	606927	15 4334	28 56434
18		NON - SWU + SWU + Non Con uses		777316	2501818	3279134	290784	433623	724387	23 70492	40 13932

YEAR: 1983

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	<100 m3/d	122210		122210	61104		61104	100	100
2			>=100m3/d		35456	35456		17727	17727	0	0
3			Total NON - SWU	122210	35456	157666	61104	17727	78831	77 51245	77 51265
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non - SWU		122210	35456	157666	61104	17727	78831	77 51245	77 51265
11		Non - SWU> =100m3/d + total SWU		0	35456	35456	0	17727	17727	0	0
12		SWU + Non - SWU + Non Con uses		180427	35456	215882	61104	17727	78831	63 57886	77 51265
	Reaches A - C										
13	C	Total NON - SWU		363294	35456	398749	178664	17727	196391	91 10844	90 96302
14		Total SWU		165809	908091	1073900	173304	433623	606927	15 4334	28 56434
15		Total Non - consumptive uses		4291540	1582727	5921267	0	0	0	21 20155	ERR
16		Total NON - SWU + Total SWU		529103	944546	1473749	351968	451350	803318	35 90867	43 80729
17		NON - SWU> =100m3/d + Total SWU		165809	944546	1110456	173304	451350	624654	14 94063	27 744
18		NON - SWU + SWU + Non Con uses		957743	2537273	3495016	351968	451350	803318	27 40311	43 80729

YEAR: 1984

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	<100 m3/d	144044	3026	147070	74267	1454	75721	97 9421	98 07979
2			>=100m3/d		17909	17909		822	822	0	0
3			Total NON - SWU	144044	20935	164981	74267	2276	76543	97 31066	97 02651
4		SWU	1 Greatwell Group	3117182		3117182	1617086		1617086	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR

Row	Reach			G/W	S/W	Total	G/W	S/W	Total	Auth	Actual
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117182	0	3117182	1814916	0	1814916	100	100
9		Non - consumptive uses		64240	4359951	4424191	0	0	0	1 452017	0
10		Total SWU + Total Non - SWU		3261228	20936	3282163	1896924	13462	1910386	99 36216	99 29533
11		Non - SWU> =100m3/d + total SWU		3117182	17909	3135091	1814916	11874	1826790	99 42876	99 35001
12		SWU + Non - SWU + Non Con uses		3325468	4380886	7706354	1896924	13462	1910386	43 15229	99 29533
	Reaches A - D										
13 D		Total NON - SWU		610210	56390	666600	265089	31189	296278	90 04765	89 47306
14		Total SWU		3283091	909091	4192182	1963568	473683	2437241	78 31461	80 56479
15		Total Non - consumptive uses		492780	5952678	6445458	0	0	0	7 645384	ERR
16		Total NON - SWU + Total SWU		3793301	965481	4758782	2228647	504872	2733519	79 71159	81 53033
17		NON - SWU> =100m3/d + Total SWU		3283061	962466	4245546	1963556	503264	2466842	77 33024	79 59804
18		NON - SWU + SWU + Non Con uses		4286081	6918159	11204240	2228647	504872	2733519	38 2541	81 53033

YEAR 1983

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 E		NON - SWU	< 100 m3/d	71254		71254	35617		35617	100	100
2			> = 100m3/d		6164	6164		0	0	0	ERR
3			Total NON - SWU	71254	6164	77418	35617	0	35617	92 03803	100
4		SWU	1 Harpford Group	2883818		2883818	1731256		1731256	100	100
5			2 Dotton 4.5	1592836		1592836	874593		874593	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4476654	0	4476654	2605849	0	2605849	100	100
9		Non - consumptive uses		13578	1691145	1704723	0	0	0	0 796493	0
10		Total SWU + Total Non - SWU		4547908	6164	4554072	2641466	0	2641466	99 8646E	100
11		Non - SWU> =100m3/d + total SWU		4476654	6164	4482818	2605849	0	2605849	99 8625	100
12		SWU + Non - SWU + Non Con uses		4561486	1697309	6258795	2641466	0	2641466	72 88122	100
	Reaches A - E										
13 E		Total NON - SWU		581464	62564	644018	300706	31189	331895	90 28502	90 60275
14		Total SWU		7758745	909091	8668836	4569407	473683	5043090	89 51311	90 60729
15		Total Non - consumptive uses		506358	7643823	8150181	0	0	0	6 212844	ERR
16		Total NON - SWU + Total SWU		8341200	971645	9312854	4870113	504872	5374985	89 56662	90 60701
17		NON - SWU> =100m3/d + Total SWU		7759745	968619	8728364	4569407	503264	5072691	88 90263	90 07866
18		NON - SWU + SWU + Non Con uses		8847567	8615468	17463035	4870113	504872	5374985	50 66454	90 60701

YEAR 1983

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 F		NON - SWU	< 100 m3/d	48261	1742	50003	24546	917	25463	96 51621	96 3987
2			> = 100m3/d		58090	58090		55298	55298	0	0
3			Total NON - SWU	48261	59832	108093	24646	56215	80761	44 64786	30 39336
4		SWU	1 Dotton 1 - 3.7	3815456		3815456	2744207		2744207	100	100
5			2 Coleton Rat 2.4	945456		946456	301948		301948	100	100
6			3 Otterton			0			0	ERR	ERR
7			4 Kerswell/Tidwell	795456	1329546	2125000	414747	414716	829462	37 43318	50 00193
8			Total SWU	5556365	1329545	6885910	3460522	414715	3875237	80 69819	89 29833
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		6704626	1389377	7094003	3485068	470930	3955998	80 41477	88 0958
11		Non - SWU> =100m3/d + total SWU		5656366	1387635	7044000	3460522	470013	3930535	80 30047	88 04201
12		SWU + Non - SWU + Non Con uses		6704626	1432560	7137186	3485068	470930	3955998	79 92824	88 0958
	Reaches A - F										
13 F		Total NON - SWU		629725	122386	752111	325252	87404	412656	83 72767	78 81816
14		Total SWU		13416110	2238636	15654746	8029929	888398	8918327	85 69995	90 03851
15		Total Non - consumptive uses		506358	7687005	8193363	0	0	0	6 1801	ERR
16		Total NON - SWU + Total SWU		14045835	2361022	16406857	8366181	975802	9330983	85 60954	89 54235
17		NON - SWU> =100m3/d + Total SWU		13416110	2356254	15772364	8029929	973297	9003226	85 06067	89 18944
18		NON - SWU + SWU + Non Con uses		14562193	10046027	24600220	8366181	975802	9330983	59 15473	89 54235

YEAR 1980

Row	Reach			Total Authorised GW	Total Authorised SW	Total Total Actual GW	Total Total Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	A	NON - SWU	<100 m3/d	7948		7948	3974	3974	100	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	7948	0	7948	3974	0 3974	100	100
4		SWU	1 Deerhead		909091	909091		473683 473683	0	0
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	0	909091	909091	0	473683 473683	0	0
9		Non - consumptive uses		3139		3139	0	0 0	100	0
10		Total SWU + Total Non - SWU		7948	909091	917039	3974	473683 477657	0.998703	0.831978
11		Non - SWU> =100m3/d + total SWU		0	909091	909091	0	473683 473683	0	0
12		SWU + Non - SWU + Non Con uses		11087	909091	920178	3974	473683 477657	1.394876	0.831978
Reaches A										
13	A	Total NON - SWU		7948	0	7948	3974	0 3974	100	100
14		Total SWU		0	909091	909091	0	473683 473683	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0 0	100	ERR
16		Total NON - SWU + Total SWU		7948	909091	917039	3974	473683 477657	0.998703	0.831978
17		NON - SWU> =100m3/d + Total SWU		0	909091	909091	0	473683 473683	0	0
18		NON - SWU + SWU + Non Con uses		11087	909091	920178	3974	473683 477657	1.394876	0.831978

YEAR 1980

Row	Reach			Total Authorised GW	Total Authorised SW	Total Total Actual GW	Total Total Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	B	NON - SWU	<100 m3/d	233671		233671	116786	116786	100	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	233671	0	233671	116786	0 116786	100	100
4		SWU	1 St Cyres Spring	185809		185809	148642	148642	100	100
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	185809	0	185809	148642	0 148642	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0 0	18.73473	0
10		Total SWU + Total Non - SWU		399480	0	399480	265427	0 265427	100	100
11		Non - SWU> =100m3/d + total SWU		185809	0	185809	148642	0 148642	100	100
12		SWU + Non - SWU + Non Con uses		788864	1592727	2359591	265427	0 265427	33.48415	100
Reaches A - B										
13	B	Total NON - SWU		341518	0	341518	135768	0 135768	100	100
14		Total SWU		185809	909091	1075000	148642	473683 622325	16.4334	23.89485
15		Total Non - consumptive uses		370323	1592727	1963050	0	0 0	18.86467	ERR
16		Total NON - SWU + Total SWU		407428	909091	1316519	269401	473683 743084	30.94737	36.25445
17		NON - SWU> =100m3/d + Total SWU		185809	909091	1075000	148642	473683 622325	16.4334	23.89495
18		NON - SWU + SWU + Non Con uses		777751	2501819	3279589	269401	473683 743084	23.71604	36.25446

YEAR 1980

Row	Reach			Total Authorised GW	Total Authorised SW	Total Total Actual GW	Total Total Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	C	NON - SWU	<100 m3/d	124645		124645	62322	62322	100	100
2			>=100m3/d		35455	35455		17727 17727	0	0
3			Total NON - SWU	124645	35455	160100	62322	17727 80049	77.85447	77.85481
4		SWU	1			0		0	ERR	ERR
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	0	0	0	0	0 0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0 0	100	0
10		Total SWU + Total Non - SWU		124645	35455	160100	62322	17727 80049	77.85447	77.85481
11		Non - SWU> =100m3/d + total SWU		0	35466	35455	0	17727 17727	0	0
12		SWU + Non - SWU + Non Con uses		182862	35455	218317	62322	17727 80049	83.76805	77.85481
Reaches A - C										
13	C	Total NON - SWU		386164	35455	421619	183081	17727 200808	91.17188	91.17216
14		Total SWU		185809	909091	1075000	148642	473683 622325	16.4334	23.89495
15		Total Non - consumptive uses		429640	1592727	2021267	0	0 0	21.25155	ERR
16		Total NON - SWU + Total SWU		572073	944546	1478619	331723	491410 823133	30.53319	40.33006
17		NON - SWU> =100m3/d + Total SWU		185809	944546	1130455	148642	491410 640052	14.94063	23.27343
18		NON - SWU + SWU + Non Con uses		960813	2537273	3498086	331723	491410 823133	27.46267	40.33006

YEAR 1980

Row	Reach			Total Authorised GW	Total Authorised SW	Total Total Actual GW	Total Total Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	D	NON - SWU	<100 m3/d	144046	3026	147072	82006	1586 83586	97.9425	98.10039
2			>=100m3/d		17809	17809		11874 11874	0	0
3			Total NON - SWU	144046	20835	164881	82006	13462 95470	87.31086	85.89924
4		SWU	1 Greatwell Group	3117182		3117182	1914916	1914916	100	100
5			2			0		0	ERR	ERR

YEAR 1984

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON-SWU	<100 m3/d	7948		7948	3974		3974	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON-SWU	7948	0	7948	3974	0	3974	100	100
4		SWU	1 Overhead		909091	909091		868482	868482	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	868482	868482	0	0
9		Non-consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non-SWU		7948	909091	917039	3974	868482	872456	0.866703	0.455496
11		Non-SWU>=100m3/d + total SWU		0	909091	909091	0	868482	868482	0	0
12		SWU + Non-SWU + Non Con uses		11087	909091	920178	3974	868482	872456	1.204876	0.455496
	Reaches A										
13	A	Total NON-SWU		7948	0	7948	3974	0	3974	100	100
14		Total SWU		0	909091	909091	0	868482	868482	0	0
15		Total Non-consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON-SWU + Total SWU		7948	909091	917039	3974	868482	872456	0.866703	0.455496
17		NON-SWU>=100m3/d + Total SWU		0	909091	909091	0	868482	868482	0	0
18		NON-SWU + SWU + Non Con uses		11087	909091	920178	3974	868482	872456	1.204876	0.455496

YEAR 1984

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON-SWU	<100 m3/d	234360		234360	117180		117180	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON-SWU	234360	0	234360	117180	0	117180	100	100
4		SWU	1 St Cyres Spring	165930		165930	126730		126730	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165930	0	165930	126730	0	126730	100	100
9		Non-consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non-SWU		400290	0	400290	243910	0	243910	100	100
11		Non-SWU>=100m3/d + total SWU		165930	0	165930	126730	0	126730	100	100
12		SWU + Non-SWU + Non Con uses		767474	1592727	2360201	243910	0	243910	32.51732	100
	Reaches A-B										
13	B	Total NON-SWU		242308	0	242308	121154	0	121154	100	100
14		Total SWU		165930	909091	1075021	126730	868482	995212	15.43505	12.73397
15		Total Non-consumptive uses		370323	1592727	1963050	0	0	0	18.86467	ERR
16		Total NON-SWU + Total SWU		408238	909091	1317329	247884	868482	1116366	30.98983	22.20455
17		NON-SWU>=100m3/d + Total SWU		165930	909091	1075021	126730	868482	995212	15.43505	12.73397
18		NON-SWU + SWU + Non Con uses		778561	2501818	3280379	247884	868482	1116366	23.73387	22.20455

YEAR 1984

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON-SWU	<100 m3/d	123683		123683	61841		61841	100	100
2			>=100m3/d		35455	35455		17727	17727	0	0
3			Total NON-SWU	123683	35455	159138	61841	17727	79568	77.72069	77.72094
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non-consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non-SWU		123683	35455	159138	61841	17727	79568	77.72069	77.72094
11		Non-SWU>=100m3/d + total SWU		0	35455	35455	0	17727	17727	0	0
12		SWU + Non-SWU + Non Con uses		181900	35455	217355	61841	17727	79568	83.68796	77.72094
	Reaches A-C										
13	C	Total NON-SWU		365991	35455	401446	182995	17727	200722	91.16818	91.16835
14		Total SWU		165930	909091	1075021	126730	868482	995212	15.43505	12.73397
15		Total Non-consumptive uses		428540	1592727	2021267	0	0	0	21.20156	ERR
16		Total NON-SWU + Total SWU		531921	944546	1476467	309725	886209	1195934	36.02661	25.89817
17		NON-SWU>=100m3/d + Total SWU		165930	944546	1110476	126730	886209	1012939	14.94224	12.51112
18		NON-SWU + SWU + Non Con uses		960461	2537273	3497734	309725	886209	1195934	27.45952	25.89817

YEAR 1984

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON-SWU	<100 m3/d	140182	3026	143208	91135	1588	92723	97.88699	98.28737
2			>=100m3/d	21094	17909	39003		18422	18422	54.08302	0
3			Total NON-SWU	161276	20935	182211	91135	20010	111145	88.51057	81.99649
4		SWU	1 Greatweir Group	3117535		3117535	2004648		2004648	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117535	0	3117535	2004648	0	2004648	100	100
9		Non-consumptive uses		64240	4359951	4424191	0	0	0	1.452017	0
10		Total SWU + Total Non-SWU		3278811	20935	3299746	2095783	20010	2115793	99.36555	99.05426
11		Non-SWU>=100m3/d + total SWU		3138629	17909	3156538	2004648	18422	2023070	99.43264	99.0894
12		SWU + Non-SWU + Non Con uses		3343051	4380886	7723937	2095783	20010	2115793	43.2817	99.05426
	Reaches A-D										
13	D	Total NON-SWU		527267	56390	583657	274130	37737	311867	90.3386	87.89966
14		Total SWU		3283465	909091	4192556	2131378	868482	2999860	78.31854	71.04925
15		Total Non-consumptive uses		492780	5952678	6445458	0	0	0	7.645394	ERR
16		Total NON-SWU + Total SWU		3810732	965481	4776213	2405508	906219	3311727	79.78564	72.63606
17		NON-SWU>=100m3/d + Total SWU		3304559	962455	4267014	2131378	904631	3036009	77.4443	70.20326
18		NON-SWU + SWU + Non Con uses		4303512	6918159	11221671	2405508	906219	3311727	38.35001	72.63606

YEAR 1984

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON-SWU	<100 m3/d	71254		71254	35617		35617	100	100
2			>=100m3/d		20805	20805		0	0	0	ERR
3			Total NON-SWU	71254	20805	92059	35617	0	35617	77.40036	100
4		SWU	1 Hartford Group	2883818		2883818	1758080		1758080	100	100
5			2 Dotton 4,5	1592836		1592836	899605		899605	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4476654	0	4476654	2657685	0	2657685	100	100
9		Non-consumptive uses		13578	1691145	1704723	0	0	0	0.796493	0
10		Total SWU + Total Non-SWU		4547908	20805	4568713	2693302	0	2693302	99.54462	100
11		Non-SWU>=100m3/d + total SWU		4476654	20805	4497459	2657685	0	2657685	99.53741	100
12		SWU + Non-SWU + Non Con uses		4561486	1711950	6273436	2693302	0	2693302	72.71113	100
	Reaches A-E										
13	E	Total NON-SWU		598521	77195	675716	309747	37737	347484	88.57562	89.13993
14		Total SWU		7760119	909091	8669210	4789063	868482	5657545	89.51357	84.64914
15		Total Non-consumptive uses		506358	7643823	8150181	0	0	0	6.212844	ERR
16		Total NON-SWU + Total SWU		8358640	986286	9344926	5098810	906219	6005029	89.44576	84.909
17		NON-SWU>=100m3/d + Total SWU		7781213	983260	8764473	4789063	904631	5693694	88.7813	84.1117
18		NON-SWU + SWU + Non Con uses		8864998	8630109	17495107	5098810	906219	6005029	50.6713	84.909

YEAR 1984

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON-SWU	<100 m3/d	48261	1742	50003	24529	917	25446	96.51621	96.39629
2			>=100m3/d		58090	58090		62032	62032	0	0
3			Total NON-SWU	48261	59832	108093	24529	62949	87478	44.64766	28.04019
4		SWU	1 Dotton 1-3,7	3915456		3915456	2494818		2494818	100	100
5			2 Colaton Raleigh 2,4	945456		945456	823808		823808	100	100
6			3 Chenor			0			0	ERR	ERR
7			4 Kersbrook/Tidwell	795466	1329545	2125011	429002	357725	786727	37.43318	54.52907
8			Total SWU	5656365	1329545	6985910	3747638	357725	4105363	80.96819	91.28638
9		Non-consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non-SWU		5704626	1389377	7094003	3772167	420674	4192841	80.41477	89.96693
11		Non-SWU>=100m3/d + total SWU		5656365	1387635	7044000	3747638	419757	4167395	80.30047	89.92757
12		SWU + Non-SWU + Non Con uses		5704626	1432559	7137185	3772167	420674	4192841	79.92624	89.96693
	Reaches A-F										
13	F	Total NON-SWU		646782	137027	783809	334276	100686	434962	82.51781	76.85177
14		Total SWU		13416484	2238636	15655120	8536701	1226207	9762908	85.70025	87.44013
15		Total Non-consumptive uses		506358	7687005	8193363	0	0	0	6.1801	ERR
16		Total NON-SWU + Total SWU		14063266	2375663	16438929	8870977	1326893	10197870	85.54866	86.98852
17		NON-SWU>=100m3/d + Total SWU		13437578	2370895	15808473	8536701	1324388	9861089	85.00236	86.56954
18		NON-SWU + SWU + Non Con uses		14569624	10062668	24632292	8870977	1326893	10197870	59.14847	86.98852

YEAR 1985

Row	Reach			Total Authorised GW	Total Authorised SW	Total net Actual GW	Total net Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	A	NON - SWU	<100 m3/d	7948		7948	3974	3974	100	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	7948	0	7948	3974	0 3974	100	100
4		SWU	1 Oasthead		909091	909091		922208 922208	0	0
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	0	909091	909091	0	922208 922208	0	0
9		Non - consumptive uses		31.39		31.39	0	0 0	100	0
10		Total SWU + Total Non - SWU		7948	909091	917039	3974	922208 926182	0.885703	0.756252
11		Non - SWU> =100m3/d + total SWU		0	909091	909091	0	922208 922208	0	0
12		SWU + Non - SWU + Non Con uses		11087	909091	920178	3974	922208 926182	1.204676	0.756252
	Reaches A									
13	A	Total NON - SWU		7948	0	7948	3974	0 3974	100	100
14		Total SWU		0	909091	909091	0	922208 922208	0	0
15		Total Non - consumptive uses		31.39	0	31.39	0	0 0	100	ERR
16		Total NON - SWU + Total SWU		7948	909091	917039	3974	922208 926182	0.885703	0.756252
17		NON - SWU> =100m3/d + Total SWU		0	909091	909091	0	922208 922208	0	0
18		NON - SWU + SWU + Non Con uses		11087	909091	920178	3974	922208 926182	1.204676	0.756252

YEAR 1985

Row	Reach			Total Authorised GW	Total Authorised SW	Total net Actual GW	Total net Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	B	NON - SWU	<100 m3/d	234680		234680	117289	117289	100	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	234680	0	234680	117289	0 117289	100	100
4		SWU	1 St Cyres Spring	186930		186930	186850	186850	100	100
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	186930	0	186930	186850	0 186850	100	100
9		Non - consumptive uses		367194	1592727	1959911	0	0 0	18.73473	0
10		Total SWU + Total Non - SWU		400510	0	400510	244139	0 244139	100	100
11		Non - SWU> =100m3/d + total SWU		186930	0	186930	186850	0 186850	100	100
12		SWU + Non - SWU + Non Con uses		787884	1592727	2380421	244139	0 244139	32.5236	100
	Reaches A - B									
13	B	Total NON - SWU		242628	0	242628	121263	0 121263	100	100
14		Total SWU		186930	909091	1075021	186850	922208 649058	15.43505	18.54371
15		Total Non - consumptive uses		370323	1592727	1963050	0	0 0	18.86467	ERR
16		Total NON - SWU + Total SWU		408468	909091	1317549	248113	922208 770321	31.00135	32.20804
17		NON - SWU> =100m3/d + Total SWU		186930	909091	1075021	186850	922208 649058	15.43505	19.54371
18		NON - SWU + SWU + Non Con uses		778781	2501818	3280599	248113	922208 770321	23.73889	32.20804

YEAR 1985

Row	Reach			Total Authorised GW	Total Authorised SW	Total net Actual GW	Total net Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	C	NON - SWU	<100 m3/d	122605		122605	61301	61301	100	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	122605	0	122605	61301	0 61301	100	100
4		SWU	1			0		0	ERR	ERR
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	0	0	0	0	0 0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0 0	100	0
10		Total SWU + Total Non - SWU		122605	0	122605	61301	0 61301	100	100
11		Non - SWU> =100m3/d + total SWU		0	0	0	0	0 0	ERR	ERR
12		SWU + Non - SWU + Non Con uses		180822	0	180822	61301	0 61301	100	100
	Reaches A - C									
13	C	Total NON - SWU		365133	0	365133	182564	0 182564	100	100
14		Total SWU		186930	909091	1075021	186850	922208 649058	15.43505	19.54371
15		Total Non - consumptive uses		428540	1592727	2021267	0	0 0	21.20156	ERR
16		Total NON - SWU + Total SWU		551063	909091	1440154	309414	922208 831622	38.87543	37.20809
17		NON - SWU> =100m3/d + Total SWU		186930	909091	1075021	186850	922208 649058	15.43505	19.54371
18		NON - SWU + SWU + Non Con uses		959663	2501818	3461421	309414	922208 831622	27.72281	37.20809

YEAR 1985

Row	Reach			Total Authorised GW	Total Authorised SW	Total net Actual GW	Total net Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	D	NON - SWU	<100 m3/d	146490	3026	146516	72744	1549 74293	97.96251	97.91501
2			>=100m3/d	21094	17909	39003	10500	5650 16150	64.09752	65.01548
3			Total NON - SWU	166584	20936	187519	83244	7199 90443	86.8358	92.04029
4		SWU	1 Greenwell Group	3117636		3117636	2009993	2009993	100	100
5			2			0		0	ERR	ERR

Row	Reach			G/W	S/W	Total	G/W	S/W	Total	Auth	Actual
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117536	0	3117536	2009993	0	2009993	100	100
9		Non-consumptive uses		71640	4358951	4471491	0	0	0	1.614356	0
10		Total SWU + Total Non-SWU		3284119	20936	3305054	2093237	7199	2100436	99.36658	99.65726
11		Non-SWU>=100m3/d + total SWU		3138629	17909	3156538	2020493	6650	2026143	99.43264	99.72115
12		SWU + Non-SWU + Non Con uses		3355659	4380886	7736545	2093237	7199	2100436	43.37413	99.65726
	Reaches A-D										
13	D	Total NON-SWU		631717	20936	652652	265808	7199	273007	96.2119	97.36307
14		Total SWU		3283486	909091	4192566	2138843	522208	2660051	78.31854	80.36111
15		Total Non-consumptive uses		500080	5952679	6452758	0	0	0	7.749864	ERR
16		Total NON-SWU + Total SWU		3816182	930026	4746208	2402651	529407	2932058	80.40073	81.94418
17		NON-SWU>=100m3/d + Total SWU		3304559	927000	4231559	2147343	527856	2675201	78.08316	80.26647
18		NON-SWU + SWU + Non Con uses		4315262	6882704	11197966	2402651	529407	2932058	38.53612	81.94418

YEAR 1985

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON-SWU	<100 m3/d	71254		71254	35617		35617	100	100
2			>=100m3/d		20806	20806		900	900	0	0
3			Total NON-SWU	71254	20806	92059	35617	900	36517	77.40036	97.53539
4		SWU	1 Hempford Group	2774000		2774000	1606637		1606637	100	100
5			2 Daston 4,5	1592000		1592000	870314		870314	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4366000	0	4366000	2475851	0	2475851	100	100
9		Non-consumptive uses		13578	1691145	1704723	0	0	0	0.796493	0
10		Total SWU + Total Non-SWU		4437254	20806	4458059	2511468	900	2512368	99.53332	99.96418
11		Non-SWU>=100m3/d + total SWU		4366000	20806	4386806	2475851	900	2476751	99.52574	99.96366
12		SWU + Non-SWU + Non Con uses		4450832	1711950	6162782	2511468	900	2512368	72.22115	99.96418
	Reaches A-E										
13	E	Total NON-SWU		602971	41740	644711	301425	8099	309524	93.52578	97.3834
14		Total SWU		7649485	908091	8558556	4612694	522208	5134902	89.37799	89.83022
15		Total Non-consumptive uses		513656	7643823	8157481	0	0	0	6.296772	ERR
16		Total NON-SWU + Total SWU		8252436	950031	9203267	4914119	530307	5444426	89.66856	90.25863
17		NON-SWU>=100m3/d + Total SWU		7670559	947805	8618364	4623194	528756	5151952	89.0025	89.73674
18		NON-SWU + SWU + Non Con uses		8766094	8594654	17360748	4914119	530307	5444426	50.49376	90.25863

YEAR 1985

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON-SWU	<100 m3/d	32616	1742	34358	16581	897	17478	94.92986	94.86763
2			>=100m3/d	31827	337422	369249	7365	47573	54938	8.619397	13.40607
3			Total NON-SWU	64443	339164	403607	23946	48470	72416	15.96677	33.06728
4		SWU	1 Dotton 1-3,7	3815000		3815000	2371428		2371428	100	100
5			2 Casson Rd 2,4	945340		945340	873800		873800	100	100
6			3 Clearion			0			0	ERR	ERR
7			4 Kerdoroook/Tidwell	795560	1327616	2123176	563596	401080	964676	37.4703	67.98784
8			Total SWU	5555900	1327615	6883515	3798824	401080	4199904	80.9890	90.45026
9		Non-consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non-SWU		5720343	1666779	7387122	3822770	449550	4272320	77.43669	89.47761
11		Non-SWU>=100m3/d + total SWU		5887727	1665037	7352764	3806189	448653	4254842	77.36495	89.45647
12		SWU + Non-SWU + Non Con uses		5720343	1709961	7430304	3822770	449550	4272320	76.98644	89.47761
	Reaches A-F										
13	F	Total NON-SWU		667414	380904	1048318	325371	56569	381940	63.66522	85.18903
14		Total SWU		13305365	2236706	15542071	8411518	923280	9334806	85.6087	90.10919
15		Total Non-consumptive uses		513868	7687005	8200663	0	0	0	6.263616	ERR
16		Total NON-SWU + Total SWU		13672779	2617610	16590389	8736889	979857	9716746	84.22713	89.91579
17		NON-SWU>=100m3/d + Total SWU		13358286	2612942	15971128	8429383	977411	9405794	83.64022	89.60952
18		NON-SWU + SWU + Non Con uses		14486437	10304615	24791052	8736889	979857	9716746	56.43414	89.91579

YEAR 1986

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Authorised	Actual
1	A	NON - SWU	<100 m3/d	7948		7948	3974		3974	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7948	0	7948	3974	0	3974	100	100
4		SWU	1 Otamhead		909091	909091		691135	691135	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	691135	691135	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7948	909091	917039	3974	691135	695109	0.866703	0.867777
11		Non - SWU> =100m3/d + total SWU		0	909091	909091	0	691135	691135	0	0
12		SWU + Non - SWU + Non Con uses		11087	909091	920178	3974	691135	695109	1.204876	0.867777
	Reaches A										
13	A	Total NON - SWU		7948	0	7948	3974	0	3974	100	100
14		Total SWU		0	909091	909091	0	691135	691135	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7948	909091	917039	3974	691135	695109	0.866703	0.867777
17		NON - SWU> =100m3/d + Total SWU		0	909091	909091	0	691135	691135	0	0
18		NON - SWU + SWU + Non Con uses		11087	909091	920178	3974	691135	695109	1.204876	0.867777

YEAR 1986

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Authorised	Actual
1	B	NON - SWU	<100 m3/d	234580		234580	117289		117289	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	234580	0	234580	117289	0	117289	100	100
4		SWU	1 St Cyres Spring	186830		186830	108877		108877	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	186830	0	186830	108877	0	108877	100	100
9		Non - consumptive uses		3671.84	1582727	1586911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		400510	0	400510	224266	0	224266	100	100
11		Non - SWU> =100m3/d + total SWU		186830	0	186830	108877	0	108877	100	100
12		SWU + Non - SWU + Non Con uses		767894	1582727	2350421	224266	0	224266	32.5736	100
	Reaches A - B										
13	B	Total NON - SWU		242529	0	242529	121263	0	121263	100	100
14		Total SWU		186830	909091	1075921	108877	691135	699112	15.43505	15.32376
15		Total Non - consumptive uses		375323	1582727	1963050	0	0	0	19.86467	ERR
16		Total NON - SWU + Total SWU		408456	909091	1317548	226240	691135	813375	31.00135	27.85638
17		NON - SWU> =100m3/d + Total SWU		186830	909091	1075921	108877	691135	699112	15.43505	15.32376
18		NON - SWU + SWU + Non Con uses		778781	2501818	3280599	226240	691135	813375	23.73699	27.85638

YEAR 1986

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Authorised	Actual
1	C	NON - SWU	<100 m3/d	126753	4520	131273	63375	0	63375	96.56679	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	126753	4520	131273	63375	0	63375	96.55679	100
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non - SWU		126753	4520	131273	63375	0	63375	96.56679	100
11		Non - SWU> =100m3/d + total SWU		0	0	0	0	0	0	ERR	ERR
12		SWU + Non - SWU + Non Con uses		184970	4520	189490	63375	0	63375	97.61486	100
	Reaches A - C										
13	C	Total NON - SWU		369281	4520	373801	184638	0	184638	99.7508	100
14		Total SWU		186830	909091	1075921	108877	691135	699112	15.43505	15.32376
15		Total Non - consumptive uses		428640	1582727	2021267	0	0	0	21.20156	ERR
16		Total NON - SWU + Total SWU		535211	913611	1448822	231615	691135	892750	36.94111	33.03483
17		NON - SWU> =100m3/d + Total SWU		186830	909091	1075921	108877	691135	699112	15.43505	15.32376
18		NON - SWU + SWU + Non Con uses		863751	2506338	3470089	231615	691135	892750	27.77309	33.03483

YEAR 1986

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Authorised	Actual
1	D	NON - SWU	<100 m3/d	156778	788	159564	77919	380	78309	99.49797	99.50197
2			>=100m3/d	21084	17809	38003	11626	3699	15325	64.08302	76.89297
3			Total NON - SWU	176872	18695	195567	89545	4089	93634	90.44062	95.633
4		SWU	1 Greenmeil Group	3117535		3117535	2279509		2279509	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117535	0	3117535	2279509	0	2279509	100	100
9		Non - consumptive uses		7300	4316166	4322466	0	0	0	0.168966	0
10		Total SWU + Total Non - SWU		3294407	18695	3313102	2369064	4089	2373143	99.43573	99.8277
11		Non - SWU> =100m3/d + total SWU		3138629	17809	3156638	2291136	3699	2294834	99.43264	99.83881
12		SWU + Non - SWU + Non Con uses		3301707	4333861	7635568	2369064	4089	2373143	43.24114	99.8277
	Reaches A - D										
13	D	Total NON - SWU		646153	23216	669369	274183	4089	278272	95.92267	98.53057
14		Total SWU		3283466	909091	4192556	2386486	691135	2977621	78.31864	80.14741
15		Total Non - consumptive uses		436840	5907892	6343733	0	0	0	6.870403	ERR
16		Total NON - SWU + Total SWU		3929618	932306	4761924	2660669	695224	3256893	80.42166	81.71866
17		NON - SWU> =100m3/d + Total SWU		3304559	927000	4231559	2369112	694634	3063746	78.06318	80.12547
18		NON - SWU + SWU + Non Con uses		4265458	6840199	11105657	2660669	695224	3256893	38.40796	81.71866

YEAR 1986

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Authorised	Actual
1	E	NON - SWU	<100 m3/d	86896		86896	36436		36436	100	100
2			>=100m3/d		20805	20805		2727	2727	0	0
3			Total NON - SWU	86896	20805	106701	36436	2727	39163	80.50156	92.86415
4		SWU	1 Hampton Group	2774000		2774000	1791364		1791364	100	100
5			2 Dotton 4,5	1582000		1582000	1180522		1180522	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4356000	0	4356000	2971906	0	2971906	100	100
9		Non - consumptive uses		13578	1691145	1704723	0	0	0	0.796493	0
10		Total SWU + Total Non - SWU		4451896	20805	4472701	3007341	2727	3010068	99.53484	99.9094
11		Non - SWU> =100m3/d + total SWU		4356000	20805	4376805	2971906	2727	2974633	99.52574	99.90832
12		SWU + Non - SWU + Non Con uses		4456474	1711960	6177434	3007341	2727	3010068	72.78699	99.9094
	Reaches A - E										
13	E	Total NON - SWU		632049	44020	676069	308618	6816	316434	93.48883	97.846
14		Total SWU		7649486	909091	8558556	6368382	691135	7059527	89.37799	90.06417
15		Total Non - consumptive uses		449418	7599038	8048456	0	0	0	5.583903	ERR
16		Total NON - SWU + Total SWU		8281514	953111	9234625	6676810	697951	7375961	89.67894	90.45715
17		NON - SWU> =100m3/d + Total SWU		7670569	947805	8618364	6370018	697561	7067579	89.0025	89.99864
18		NON - SWU + SWU + Non Con uses		8730932	8562149	17293081	6676810	697951	7376961	90.51722	90.45715

YEAR 1986

Row	Reach			Total Authorised GW	SW	Total	Total net Actual GW	SW	Total	% contributed by groundwater to Authorised	Actual
1	F	NON - SWU	<100 m3/d	32782	1742	34524	18431	841	19272	94.95423	95.13085
2			>=100m3/d	31827	227725	259552	0	20402	20402	12.28595	0
3			Total NON - SWU	64609	229367	293976	18431	21243	37674	22.00756	43.81363
4		SWU	1 Dotton 1 - 3,7	3915000		3915000	2811767		2811767	100	100
5			2 Gamon Rd 2,4	945340		945340	786436		786436	100	100
6			3 Otterton			0			0	ERR	ERR
7			4 Kenton/Mamhead	795660	1327615	2123275	486852	400762	887614	37.4703	66.36252
8			Total SWU	5656000	1327615	6983615	3875056	400762	4275817	80.9893	93.62774
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		5720609	1666582	7777091	3891486	422205	4313691	78.80883	90.21663
11		Non - SWU> =100m3/d + total SWU		5687727	1564840	7342567	3875056	421184	4296219	78.53192	90.19887
12		SWU + Non - SWU + Non Con uses		6720609	1589764	7320273	3891486	422205	4313691	79.14612	90.21663
	Reaches A - F										
13	F	Total NON - SWU		686668	272987	959645	226049	28058	254108	71.84671	92.07615
14		Total SWU		13305392	2236706	15542071	9233447	991897	10225344	85.6067	90.29962
15		Total Non - consumptive uses		449418	7642220	8091638	0	0	0	5.554104	ERR
16		Total NON - SWU + Total SWU		14002023	2509693	16511716	9656496	1019956	10579962	84.80053	90.36806
17		NON - SWU> =100m3/d + Total SWU		13356256	2502645	15860931	9245073	1018725	10263798	84.22132	90.07458
18		NON - SWU + SWU + Non Con uses		14461441	10151913	24803364	9656496	1019956	10579962	58.73769	90.36806

YEAR 1987

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON-SWU	<100 m3/d	7948		7948	3974		3974	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON-SWU	7948	0	7948	3974	0	3974	100	100
4		SWU	1 Oserhead		909091	909091		316189	316189	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	316189	316189	0	0
9		Non-consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non-SWU		7948	909091	917039	3974	316189	320163	0.866703	1.241243
11		Non-SWU>=100m3/d + total SWU		0	909091	909091	0	316189	316189	0	0
12		SWU + Non-SWU + Non Con uses		11087	909091	920178	3974	316189	320163	1.204876	1.241243
	Reaches A										
13	A	Total NON-SWU		7948	0	7948	3974	0	3974	100	100
14		Total SWU		0	909091	909091	0	316189	316189	0	0
15		Total Non-consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON-SWU + Total SWU		7948	909091	917039	3974	316189	320163	0.866703	1.241243
17		NON-SWU>=100m3/d + Total SWU		0	909091	909091	0	316189	316189	0	0
18		NON-SWU + SWU + Non Con uses		11087	909091	920178	3974	316189	320163	1.204876	1.241243

YEAR 1987

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON-SWU	<100 m3/d	234580		234580	117289		117289	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON-SWU	234580	0	234580	117289	0	117289	100	100
4		SWU	1 St Cyres Spring	165930		165930	115568		115568	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165930	0	165930	115568	0	115568	100	100
9		Non-consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non-SWU		400510	0	400510	232857	0	232857	100	100
11		Non-SWU>=100m3/d + total SWU		165930	0	165930	115568	0	115568	100	100
12		SWU + Non-SWU + Non Con uses		767694	1592727	2360421	232857	0	232857	32.5236	100
	Reaches A-B										
13	B	Total NON-SWU		242528	0	242528	121263	0	121263	100	100
14		Total SWU		165930	909091	1075021	115568	316189	431757	15.43506	26.76691
15		Total Non-consumptive uses		370323	1592727	1963050	0	0	0	18.86467	ERR
16		Total NON-SWU + Total SWU		408458	909091	1317549	236831	316189	553020	31.00136	42.82503
17		NON-SWU>=100m3/d + Total SWU		165930	909091	1075021	115568	316189	431757	15.43506	26.76691
18		NON-SWU + SWU + Non Con uses		778781	2501818	3280599	236831	316189	553020	23.73889	42.82503

YEAR 1987

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON-SWU	<100 m3/d	126753	4520	131273	63375	700	64075	96.55679	98.90753
2			>=100m3/d			0			0	ERR	ERR
3			Total NON-SWU	126753	4520	131273	63375	700	64075	96.55679	98.90753
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non-consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non-SWU		126753	4520	131273	63375	700	64075	96.55679	98.90753
11		Non-SWU>=100m3/d + total SWU		0	0	0	0	0	0	ERR	ERR
12		SWU + Non-SWU + Non Con uses		184970	4520	189490	63375	700	64075	97.61465	98.90753
	Reaches A-C										
13	C	Total NON-SWU		369281	4520	373801	184638	700	185338	98.7908	99.62231
14		Total SWU		165930	909091	1075021	115568	316189	431757	15.43506	26.76691
15		Total Non-consumptive uses		428540	1592727	2021267	0	0	0	21.20156	ERR
16		Total NON-SWU + Total SWU		535211	913611	1448822	300206	316889	617095	36.94111	48.64826
17		NON-SWU>=100m3/d + Total SWU		165930	909091	1075021	115568	316189	431757	15.43506	26.76691
18		NON-SWU + SWU + Non Con uses		963751	2506338	3470089	300206	316889	617095	27.77309	48.64826

YEAR 1987

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON-SWU	<100 m3/d	155778	786	156564	78117	469	78586	99.49797	99.40447
2			>=100m3/d	21094	17909	39003	18302	14384	32686	54.08302	55.99339
3			Total NON-SWU	176872	18695	195567	96419	14852	111271	90.44062	86.65241
4		SWU	1 Greatwell Group	3117536		3117536	3054198		3054198	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117536	0	3117536	3054198	0	3054198	100	100
9		Non-consumptive uses		7300	4365172	4372472	0	0	0	0.166954	0
10		Total SWU + Total Non-SWU		3294407	18695	3313102	3150617	14852	3165469	99.43573	99.53081
11		Non-SWU>=100m3/d + total SWU		3138629	17909	3156538	3072500	14384	3086884	99.43264	99.53403
12		SWU + Non-SWU + Non Con uses		3301707	4383867	7685574	3150617	14852	3165469	42.9588	99.53081
	Reaches A-D										
13	D	Total NON-SWU		546153	23215	569368	281057	15552	296609	95.92267	94.75673
14		Total SWU		3283466	909091	4192557	3169766	316189	3485955	78.31864	90.92963
15		Total Non-consumptive uses		435840	5957899	6393739	0	0	0	6.814669	ERR
16		Total NON-SWU + Total SWU		3829619	932306	4761924	3450823	331741	3782564	80.42165	91.22973
17		NON-SWU>=100m3/d + Total SWU		3304560	927000	4231560	3188068	330573	3518641	78.09318	90.60504
18		NON-SWU + SWU + Non Con uses		4265459	6890205	11155663	3450823	331741	3782564	38.23581	91.22973

YEAR 1987

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON-SWU	<100 m3/d	110062		110062	35570		35570	100	100
2			>=100m3/d		20805	20805		3182	3182	0	0
3			Total NON-SWU	110062	20805	130867	35570	3182	38752	84.10218	91.78881
4		SWU	1 Hampford Group	2774000		2774000	1702577		1702577	100	100
5			2 Dotton 4,5	1592000		1592000	1356378		1356378	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4366000	0	4366000	3058955	0	3058955	100	100
9		Non-consumptive uses		13578	1691145	1704723	0	0	0	0.796493	0
10		Total SWU + Total Non-SWU		4476062	20805	4496867	3094525	3182	3097707	99.53734	99.89728
11		Non-SWU>=100m3/d + total SWU		4366000	20805	4386805	3058955	3182	3062137	99.52574	99.89609
12		SWU + Non-SWU + Non Con uses		4489640	1711950	6201590	3094525	3182	3097707	72.39488	99.89728
	Reaches A-E										
13	E	Total NON-SWU		656215	44020	700236	316627	18734	335361	93.71364	94.41378
14		Total SWU		7649466	909091	8558556	6228721	316189	6544910	89.37799	95.16883
15		Total Non-consumptive uses		449418	7649044	8098462	0	0	0	5.549424	ERR
16		Total NON-SWU + Total SWU		8305680	953111	9258791	6545348	334923	6880271	89.70588	95.13212
17		NON-SWU>=100m3/d + Total SWU		7670560	947806	8618364	6247023	333756	6580778	89.0025	94.92834
18		NON-SWU + SWU + Non Con uses		8755098	8602155	17357253	6545348	334923	6880271	50.44057	95.13212

YEAR 1987

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON-SWU	<100 m3/d	32782	1742	34524	16215	849	17064	94.95423	95.02461
2			>=100m3/d	31827	227225	259052	9205	33180	42395	12.28595	21.71759
3			Total NON-SWU	64609	228967	293576	25420	34029	59449	22.00769	42.75034
4		SWU	1 Dotton 1-3,7	3815000		3815000	2253102		2253102	100	100
5			2 Colaton Ral. 2,4	945340		945340	883536		883536	100	100
6			3 Otterton			0			0	ERR	ERR
7			4 Kersbrook/Tidwell	795560	1327615	2123175	518125	449105	967230	37.4703	53.56792
8			Total SWU	5556900	1327615	6883515	3654763	449105	4103868	80.9893	89.05654
9		Non-consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non-SWU		5720606	1556582	7277091	3680183	483134	4163317	78.60980	88.39546
11		Non-SWU>=100m3/d + total SWU		5587727	1654840	7242567	3663958	482295	4146253	78.53192	88.38817
12		SWU + Non-SWU + Non Con uses		5720606	1599764	7320273	3680183	483134	4163317	78.14612	88.39546
	Reaches A-F										
13	F	Total NON-SWU		720824	272987	993811	342047	52763	394810	72.5313	86.63686
14		Total SWU		13306366	2236706	15542071	9883484	785294	10648778	85.6087	92.81332
15		Total Non-consumptive uses		449418	7692226	8141644	0	0	0	5.519991	ERR
16		Total NON-SWU + Total SWU		14026189	2509693	16535882	10225531	818057	11043588	84.82274	92.59247
17		NON-SWU>=100m3/d + Total SWU		13358786	2602645	15960931	9910991	816040	10727031	84.22132	92.39264
18		NON-SWU + SWU + Non Con uses		14475607	10201919	24677526	10225531	818057	11043588	58.65907	92.59247

Row	Reach			G/W	S/W	Total	G/W	S/W	Total	Auth.	Actual
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117536	0	3117536	2915098	0	2915098	100	100
9		Non-consumptive uses		7300	4365172	4372472	0	0	0	0.166954	0
10		Total SWU + Total Non-SWU		3294407	18695	3313102	3006733	5347	3014080	99.43673	99.8226
11		Non-SWU>=100m3/d + total SWU		3138629	17908	3158536	2930656	4932	2935628	99.43264	99.832
12		SWU + Non-SWU + Non Con uses		3301707	4383867	7685574	3006733	5347	3014080	42.9598	99.8226
Reaches A-D											
13	D	Total NON-SWU		546394	28715	575109	278394	5347	283741	95.00703	98.11553
14		Total SWU		3783466	909091	4192556	3078174	693035	3771209	78.31654	81.623
15		Total Non-consumptive uses		435840	5957899	6393739	0	0	0	6.816669	ERR
16		Total NON-SWU + Total SWU		3829860	937806	4767666	3356568	698382	4054950	80.32987	82.77705
17		NON-SWU>=100m3/d + Total SWU		3304569	932500	4237069	3093772	697967	3791736	77.99181	81.56243
18		NON-SWU + SWU + Non Con uses		4265699	6895705	11161404	3356568	698382	4054950	38.2183	82.77705

YEAR 1988

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth.	Actual
1	E	NON-SWU	<100 m3/d	110062		110062	38089		38089	100	100
2			>=100m3/d		20806	20806		0	0	0	ERR
3			Total NON-SWU	110062	20806	130867	38089	0	38089	84.10218	100
4		SWU	1 Hartbeespoort Group	2774000		2774000	1582147		1582147	100	100
5			2 Doorn 4,5	1592000		1592000	1158997		1158997	100	100
6			3			0			0	ERR	ERR
7			4			0			0	- ERR	ERR
8			Total SWU	4366000	0	4366000	2742144	0	2742144	100	100
9		Non-consumptive uses		13578	1691145	1704723	0	0	0	0.796493	0
10		Total SWU + Total Non-SWU		4476062	20806	4496867	2780232	0	2780233	99.53734	100
11		Non-SWU>=100m3/d + total SWU		4366000	20806	4386805	2742144	0	2742144	99.52574	100
12		SWU + Non-SWU + Non Con uses		4489640	1711950	6201590	2780233	0	2780233	72.39498	100
Reaches A-E											
13	E	Total NON-SWU		656456	49520	705976	316483	5347	321830	92.9856	98.33856
14		Total SWU		7849466	809091	8658556	5820318	693035	6513353	90.37799	89.35976
15		Total Non-consumptive uses		449418	7649044	8098462	0	0	0	5.549424	ERR
16		Total NON-SWU + Total SWU		8305221	958611	9264532	6136801	698382	6835183	89.65269	89.78254
17		NON-SWU>=100m3/d + Total SWU		7670659	953306	8623964	5835916	697967	6533883	88.94573	89.31773
18		NON-SWU + SWU + Non Con uses		8756339	8607656	17362994	6136801	698382	6835183	50.42526	89.78254

YEAR 1989

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth.	Actual
1	F	NON-SWU	<100 m3/d	32782	1742	34524	16165	843	17008	94.95423	95.04351
2			>=100m3/d	31827	102843	134670	0	20300	20300	23.63333	0
3			Total NON-SWU	64609	104585	169194	16165	21143	37308	38.18534	43.32851
4		SWU	1 Dorton 1-3,7	3915000		3915000	2217637		2217637	100	100
5			2 Cowson Rei 2,4	945340		945340	639227		639227	100	100
6			3 Cleenor			0			0	ERR	ERR
7			4 Karabroom/Tidwell	795680	1327815	2123175	647545	372006	919564	37.4700	69.54495
8			Total SWU	5655900	1327815	6983515	3504412	372006	3876418	80.9893	90.6447
9		Non-consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non-SWU		5720505	1432200	7152705	3520577	393149	4013726	79.97680	90.20486
11		Non-SWU>=100m3/d + total SWU		5687727	1430458	7118185	3504412	392306	3896718	79.90418	90.1943
12		SWU + Non-SWU + Non Con uses		5720505	1475382	7195887	3520577	393149	4013726	79.48688	90.20489
Reaches A-F											
13	F	Total NON-SWU		721065	154105	875170	332648	26490	359138	82.39142	92.62401
14		Total SWU		13305365	2236706	15542071	9324730	1065041	10489771	85.6087	88.8462
15		Total Non-consumptive uses		449418	7692226	8141644	0	0	0	5.519991	ERR
16		Total NON-SWU + Total SWU		14026430	2390811	16417241	9757378	1091531	10848909	85.43719	89.93875
17		NON-SWU>=100m3/d + Total SWU		13358286	2383762	15742049	9440326	1090273	10530601	84.85725	89.64662
18		NON-SWU + SWU + Non Con uses		14475846	10083037	24558883	9757378	1091531	10848909	58.94343	89.93879

YEAR 1985

Row	Reach			Total Authorised GW	Total Authorised SW	Total Actual GW	Total Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	A	NON - SWU	<100 m3/d	7948		7948	3974	3974	100	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	7948	0	7948	3974	3974	100	100
4		SWU	1 Clarehead		909091	909091		693035	693035	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	693035	693035	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7948	909091	917039	3974	693035	697009	0.885703	0.97015
11		Non - SWU> =100m3/d + Total SWU		0	909091	909091	0	693035	693035	0	0
12		SWU + Non - SWU + Non Con uses		11087	909091	920178	3974	693035	697009	1.204676	0.97015
	Reaches A										
13	A	Total NON - SWU		7948	0	7948	3974	0	3974	100	100
14		Total SWU		0	909091	909091	0	693035	693035	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7948	909091	917039	3974	693035	697009	0.885703	0.97015
17		NON - SWU> =100m3/d + Total SWU		0	909091	909091	0	693035	693035	0	0
18		NON - SWU + SWU + Non Con uses		11087	909091	920178	3974	693035	697009	1.204676	0.97015

YEAR 1986

Row	Reach			Total Authorised GW	Total Authorised SW	Total Actual GW	Total Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	B	NON - SWU	<100 m3/d	234987		234987	117493	117493	100	100
2			>=100m3/d		6500	6500		0	0	ERR
3			Total NON - SWU	234987	6500	240487	117493	117493	97.71257	100
4		SWU	1 St Cyres Spring	186930		186930	163076	163076	100	100
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	186930	0	186930	163076	163076	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		400917	6500	406417	280569	0	280569	98.64671	100
11		Non - SWU> =100m3/d + Total SWU		186930	6500	171430	163076	0	163076	95.79169	100
12		SWU + Non - SWU + Non Con uses		788101	1599227	2366328	280569	0	280569	32.49862	100
	Reaches A - B										
13	B	Total NON - SWU		242936	6500	248436	121467	0	121467	97.78814	100
14		Total SWU		186930	909091	1075021	163076	693035	856111	15.43505	19.04846
15		Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18.86467	ERR
16		Total NON - SWU + Total SWU		429866	914591	1323456	284543	693035	977578	30.69374	29.10594
17		NON - SWU> =100m3/d + Total SWU		186930	914591	1080521	163076	693035	856111	15.35648	19.04846
18		NON - SWU + SWU + Non Con uses		779188	2507318	3286506	284543	693035	977578	23.7087	29.10594

YEAR 1988

Row	Reach			Total Authorised GW	Total Authorised SW	Total Actual GW	Total Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	C	NON - SWU	<100 m3/d	126587	4520	131107	63292	63292	96.56243	100
2			>=100m3/d			0		0	ERR	ERR
3			Total NON - SWU	126587	4520	131107	63292	63292	96.56243	100
4		SWU	1			0		0	ERR	ERR
5			2			0		0	ERR	ERR
6			3			0		0	ERR	ERR
7			4			0		0	ERR	ERR
8			Total SWU	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		58217		58217	0	0	0	100	0
10		Total SWU + Total Non - SWU		126587	4520	131107	63292	0	63292	96.56243	100
11		Non - SWU> =100m3/d + Total SWU		0	0	0	0	0	0	ERR	ERR
12		SWU + Non - SWU + Non Con uses		184804	4520	189324	63292	0	63292	97.61256	100
	Reaches A - C										
13	C	Total NON - SWU		369522	10020	379542	184759	0	184759	97.35898	100
14		Total SWU		186930	909091	1075021	163076	693035	856111	15.43505	19.04846
15		Total Non - consumptive uses		428640	1592727	2021267	0	0	0	21.20155	ERR
16		Total NON - SWU + Total SWU		535452	919111	1454563	347835	693035	1040870	36.81188	33.41772
17		NON - SWU> =100m3/d + Total SWU		186930	914591	1080521	163076	693035	856111	15.35648	19.04846
18		NON - SWU + SWU + Non Con uses		963992	2511838	3475830	347835	693035	1040870	27.73415	33.41772

YEAR 1989

Row	Reach			Total Authorised GW	Total Authorised SW	Total Actual GW	Total Actual SW	Total	% contributed by groundwater to Auth	% contributed by groundwater to Actual
1	D	NON - SWU	<100 m3/d	155778	786	156564	78037	415	78452	99.49797	99.47101
2			>=100m3/d	21094	17909	39003	15548	4892	20630	64.88382	75.97642
3			Total NON - SWU	176872	18695	195567	93585	5347	98982	90.44062	94.59801
4		SWU	1 Greenhall Group	3117535		3117535	2915099		2915099	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR

YEAR 1989

Row Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 A	NON - SWU	<100 m3/d	7948		7948	3974		3974	100	100
2		>=100m3/d			0			0	ERR	ERR
3		Total NON - SWU	7948	0	7948	3974	0	3974	100	100
4	SWU	1 Clearhead		909091	909091		852788	852788	0	0
5		2			0			0	ERR	ERR
6		3			0			0	ERR	ERR
7		4			0			0	ERR	ERR
8		Total SWU	0	909091	909091	0	852788	852788	0	0
9	Non - consumptive uses		3139		3139	0	0	0	100	0
10	Total SWU + Total Non - SWU		7948	909091	917039	3974	852788	856762	0.866703	0.463839
11	Non - SWU>=100m3/d + total SWU		0	909091	909091	0	852788	852788	0	0
12	SWU + Non - SWU + Non Con uses		11087	909091	920178	3974	852788	856762	1.204876	0.463839
Reaches A										
13 A	Total NON - SWU		7948	0	7948	3974	0	3974	100	100
14	Total SWU		0	909091	909091	0	852788	852788	0	0
15	Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16	Total NON - SWU + Total SWU		7948	909091	917039	3974	852788	856762	0.866703	0.463839
17	NON - SWU>=100m3/d + Total SWU		0	909091	909091	0	852788	852788	0	0
18	NON - SWU + SWU + Non Con uses		11087	909091	920178	3974	852788	856762	1.204876	0.463839

YEAR 1989

Row Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 B	NON - SWU	<100 m3/d	229568		229568	114783		114783	100	100
2		>=100m3/d		5500	5500			0	0	ERR
3		Total NON - SWU	229568	5500	235068	114783	0	114783	97.66025	100
4	SWU	1 St Cyres Spring	165930		165930	186494		186494	100	100
5		2			0			0	ERR	ERR
6		3			0			0	ERR	ERR
7		4			0			0	ERR	ERR
8		Total SWU	165930	0	165930	186494	0	186494	100	100
9	Non - consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10	Total SWU + Total Non - SWU		395498	5500	400998	301277	0	301277	98.62842	100
11	Non - SWU>=100m3/d + total SWU		165930	5500	171430	186494	0	186494	96.79160	100
12	SWU + Non - SWU + Non Con uses		762682	1598227	2360909	301277	0	301277	32.30458	100
Reaches A - B										
13 B	Total NON - SWU		237516	5500	243016	118757	0	118757	97.73677	100
14	Total SWU		165930	909091	1075021	186494	852788	1039282	15.43506	17.9446
15	Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18.86467	ERR
16	Total NON - SWU + Total SWU		403446	914591	1318037	305251	852788	1158039	30.60961	26.3593
17	NON - SWU>=100m3/d + Total SWU		165930	914591	1080521	186494	852788	1039282	15.35646	17.9446
18	NON - SWU + SWU + Non Con uses		773769	2507318	3281087	305251	852788	1158039	23.5827	26.3593

YEAR 1989

Row Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 C	NON - SWU	<100 m3/d	121081	4520	125601	60540	4000	64540	96.4013	93.80229
2		>=100m3/d			0			0	ERR	ERR
3		Total NON - SWU	121081	4520	125601	60540	4000	64540	96.4013	93.80229
4	SWU	1			0			0	ERR	ERR
5		2			0			0	ERR	ERR
6		3			0			0	ERR	ERR
7		4			0			0	ERR	ERR
8		Total SWU	0	0	0	0	0	0	ERR	ERR
9	Non - consumptive uses		44785		44785	0	0	0	100	0
10	Total SWU + Total Non - SWU		121081	4520	125601	60540	4000	64540	96.4013	93.80229
11	Non - SWU>=100m3/d + total SWU		0	0	0	0	0	0	ERR	ERR
12	SWU + Non - SWU + Non Con uses		165866	4520	170386	60540	4000	64540	97.3472	93.80229
Reaches A - C										
13 C	Total NON - SWU		358597	10020	368617	179297	4000	183297	97.28172	97.81775
14	Total SWU		165930	909091	1075021	186494	852788	1039282	15.43505	17.9445
15	Total Non - consumptive uses		415108	1592727	2007835	0	0	0	20.67441	ERR
16	Total NON - SWU + Total SWU		524527	919111	1443638	365791	856788	1222579	36.33369	29.91962
17	NON - SWU>=100m3/d + Total SWU		165930	914591	1080521	186494	852788	1039282	15.35646	17.9445
18	NON - SWU + SWU + Non Con uses		939635	2511838	3451473	365791	856788	1222579	27.22417	29.91962

YEAR 1989

Row Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 D	NON - SWU	<100 m3/d	181584	786	182370	79441	421	79862	99.56902	99.47284
2		>=100m3/d	21094	17909	39003	21503	6291	27794	54.08302	77.36566
3		Total NON - SWU	182678	18695	201373	101434	5712	107146	90.71623	94.66906
4	SWU	1 Greenwell Group	3117536		3117536	3079846		3079846	100	100
5		2			0			0	ERR	ERR
6		3			0			0	ERR	ERR
7		4			0			0	ERR	ERR
8		Total SWU	3117536	0	3117536	3079846	0	3079846	100	100
9	Non - consumptive uses		7300	4365172	4372472	0	0	0	0.166954	0
10	Total SWU + Total Non - SWU		3300213	18695	3318908	3181280	5712	3186992	99.43671	99.82077
11	Non - SWU>=100m3/d + total SWU		3138629	17909	3156538	3101836	5291	3107130	99.43264	99.82971
12	SWU + Non - SWU + Non Con uses		3307513	4383867	7691380	3181280	5712	3186992	43.00286	99.82077
Reaches A - D										
13 D	Total NON - SWU		641275	28715	669990	280731	9712	290443	95.71219	96.65514
14	Total SWU		3283466	909091	4192566	3266340	852788	4119128	78.31864	79.29686
15	Total Non - consumptive uses		422408	5957899	6380307	0	0	0	6.620496	ERR
16	Total NON - SWU + Total SWU		3824740	937806	4762546	3647071	862500	4409571	80.30673	82.44027
17	NON - SWU>=100m3/d + Total SWU		3304556	932500	4237056	3288340	858079	4146412	77.99161	79.30651
18	NON - SWU + SWU + Non Con uses		4247148	6895705	11142853	3647071	862500	4409571	38.11644	82.44027

YEAR 1989

Row Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 E	NON - SWU	<100 m3/d	106619		106619	38226		38226	100	100
2		>=100m3/d		20805	20805		0	0	0	ERR
3		Total NON - SWU	106619	20805	127424	38226	0	38226	83.67262	100
4	SWU	1 Harpford Group	2774000		2774000	1367327		1367327	100	100
5		2 Doston 4,5	1592000		1592000	761989		761989	100	100
6		3			0			0	ERR	ERR
7		4			0			0	ERR	ERR
8		Total SWU	4366000	0	4366000	2129316	0	2129316	100	100
9	Non - consumptive uses		13578	1691145	1704723	0	0	0	0.796493	0
10	Total SWU + Total Non - SWU		4472619	20805	4493424	2167542	0	2167542	99.53697	100
11	Non - SWU>=100m3/d + total SWU		4366000	20805	4386805	2129316	0	2129316	99.52574	100
12	SWU + Non - SWU + Non Con uses		4486197	1711950	6198147	2167542	0	2167542	72.37965	100
Reaches A - E										
13 E	Total NON - SWU		647894	49520	697414	318959	9712	328671	92.89946	97.05403
14	Total SWU		7649466	909091	8558566	5396656	852788	6249444	89.37799	86.35199
15	Total Non - consumptive uses		436986	7649044	8086030	0	0	0	5.397506	ERR
16	Total NON - SWU + Total SWU		8297360	958611	9255970	5715615	862500	6578115	89.64332	86.88834
17	NON - SWU>=100m3/d + Total SWU		7670568	953306	8623874	5417649	858079	6275728	88.94573	86.32702
18	NON - SWU + SWU + Non Con uses		8733345	8607666	17341000	5715615	862500	6578115	50.36241	86.88834

YEAR 1989

Row Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1 F	NON - SWU	<100 m3/d	32782	1742	34524	16427	855	17282	94.95423	95.05266
2		>=100m3/d	31827	102843	134670	25503	31000	56503	23.63333	45.13566
3		Total NON - SWU	64609	104585	169194	41930	31855	73785	38.18634	56.82727
4	SWU	1 Doston 1-3,7	3915000		3915000	2225637		2225637	100	100
5		2 Cranton Ral 2,4	945340		945340	938729		938729	100	100
6		3 Cibenor			0			0	ERR	ERR
7		4 Ker...ow/Tidwell	795660	1327615	2123275	460469	403169	863638	37.4703	53.31736
8		Total SWU	5656000	1327615	6983615	3624735	403169	4027904	80.9893	89.9906
9	Non - consumptive uses			43182	43182	0	0	0	0	0
10	Total SWU + Total Non - SWU		5720609	1432200	7152809	3666665	435024	4101689	79.97682	89.39403
11	Non - SWU>=100m3/d + total SWU		5687727	1430458	7118185	3650238	434169	4084407	79.90418	89.37006
12	SWU + Non - SWU + Non Con uses		5720609	1475382	7195991	3666665	435024	4101689	79.49795	89.39403
Reaches A - F										
13 F	Total NON - SWU		712503	154106	866609	361889	41567	403456	82.21745	89.69727
14	Total SWU		13305366	2236706	15542072	9020391	1255957	10276348	85.6087	87.77812
15	Total Non - consumptive uses		435996	7692226	8128212	0	0	0	5.363961	ERR
16	Total NON - SWU + Total SWU		14017869	2390811	16408679	9382280	1297524	10679804	85.42956	87.85066
17	NON - SWU>=100m3/d + Total SWU		13358286	2383763	15742049	9057867	1292248	10350115	84.85736	87.52673
18	NON - SWU + SWU + Non Con uses		14453864	10083027	24536891	9382280	1297524	10679804	58.90662	87.85066

YEAR : 1990

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	< 100 m3/d	7948		7948	3974		3974	100	100
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7948	0	7948	3974	0	3974	100	100
4		SWU	1 Oramead		909091	909091		708624	708624	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	708624	708624	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7948	909091	917039	3974	708624	712598	0.866703	0.557678
11		Non - SWU > = 100m3/d + total SWU		0	909091	909091	0	708624	708624	0	0
12		SWU + Non - SWU + Non Con uses		11087	909091	920178	3974	708624	712598	1.204876	0.557678
	Reaches A										
13	A	Total NON - SWU		7948	0	7948	3974	0	3974	100	100
14		Total SWU		0	909091	909091	0	708624	708624	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7948	909091	917039	3974	708624	712598	0.866703	0.557678
17		NON - SWU > = 100m3/d + Total SWU		0	909091	909091	0	708624	708624	0	0
18		NON - SWU + SWU + Non Con uses		11087	909091	920178	3974	708624	712598	1.204876	0.557678

YEAR : 1990

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	< 100 m3/d	229149		229149	114574		114574	100	100
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	229149	0	229149	114574	0	114574	100	100
4		SWU	1 St Cyres Spring	165930		165930	163647		163647	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165930	0	165930	163647	0	163647	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		395079	0	395079	278221	0	278221	100	100
11		Non - SWU > = 100m3/d + total SWU		165930	0	165930	163647	0	163647	100	100
12		SWU + Non - SWU + Non Con uses		762263	1592727	2354990	278221	0	278221	32.36799	100
	Reaches A - B										
13	B	Total NON - SWU		237097	0	237097	118548	0	118548	100	100
14		Total SWU		165930	909091	1075021	163647	708624	872271	15.43505	18.76103
15		Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18.86467	ERR
16		Total NON - SWU + Total SWU		403027	909091	1312118	282195	708624	990819	30.71576	28.48098
17		NON - SWU > = 100m3/d + Total SWU		165930	909091	1075021	163647	708624	872271	15.43505	18.76103
18		NON - SWU + SWU + Non Con uses		773350	2501818	3275168	282195	708624	990819	23.61253	28.48098

YEAR : 1990

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	< 100 m3/d	127872	4520	132392	63936	4000	67936	96.5859	94.11211
2			> = 100m3/d			0			0	ERR	ERR
3			Total NON - SWU	127872	4520	132392	63936	4000	67936	96.5859	94.11211
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		44785		44785	0	0	0	100	0
10		Total SWU + Total Non - SWU		127872	4520	132392	63936	4000	67936	96.5859	94.11211
11		Non - SWU > = 100m3/d + total SWU		0	0	0	0	0	0	ERR	ERR
12		SWU + Non - SWU + Non Con uses		172657	4520	177177	63936	4000	67936	97.44888	94.11211
	Reaches A - C										
13	C	Total NON - SWU		364969	4520	369489	182484	4000	186484	98.77669	97.85504
14		Total SWU		165930	909091	1075021	163647	708624	872271	15.43505	18.76103
15		Total Non - consumptive uses		415108	1592727	2007835	0	0	0	20.67441	ERR
16		Total NON - SWU + Total SWU		530899	913611	1444510	346131	712624	1058755	36.75288	32.69227
17		NON - SWU > = 100m3/d + Total SWU		165930	909091	1075021	163647	708624	872271	15.43505	18.76103
18		NON - SWU + SWU + Non Con uses		946007	2506338	3452345	346131	712624	1058755	27.40187	32.69227

YEAR : 1990

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	< 100 m3/d	167560	633	168193	82476	391	82867	99.62365	99.52816
2			> = 100m3/d	21094	17906	39000	19364	18945	38309	54.08302	50.54697
3			Total NON - SWU	188654	18542	207196	101840	19336	121176	91.05099	84.04304
4		SWU	1 Greatwell Group	3117535		3117535	3121370		3121370	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117535	0	3117535	3121370	0	3121370	100	100
9		Non - consumptive uses		7300	4366338	4373638	0	0	0	0.166909	0
10		Total SWU + Total Non - SWU		3306189	18542	3324731	3223210	19336	3242546	99.4423	99.40368
11		Non - SWU > = 100m3/d + total SWU		3138629	17906	3156535	3140734	18945	3159679	99.43264	99.40041
12		SWU + Non - SWU + Non Con uses		3313489	4384880	7698369	3223210	19336	3242546	43.04144	99.40368
	Reaches A - D										
13	D	Total NON - SWU		553623	23062	576685	284324	23336	307660	96.00094	92.415
14		Total SWU		3283465	909091	4192556	3285017	708624	3993641	78.31864	82.25619
15		Total Non - consumptive uses		422408	5959065	6381473	0	0	0	6.619287	ERR
16		Total NON - SWU + Total SWU		3837088	932153	4769241	3569341	731960	4301301	80.4549	82.98282
17		NON - SWU > = 100m3/d + Total SWU		3304559	927000	4231559	3304381	727569	4031950	78.09316	81.95491
18		NON - SWU + SWU + Non Con uses		4259496	6891218	11150714	3569341	731960	4301301	38.19931	82.98282

YEAR : 1990

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	< 100 m3/d	110618		110618	39524		39524	100	100
2			> = 100m3/d		20805	20805		0	0	0	ERR
3			Total NON - SWU	110618	20805	131423	39524	0	39524	84.16944	100
4		SWU	1 Hempford Group	2774000		2774000	1415143		1415143	100	100
5			2 Dotton 4,5	1592000		1592000	1042410		1042410	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4366000	0	4366000	2457553	0	2457553	100	100
9		Non - consumptive uses		13578	1691145	1704723	0	0	0	0.796493	0
10		Total SWU + Total Non - SWU		4476618	20805	4497423	2497077	0	2497077	99.5374	100
11		Non - SWU > = 100m3/d + total SWU		4366000	20805	4386805	2457553	0	2457553	99.52574	100
12		SWU + Non - SWU + Non Con uses		4490196	1711950	6202146	2497077	0	2497077	72.39746	100
	Reaches A - E										
13	E	Total NON - SWU		664241	43867	708108	323848	23336	347184	93.80504	93.27849
14		Total SWU		7649465	909091	8558556	5742570	708624	6451194	89.37799	89.01561
15		Total Non - consumptive uses		435986	7650210	8086196	0	0	0	5.391732	ERR
16		Total NON - SWU + Total SWU		8313706	952958	9266664	6066418	731960	6798378	89.71628	89.23331
17		NON - SWU > = 100m3/d + Total SWU		7670559	947805	8618364	5761934	727569	6489503	89.0025	88.78853
18		NON - SWU + SWU + Non Con uses		8749692	8603168	17352860	6066418	731960	6798378	50.42219	89.23331

YEAR : 1990

Row	Reach			Total Authorised G/W	S/W	Total	Total nett Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	< 100 m3/d	32782	1742	34524	16419	855	17274	94.95423	95.05036
2			> = 100m3/d	31827	102843	134670	30653	36625	67278	23.63333	45.56979
3			Total NON - SWU	64609	104585	169194	47072	37480	84552	38.18634	55.67749
4		SWU	1 Dotton 1 - 3,7	3815000		3815000	2338841		2338841	100	100
5			2 Colaton Ral. 2,4	945340		945340	694912		694912	100	100
6			3 Oberon			0			0	ERR	ERR
7			4 Kersbrook/Tidwell	796660	1327815	2123175	386918	429616	825434	37.4703	47.96430
8			Total SWU	5655900	1327815	6983515	3420671	429516	3859187	80.9893	88.8703
9		Non - consumptive uses			43192	43192	0	0	0	0	0
10		Total SWU + Total Non - SWU		5720509	1432200	7152709	3476753	466996	3943748	79.97682	88.15858
11		Non - SWU > = 100m3/d + total SWU		5687727	1430456	7118186	3480334	466141	3926475	79.90418	88.12026
12		SWU + Non - SWU + Non Con uses		5720509	1475392	7195901	3476753	466996	3943749	79.49686	88.15864
	Reaches A - F										
13	F	Total NON - SWU		728850	148452	877302	370930	60816	431746	83.07867	85.91364
14		Total SWU		13305365	2236706	15542071	9172241	1138140	10310381	85.6087	88.96122
15		Total Non - consumptive uses		435986	7693392	8129378	0	0	0	5.363092	ERR
16		Total NON - SWU + Total SWU		14034215	2385158	16419373	9543171	1198956	10742127	85.47361	88.83875
17		NON - SWU > = 100m3/d + Total SWU		13368286	2378263	15736549	9222266	1193710	10415976	84.86701	88.53963
18		NON - SWU + SWU + Non Con uses		14470201	10078550	24548751	9543171	1198956	10742127	58.94475	88.83875

YEAR 1991

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	<100 m3/d	7948		7948	3974		3974	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7948	0	7948	3974	0	3974	100	100
4		SWU	1 [illegible]		909091	909091		629100	629100	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	629100	629100	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7948	909091	917039	3974	629100	633074	0 866703	0 627731
11		Non - SWU>=100m3/d + total SWU		0	909091	909091	0	629100	629100	0	0
12		SWU + Non - SWU + Non Con uses		11087	909091	920178	3974	629100	633074	1 204875	0 627731
	Reaches A										
13	A	Total NON - SWU		7948	0	7948	3974	0	3974	100	100
14		Total SWU		0	909091	909091	0	629100	629100	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7948	909091	917039	3974	629100	633074	0 866703	0 627731
17		NON - SWU>=100m3/d + Total SWU		0	909091	909091	0	629100	629100	0	0
18		NON - SWU + SWU + Non Con uses		11087	909091	920178	3974	629100	633074	1 204875	0 627731

YEAR 1991

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	<100 m3/d	224040		224040	112020		112020	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	224040	0	224040	112020	0	112020	100	100
4		SWU	1 St Cyres Spring	165830		165830	193302		193302	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165830	0	165830	193302	0	193302	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0	0	18 73473	0
10		Total SWU + Total Non - SWU		389870	0	389870	305322	0	305322	100	100
11		Non - SWU>=100m3/d + total SWU		165830	0	165830	193302	0	193302	100	100
12		SWU + Non - SWU + Non Con uses		757154	1592727	2349881	305322	0	305322	32 22086	100
	Reaches A - B										
13	B	Total NON - SWU		231988	0	231988	115994	0	115994	100	100
14		Total SWU		165830	909091	1075021	193302	629100	822402	15 43606	23 50456
15		Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18 86467	ERR
16		Total NON - SWU + Total SWU		397918	909091	1307009	309296	629100	938396	30 44493	32 96007
17		NON - SWU>=100m3/d + Total SWU		165830	909091	1075021	193302	629100	822402	15 43606	23 50456
18		NON - SWU + SWU + Non Con uses		768241	2501818	3270059	309296	629100	938396	23 49318	32 96007

YEAR 1991

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	<100 m3/d	129059	4520	133579	64529	0	64529	96 61623	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	129059	4520	133579	64529	0	64529	96 61623	100
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		44785		44785	0	0	0	100	0
10		Total SWU + Total Non - SWU		129059	4520	133579	64529	0	64529	96 61623	100
11		Non - SWU>=100m3/d + total SWU		0	0	0	0	0	0	ERR	ERR
12		SWU + Non - SWU + Non Con uses		173844	4520	178364	64529	0	64529	97 46586	100
	Reaches A - C										
13	C	Total NON - SWU		361047	4520	365567	180523	0	180523	98 76354	100
14		Total SWU		165830	909091	1075021	193302	629100	822402	15 43606	23 50456
15		Total Non - consumptive uses		415108	1592727	2007835	0	0	0	20 67441	ERR
16		Total NON - SWU + Total SWU		526977	913611	1440588	373825	629100	1002925	36 58059	37 27348
17		NON - SWU>=100m3/d + Total SWU		165830	909091	1075021	193302	629100	822402	15 43606	23 50456
18		NON - SWU + SWU + Non Con uses		942085	2506338	3448423	373825	629100	1002925	27 3193	37 27348

YEAR 1991

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	<100 m3/d	149756	633	150389	145064	391	145456	99 57906	99 73119
2			>=100m3/d	21094	17909	39003	15690	11752	27436	64 [illegible]	57 18421
3			Total NON - SWU	170849	18542	189391	160747	12143	172890	90 20867	92 97646
4		SWU	1 Greenwell Group	3117536		3117536	3112394		3112394	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117536	0	3117536	3112394	0	3112394	100	100
9		Non - consumptive uses		7300	4365339	4372639	0	0	0	0 166900	0
10		Total SWU + Total Non - SWU		3288384	18542	3306926	3273141	12143	3285284	99 4393	99 63038
11		Non - SWU>=100m3/d + total SWU		3138625	17906	3156538	3128077	11752	3139829	99 43264	99 62571
12		SWU + Non - SWU + Non Con uses		3295684	4384880	7680564	3273141	12143	3285284	42 9094	99 63038
	Reaches A - D										
13	D	Total NON - SWU		531896	23002	554958	341270	12143	353413	95 84437	96 56406
14		Total SWU		3283466	909091	4192566	3305696	629100	3934796	78 31654	84 01188
15		Total Non - consumptive uses		422408	5959065	6381473	0	0	0	6 619287	ERR
16		Total NON - SWU + Total SWU		3815361	932163	4747514	3646966	641243	4288209	80 38646	85 04637
17		NON - SWU>=100m3/d + Total SWU		3304569	927000	4231569	3321379	640852	3962231	78 06318	83 82596
18		NON - SWU + SWU + Non Con uses		4237769	6891216	11128987	3646966	641243	4288209	38 07866	85 04637

YEAR 1991

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	<100 m3/d	108779		108779	38042		38042	100	100
2			>=100m3/d		20805	20805		0	0	0	ERR
3			Total NON - SWU	108779	20805	129584	38042	0	38042	83 94478	100
4		SWU	1 Harpford Group	2774000		2774000	1400658		1400658	100	100
5			2 Dotton 4,5	1592000		1592000	543254		543254	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	4366000	0	4366000	1943912	0	1943912	100	100
9		Non - consumptive uses		13578	1691145	1704723	0	0	0	0 796493	0
10		Total SWU + Total Non - SWU		4474779	20805	4495584	1981954	0	1981954	99 53721	100
11		Non - SWU>=100m3/d + total SWU		4366000	20805	4386805	1943912	0	1943912	99 52574	100
12		SWU + Non - SWU + Non Con uses		4488357	1711950	6200307	1981954	0	1981954	72 38927	100
	Reaches A - E										
13	E	Total NON - SWU		640675	43867	684542	379312	12143	391455	93 58177	96 89790
14		Total SWU		7649466	909091	8558556	5249608	629100	5878708	89 37799	89 29867
15		Total Non - consumptive uses		435986	7650210	8086196	0	0	0	5 391732	ERR
16		Total NON - SWU + Total SWU		8290140	952958	9243098	5628920	641243	6270163	89 69006	89 7731
17		NON - SWU>=100m3/d + Total SWU		7670569	947806	8618364	5265297	640852	5906143	89 0025	89 1494
18		NON - SWU + SWU + Non Con uses		8726126	8603168	17329294	5628920	641243	6270163	50 36477	89 7731

YEAR 1991

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	<100 m3/d	32782	1742	34524	16306	841	17147	94 95423	95 09535
2			>=100m3/d	31827	102843	134670	20012	25269	45281	23 63333	44 19514
3			Total NON - SWU	64609	104585	169194	36318	26110	62428	38 18634	58 17682
4		SWU	1 Dotton 1-3,7	3815000		3815000	2456001		2456001	100	100
5			2 Colaton Ral. 2,4	945340		945340	527629		527629	100	100
6			3 [illegible]	2313000		2313000	1263784		1263784	100	100
7			4 [illegible]	795640	1327816	2123175	380903	309059	689962	37 4700	55 20537
8			Total SWU	7868900	1327616	9196515	4647317	309059	4956376	85 71922	93 76442
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		8033506	1432200	9465709	4683636	330169	5013804	84 8695	93 32174
11		Non - SWU>=100m3/d + total SWU		8000727	1430456	9431185	4667329	334328	5001657	84 83268	93 31566
12		SWU + Non - SWU + Non Con uses		8033609	1475382	9508991	4683636	335169	5018804	84 48418	93 32174
	Reaches A - F										
13	F	Total NON - SWU		706284	146452	853736	415630	38253	453883	82 61149	91 57206
14		Total SWU		15618366	2236705	17855071	9896925	938159	10835084	87 47299	91 34147
15		Total Non - consumptive uses		435986	7693392	8129378	0	0	0	5 363092	ERR
16		Total NON - SWU + Total SWU		16323649	2385156	18708807	10312566	976412	11288967	87 25115	91 35074
17		NON - SWU>=100m3/d + Total SWU		15671286	2378263	18049549	9632620	975180	10607800	86 8237	91 05979
18		NON - SWU + SWU + Non Con uses		16758635	10078560	26837195	10312566	976412	11288967	62 44598	91 35074

YEAR 1992

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	A	NON - SWU	<100 m3/d	7948		7948	3974		3974	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	7948	0	7948	3974	0	3974	100	100
4		SWU	1 Overhead		909091	909091		657756	657756	0	0
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	909091	909091	0	657756	657756	0	0
9		Non - consumptive uses		3139		3139	0	0	0	100	0
10		Total SWU + Total Non - SWU		7948	909091	917039	3974	657756	661730	0.866703	0.600547
11		Non - SWU>=100m3/d + total SWU		0	909091	909091	0	657756	657756	0	0
12		SWU + Non - SWU + Non Con uses		11087	909091	920178	3974	657756	661730	1.204876	0.600547
	Reaches A										
13	A	Total NON - SWU		7948	0	7948	3974	0	3974	100	100
14		Total SWU		0	909091	909091	0	657756	657756	0	0
15		Total Non - consumptive uses		3139	0	3139	0	0	0	100	ERR
16		Total NON - SWU + Total SWU		7948	909091	917039	3974	657756	661730	0.866703	0.600547
17		NON - SWU>=100m3/d + Total SWU		0	909091	909091	0	657756	657756	0	0
18		NON - SWU + SWU + Non Con uses		11087	909091	920178	3974	657756	661730	1.204876	0.600547

YEAR 1992

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	B	NON - SWU	<100 m3/d	242257		242257	121128		121128	100	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	242257	0	242257	121128	0	121128	100	100
4		SWU	1 St Cyres Spring	165830		165830	6379		6379	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	165830	0	165830	6379	0	6379	100	100
9		Non - consumptive uses		367184	1592727	1959911	0	0	0	18.73473	0
10		Total SWU + Total Non - SWU		408187	0	408187	128507	0	128507	100	100
11		Non - SWU>=100m3/d + total SWU		165830	0	165830	6379	0	6379	100	100
12		SWU + Non - SWU + Non Con uses		776371	1592727	2369098	128507	0	128507	32.74236	100
	Reaches A - B										
13	B	Total NON - SWU		250205	0	250205	125102	0	125102	100	100
14		Total SWU		165830	909091	1075021	6379	657756	663135	15.43606	0.811147
15		Total Non - consumptive uses		370323	1592727	1963050	0	0	0	18.86467	ERR
16		Total NON - SWU + Total SWU		416135	909091	1325226	130481	657756	788237	31.40106	16.55352
17		NON - SWU>=100m3/d + Total SWU		165830	909091	1075021	6379	657756	663135	15.43505	0.811147
18		NON - SWU + SWU + Non Con uses		786458	2501818	3288276	130481	657756	788237	23.91780	16.55352

YEAR 1992

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	C	NON - SWU	<100 m3/d	129059	4520	133579	64529	0	64529	96.61623	100
2			>=100m3/d			0			0	ERR	ERR
3			Total NON - SWU	129059	4520	133579	64529	0	64529	96.61623	100
4		SWU	1			0			0	ERR	ERR
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	0	0	0	0	0	0	ERR	ERR
9		Non - consumptive uses		44785		44785	0	0	0	100	0
10		Total SWU + Total Non - SWU		129059	4520	133579	64529	0	64529	96.61623	100
11		Non - SWU>=100m3/d + total SWU		0	0	0	0	0	0	ERR	ERR
12		SWU + Non - SWU + Non Con uses		173844	4520	178364	64529	0	64529	97.46586	100
	Reaches A - C										
13	C	Total NON - SWU		379264	4520	383784	189631	0	189631	98.82225	100
14		Total SWU		165830	909091	1075021	6379	657756	663135	15.43505	0.811147
15		Total Non - consumptive uses		415108	1592727	2007835	0	0	0	20.67441	ERR
16		Total NON - SWU + Total SWU		545194	913611	1458805	195010	657756	852766	37.37204	22.86794
17		NON - SWU>=100m3/d + Total SWU		165830	909091	1075021	6379	657756	663135	15.43506	0.811147
18		NON - SWU + SWU + Non Con uses		960302	2506338	3466640	195010	657756	852766	27.70123	22.86794

YEAR 1992

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	D	NON - SWU	<100 m3/d	201525	633	202158	101185	279	101464	99.68686	99.72503
2			>=100m3/d	21094	17909	39003	35942	1887	37829	64.08302	95.01176
3			Total NON - SWU	222619	18542	241161	137127	2166	139293	92.31136	98.445
4		SWU	1 Greatwell Group	3117536		3117536	2752904		2752904	100	100
5			2			0			0	ERR	ERR
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	3117536	0	3117536	2752904	0	2752904	100	100
9		Non - consumptive uses		7300	4366338	4373638	0	0	0	0.166909	0
10		Total SWU + Total Non - SWU		3340154	18542	3358696	2890031	2166	2892197	99.44794	99.92511
11		Non - SWU>=100m3/d + total SWU		3138629	17909	3156538	2788646	1887	2790533	99.43264	99.93236
12		SWU + Non - SWU + Non Con uses		3347454	4384880	7732334	2890031	2166	2892197	43.29164	99.92511
	Reaches A - D										
13	D	Total NON - SWU		601883	23062	624945	326756	2168	328924	96.30976	99.34145
14		Total SWU		3283485	909091	4192566	2758283	657756	3416039	78.31864	80.74507
15		Total Non - consumptive uses		422408	5959065	6381473	0	0	0	6.619287	ERR
16		Total NON - SWU + Total SWU		3885348	932153	4817501	3085041	659922	3744963	80.65069	82.37841
17		NON - SWU>=100m3/d + Total SWU		3304564	927000	4231564	2794225	658643	3452868	78.09318	80.90133
18		NON - SWU + SWU + Non Con uses		4307756	6891218	11198974	3085041	659922	3744963	38.46663	82.37841

YEAR 1992

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	E	NON - SWU	<100 m3/d	107837		107837	37364		37364	100	100
2			>=100m3/d		20805	20805		0	0	0	ERR
3			Total NON - SWU	107837	20805	128642	37369	0	37369	83.82721	100
4		SWU	1 Harpford Group	1718000		1718000	1409248		1409248	100	100
5			2 Dotton 4,5	230000		230000	178490		178490	100	100
6			3			0			0	ERR	ERR
7			4			0			0	ERR	ERR
8			Total SWU	1948000	0	1948000	1587738	0	1587738	100	100
9		Non - consumptive uses		13578	1691145	1704723	0	0	0	0.796493	0
10		Total SWU + Total Non - SWU		2053837	20805	2074642	1625107	0	1625107	98.99718	100
11		Non - SWU>=100m3/d + total SWU		1948000	20805	1968805	1587738	0	1587738	98.94219	100
12		SWU + Non - SWU + Non Con uses		2067415	1711950	3779365	1625107	0	1625107	54.70271	100
	Reaches A - E										
13	E	Total NON - SWU		709720	43867	753587	364117	2166	366283	94.17891	99.40866
14		Total SWU		5229486	909091	6138556	4346021	657756	5003777	85.19047	86.85481
15		Total Non - consumptive uses		435486	7650710	8086196	0	0	0	5.381732	ERR
16		Total NON - SWU + Total SWU		5939186	952958	6892143	4710138	659922	5370060	86.17327	87.71109
17		NON - SWU>=100m3/d + Total SWU		5250569	947805	6198364	4381963	658643	5041606	84.70879	86.91601
18		NON - SWU + SWU + Non Con uses		6375171	8603168	14978339	4710138	659922	5370060	42.5626	87.71109

YEAR 1992

Row	Reach			Total Authorised G/W	S/W	Total	Total net Actual G/W	S/W	Total	% contributed by groundwater to Auth	Actual
1	F	NON - SWU	<100 m3/d	32782	1742	34524	16281	869	17150	94.95423	94.93294
2			>=100m3/d	31827	102843	134670	8564	32482	41046	23.63331	20.8644
3			Total NON - SWU	64609	104585	169194	24845	33351	58196	38.18634	42.69194
4		SWU	1 Dotton 1 - 3,7	3815000		3815000	2534283		2534283	100	100
5			2 Colaton Ral. 2,4	945340		945340	372815		372815	100	100
6			3 Colaton	2313000		2313000	1247679		1247679	100	100
7			4 Kersbrook/Tidwell	795560	1327615	2123175	319598	230877	550475	37.4703	58.05856
8			Total SWU	7868900	1327615	9196515	4474175	230877	4705052	85.71922	95.093
9		Non - consumptive uses			43182	43182	0	0	0	0	0
10		Total SWU + Total Non - SWU		8033609	1432200	9465809	4499020	264228	4763248	84.86906	94.46275
11		Non - SWU>=100m3/d + total SWU		8000727	1430458	9431185	4487739	263359	4748098	84.83268	94.45104
12		SWU + Non - SWU + Non Con uses		8033609	1475382	9508991	4499020	264228	4763248	84.48418	94.45278
	Reaches A - F										
13	F	Total NON - SWU		774329	148452	922781	388862	35617	424479	83.91264	91.6329
14		Total SWU		13198365	2236702	15435071	8820196	888633	9708829	85.50894	90.84717
15		Total Non - consumptive uses		435986	7693392	8129378	0	0	0	5.363092	ERR
16		Total NON - SWU + Total SWU		13972694	2385158	16357852	9209158	924150	10133308	86.41886	90.88006
17		NON - SWU>=100m3/d + Total SWU		13251286	2378263	15629549	8864702	923002	9787704	84.78365	90.56976
18		NON - SWU + SWU + Non Con uses		14408680	10078660	24487230	9209158	924150	10133308	58.84181	90.88006

APPENDIX G
Water Resources Planners Note

21/12/93

NATIONAL RIVERS AUTHORITY SOUTH WESTERN REGION

WATER RESOURCES PLANNER'S NOTE: NON-CONSUMPTIVE ABSTRACTION IN THE OTTER CATCHMENT

Introduction

Non-consumptive uses are those where abstraction is returned to the source of supply with minimal loss after use and with minimal delay, or subject to a continuous abstraction/return arrangement. They include fish farming, hydropower generation, non-evaporative cooling and amenity flows to ponds.

The most common arrangement involves abstracting water from a river or stream into a leat system, bypassing a reach of the main river. Variations can include returning the water to a different stream or river; abstracting from a leat, returning it either to the leat or to the adjacent river; and abstraction from streams in steep valleys to power a hydram, where the water taken bypasses the stream between the intake pipe and the hydram outlet.

Map 1 identifies the locations of the five authorized non-consumptive abstractions in the Otter catchment and a further site for which an application has been made. Maps 2 to 7 provide details of bypassed reaches. Table 1 below summarises key details about each abstraction.

This note summarises the theoretical impact of each non-consumptive abstraction licence on the flow resources of the River Otter and identifies those sites where additional study of actual impact may be warranted.

Details of the Otter Non-consumptive Abstractions

Table 1: Authorised non-consumptive abstractions in the Otter catchment, 1993

Licence No.	NGR	Site	Maximum Authorised Volumes in Ml: Daily	Annual	Length of Reach Bypassed in Km: To Overspill Channel	Total
01/0464	ST156011 (Map 2)	Tracey Mill Trout Farm, River Otter	4.36	1593	0.4	0.6
01/0536	SY075973 (Map 3)	Escot Aquaculture, trib. of River Tale	0.71	50	-	0.6
01/0433	SY052868 (Map 4)	Stowford Leat, Colaton Raleigh Str.	0.12	43	transfer	5.5
01/0484	SY095961 (Map 5)	Ottery Leat, River Otter	11.82	4314	1.0	1.8
01/0440	SY091926 (Map 6)	Tipton Mill Leat, River Otter	11.89	1691	0.2	1.1
n/a	SY080855 (Map 7)	Otterton Mill Leat, River Otter	43.2	15768	0.3	0.5

Key points about each site are discussed below.

Tracey Mill Trout Farm, 01/0464 (See Map 2):

Flow in the River Otter bifurcates at NGR ST160011 and part of it passes into the Tracey Mill Leat, returning to the main river at NGR 153011. The flow into the leat is not an "abstraction" as it is uncontrolled. The authorised abstraction into Tracey Mill Trout Farm takes place from halfway down this leat at NGR ST156011 returning flow to the main river at NGR ST156012. The licensed abstraction does not "cause" the bypassing of a reach of the main river; it reduces the residual flow down the rest of the leat.

Escot Aquaculture, 01/0536 (See Map 3):

Escot Aquaculture have a licence to abstract water from a tributary of the River Tale at NGR SY075973. The water is authorised to pass down a series of ponds adjacent to that tributary, returning at NGR SY080973. It is remote from the main River Otter.

Stowford Leat, 01/0433 (See Map 4):

Abstraction is licensed from the headwaters of the Colaton Raleigh Stream at NGR SY052868 into Stowford Leat - an old leat which supplies lands associated with the Rolle Estate and Bicton College. The leat bifurcates at NGR SY061867, part being routed via Bicton College Gardens, part via Blackberry Farm into Bicton Lake. They combine and diverge again below, part passing through Bicton Farm before merging again and joining the drainage system on the flood plain of the River Otter. This discharges to the main River Otter at NGR SY079853, just upstream of Otterton Bridge.

Ottery Mill Leat, 01/0484 (See Map 5):

Abstraction is licensed from the River Otter at Head Weir, Ottery St. Mary into the Ottery Leat. Some of this flow returns via a tumbling weir 900 m down the leat, the rest continues down the tail race, discharging back to the river a further 700 m downstream.

Tipton Mill Leat, 01/0440 (See Map 6):

Abstraction is licensed from the River Otter from a weir 800 m. north of Tipton St. John into Tipton Mill Leat. An overspill occurs back to the river just upstream of the mill, 200 m. down the leat. The tail race continues for a further 800 m, rejoining the river by Tipton Bridge.

Otterton Mill Leat (See Map 7):

Abstraction takes place from the River Otter at a weir 250 m. north of Otterton Bridge into Otterton Mill Leat. An overspill occurs back to the river by Otterton Bridge. The tail race continues a further 200 m. before rejoining the river.

Impacts on Flows in the Main River Otter

Before considering impacts it is relevant to take account of the inherent complexity of the flow process in the river. This complexity makes it very difficult to identify changes of less than ten per cent by flow gauging, except where a river gauging station has been established to the relevant British Standards.

A basic criterion for "significance of impact" on flows has therefore been taken to be the causation of a change of at least 10%. Changes of less than 10% are not considered significant.

Theoretical impacts of the non-consumptive abstractions located along the main river corridor can be gauged by considering the figures in Table 2 below. These show how much of the theoretical flow resources in the River Otter immediately upstream of the point of abstraction would be annexed if abstraction takes place at the maximum rates authorised.

The flow resource statistics used are the Average Daily Flow (TADF) and Dry Weather Flow (TQ95) as estimated using MICROLOWFLOWS. This is a standard hydrological statistical model which calculates "naturalised" flows. It was developed by the Institute of Hydrology and has been calibrated for the Otter by NRA SW hydrological staff.

Table 2: Non-consumptive Abstractions and Main River Resources

NGR	Site	Volumes Authorised as % of flow in adjacent river reach			
		Annual/ TADF	Daily/ TADF	Annual/ TQ95	Daily/ TQ95
ST155013	Tracey Mill Leat	3.9	3.9	19.8	19.8
SY095961	Ottery Mill Leat	6.7	6.7	30.5	30.5
SY091926	Tipton Mill Leat	1.9	4.9	7.5	19.3
SY080855	Otterton Mill Leat	n/a	n/a	n/a	n/a

Notes: 1. Figures are theoretical and take no account of actual conditions at the intakes, etc. which may restrict abstraction to less than authorised rates. Any such limitations are likely to reduce actual impacts, particularly under dry weather flow conditions.

2. Rates applied for in the Licence of Entitlement application for the Otterton Leat abstraction represented 15.7 and 62.3% of the TADF and TQ95 resources respectively.

Specific impacts at each site are considered below.

Tracey Mill Leat site: See Map 2

Table 2 shows that the rate of abstraction authorised from Tracey Mill Leat represents 3.9% of the theoretical river resources at the leat

bifurcation. This is not considered significant. The authorised abstraction represents 19.8% of the theoretical dry weather river resource, so although the bifurcation is not controlled it may result in some effects being evident in the bypassed river reach. It must be remembered however that this will be caused by the natural bifurcation, not the abstraction from the leat itself.

Escot Aquaculture site: See Map 3

Since this abstraction takes place from a minor tributary and water is returned to it, no consideration has needed to be given to its impact on flows in the main River Otter.

Stowford Leat site: See Map 4

This abstraction depletes flow along both the Colaton Raleigh Stream and the main River Otter between its confluence with that stream and Otterton Bridge. As the maximum authorised rate of abstraction represents less than 0.2% of the theoretical dry weather river flow resource at Otterton Bridge, its impact on River Otter Flows is negligible and no further consideration is deemed necessary.

Ottery Mill Leat site: See Map 5

The figures in Table 2 suggest that under normal conditions this abstraction has an insignificant impact on river flow as it represents 6.7% of the local ADF resource. However the licensed abstraction represents 30.5% of the local dry weather flow resources, so a more detailed consideration of actual impact at times of dry weather flow appears warranted.

Tipton Mill Leat site: See Map 6

Again, the figures suggest that under normal conditions this abstraction has insignificant impact on river flow as it represents between 1.9 and 4.9% of the local ADF resource. The licensed abstraction represents between 7.5 and 19.3% of the local dry weather flow resources, so a more detailed consideration of actual impact at such times may be warranted.

Otterton Mill Leat site: See Map 7

This abstraction is one which has returned to the pre-application stage, following the refusal of an application for a Licence of Entitlement under Section 126 of the Water Resources Act 1989. The refusal was because the purpose, power for a corn mill, was invalid. This is because the corn mill is run for a commercial purpose, not simply as part of an "agricultural or domestic use" which this Section of the Water resources Act applies to. A new application will need to be considered under the normal abstraction legislation. The final licence when issued will be subject to conditions to protect the main River Otter, so final authorised volumes may be markedly different to those originally applied for.

The volumes applied for in the Licence of Entitlement application represent about 16 and 62% of the TADF and TQ95 resources respectively.

However it is known that there are a number of mitigating aspects. Otterton Leat has amenity, conservation and fisheries value in its own right. For instance, it is known to enhance the nursery area for fish, and sea trout apparently use the overflow channel and upper leat system to bypass the main river weir which is impassable to them at certain flows.

Conclusions

It must be remembered that these impacts are theoretical estimates based on licensed volumes and theoretical resources. Nevertheless:

1. Only three abstractions, those into the Ottery St. Mary, Tipton St. John and Otterton Mill Leats, affect flows in the main river Otter.

2. Tracey Mill Leat may also have some impact, but this will be caused by the natural bifurcation at the leat offtake rather than the abstraction which has been licensed from the leat itself. Any impact is only expected to be significant at times of low flow.

3. Both the Ottery and Tipton leat abstractions only have a measurable impact on flows in the bypassed reaches under low flow conditions. These are estimated to be 30.5%, and 7.5 to 19.3% respectively.

4. Both the Ottery and Otterton leat systems include features of archaeological interest as well as having particular fisheries, recreation, conservation and amenity value in their own right.

5. Rates of flow down the Otterton Leat may have a measurable impact in relation to the naturalised flow resource at Otterton under normal conditions and the impact on dry weather flow resources may be significant.

Recommendations

1. Any further studies of non-consumptive abstractions on the River Otter should focus on actual impacts at times of low flow on the reaches bypassed by the Tracey, Ottery, Tipton and Otterton Mill Leats.

2. Additional studies are recommended at any of the above sites if they are in a reach within which W S Atkins identify detrimental environmental conditions in their forthcoming Environmental Review of the River Otter.

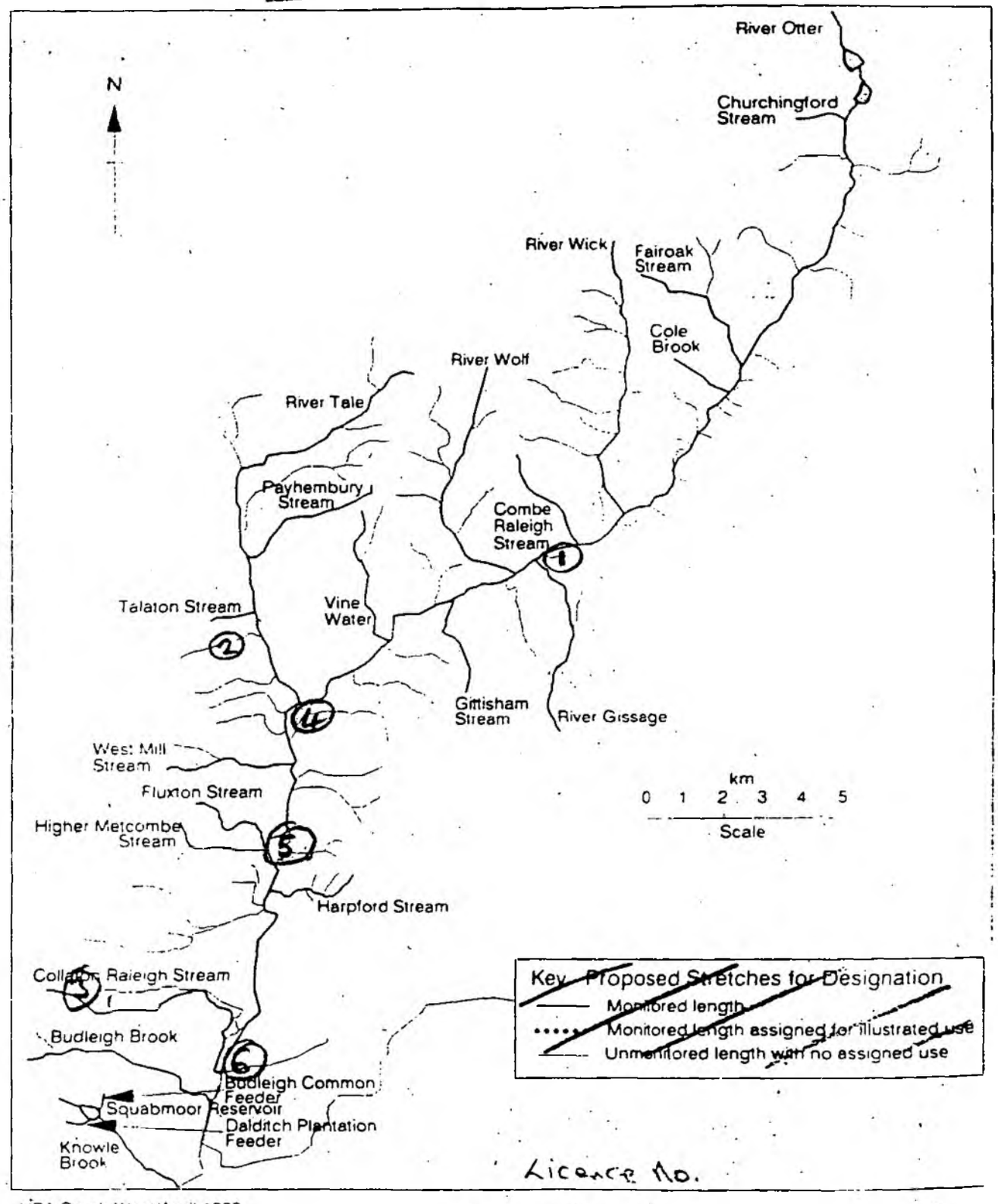
3. Studies to identify causes of such conditions should include a dry weather flow survey encompassing both the leat and the bypassed reach of the main River Otter, to help differentiate impacts caused by the relevant non-consumptive abstraction from both other abstractions and other factors.

3. Any licence granted authorising abstractions into the Otterton Leat should incorporate appropriate conditions to minimise impacts on river flows, balancing the fisheries, conservation and amenity interests of both and taking into account the archaeological value of the leat.

MAP 1

locations of Authorised and otterton Mill non consumptive abstractions.

[redacted] - River Otter Catchment

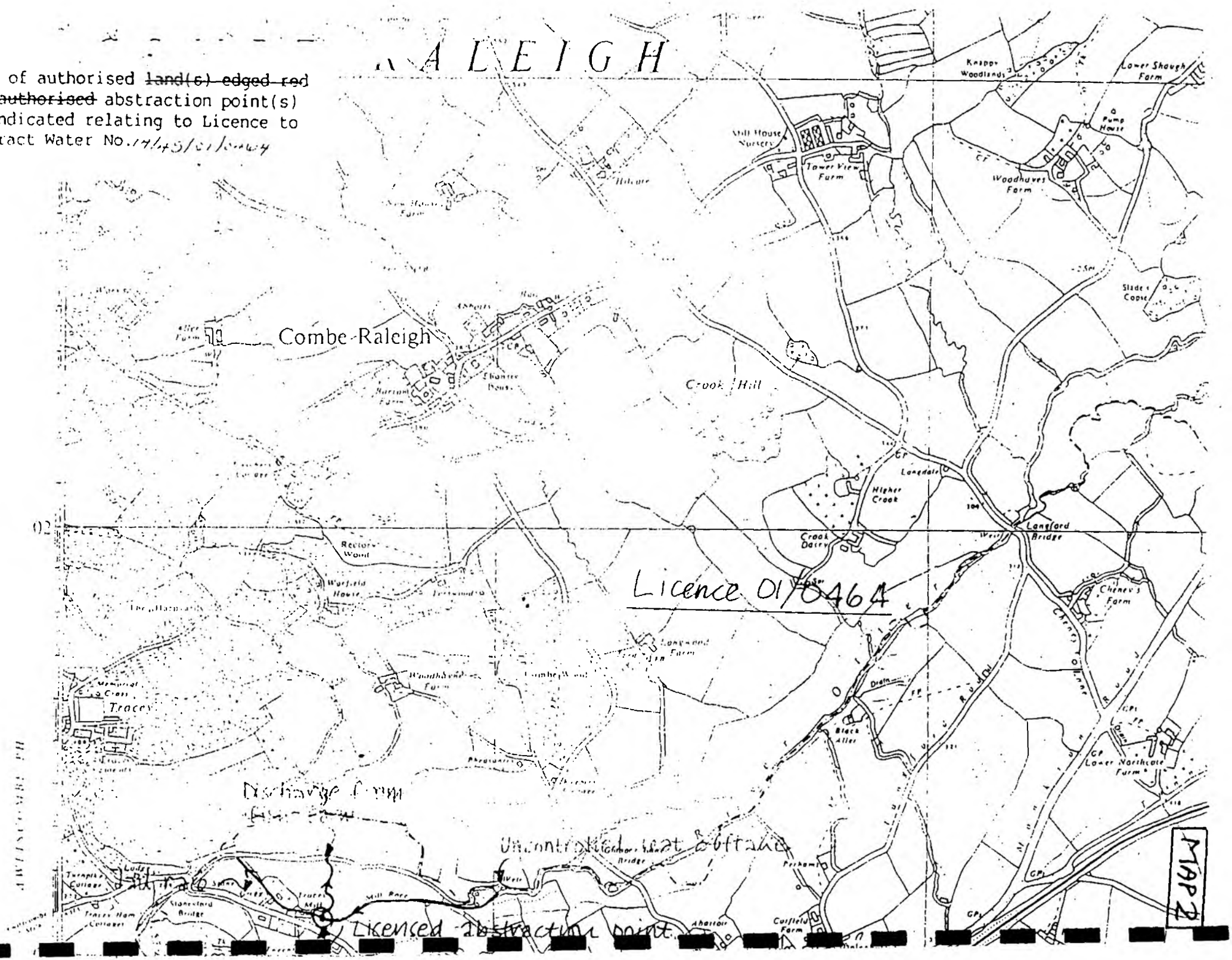


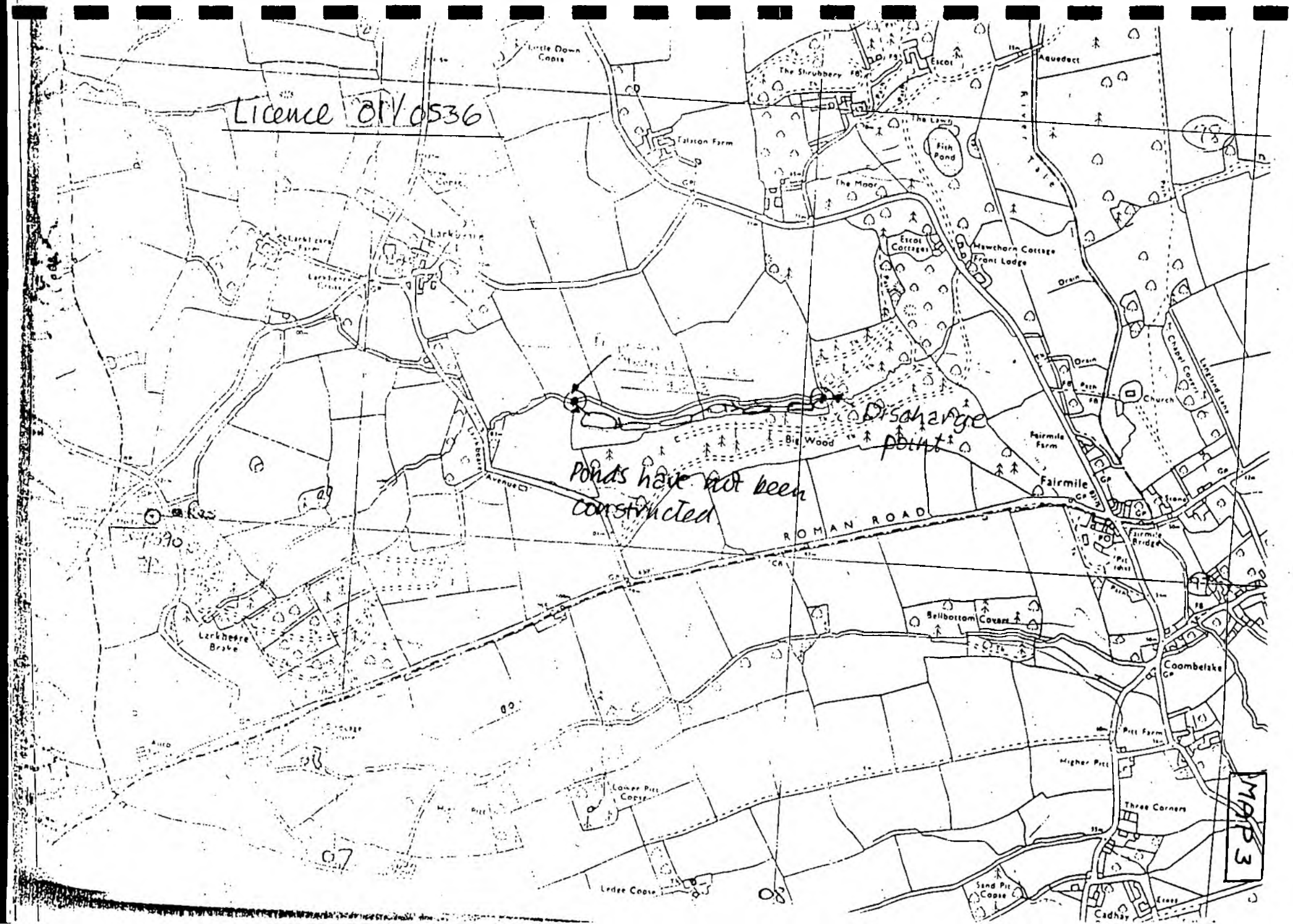
NRA South West/April 1992

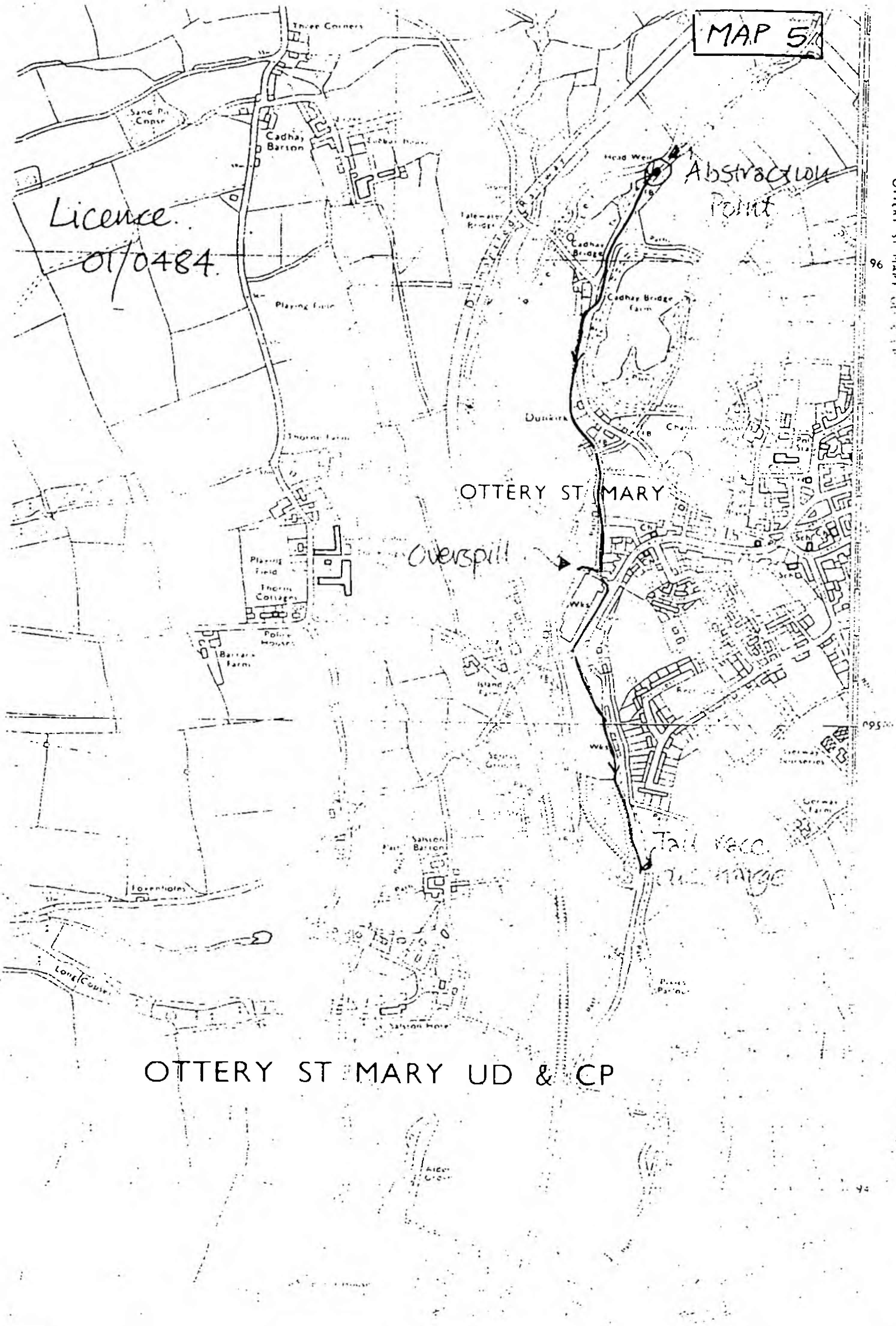
Licence No.

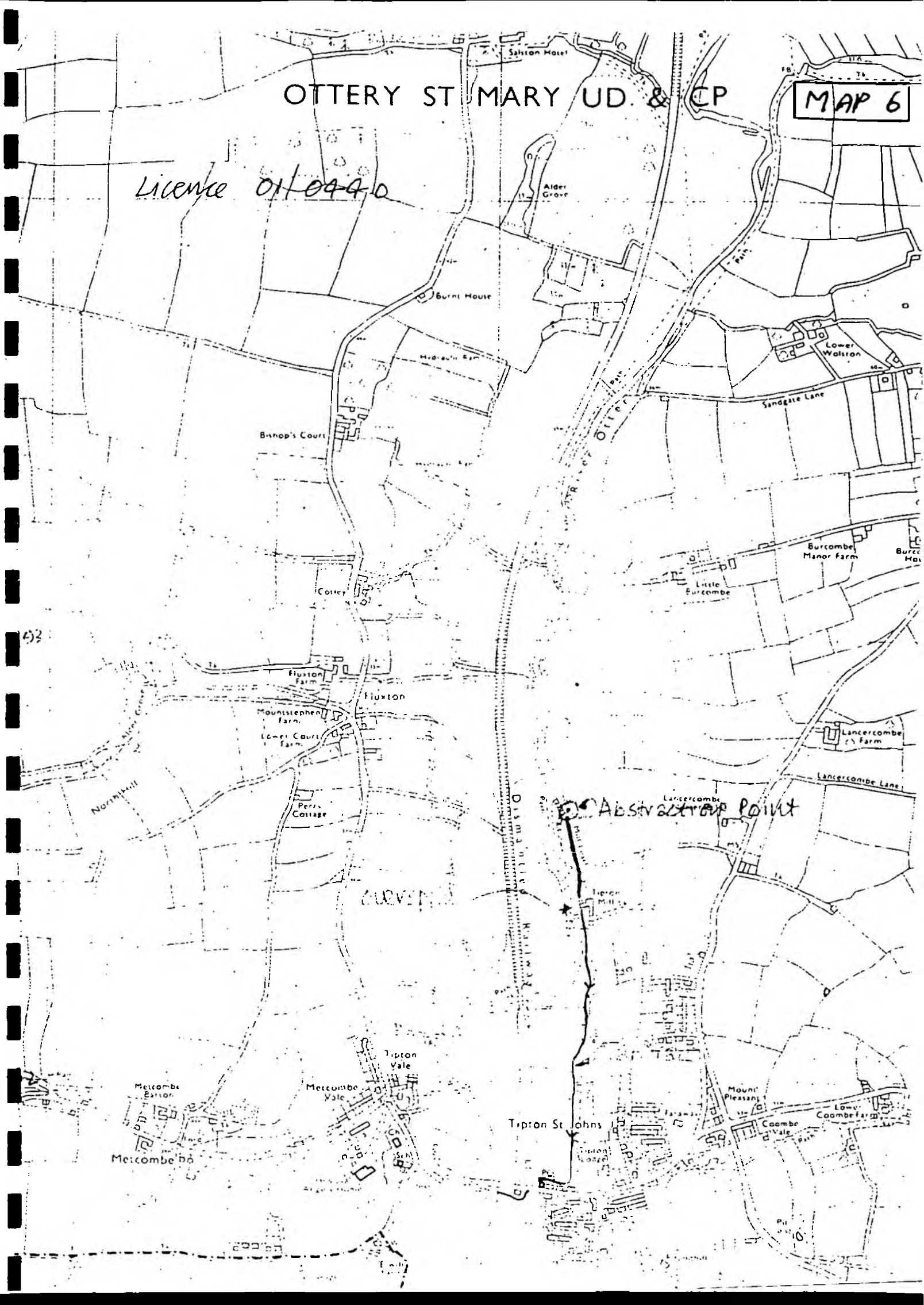
1. 01/0464
2. 01/0536
3. 01/0433
4. 01/0484
5. 01/0440

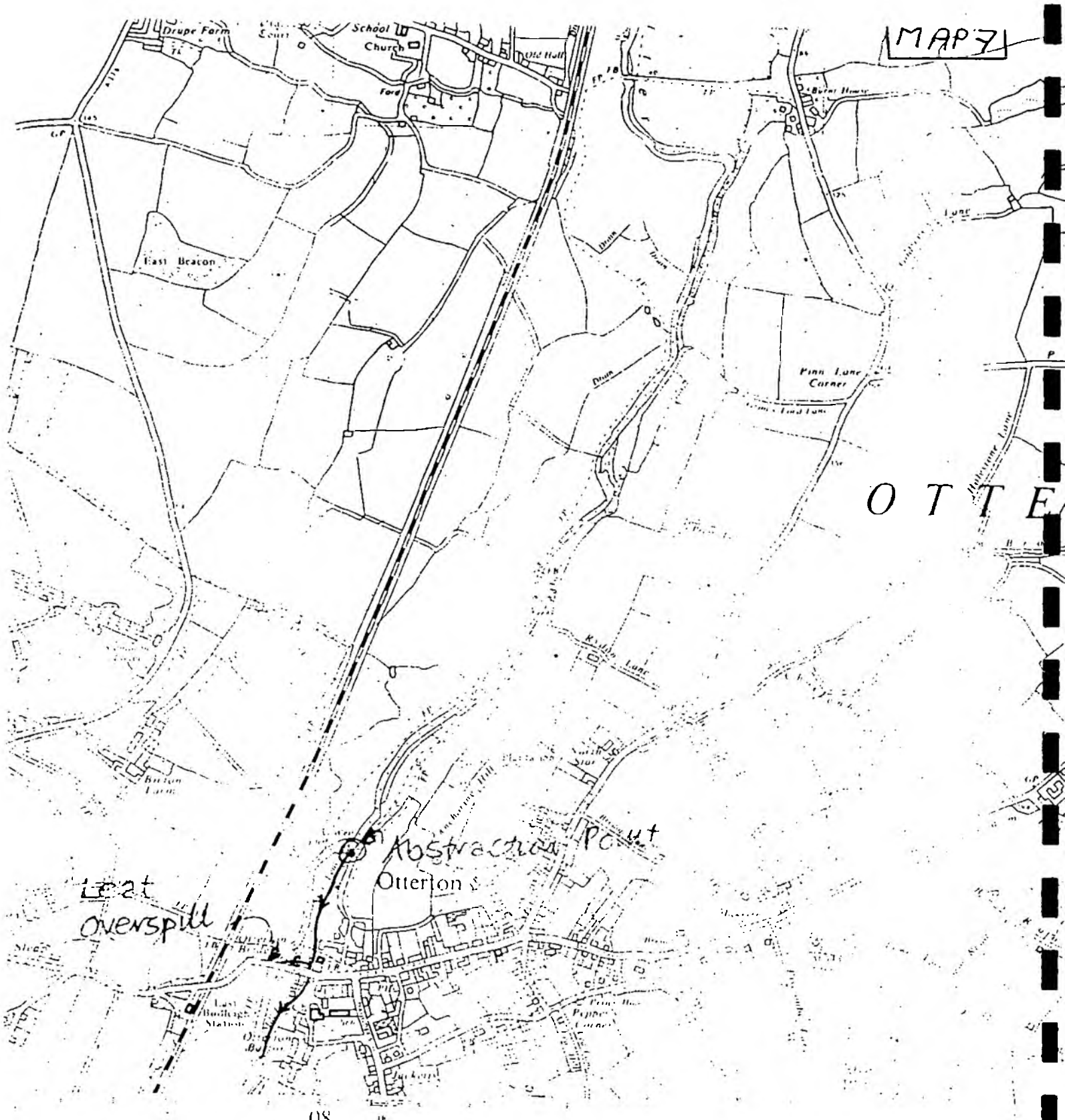
Plan of authorised ~~land(s) edged red and authorised~~ abstraction point(s) as indicated relating to Licence to Abstract Water No. 14/43/01/0464




Licence 01/0536
Discharge point
Ponds have not been constructed
MAP 3
Little Down Copse
The Shrubbery
Escot
Aqueduct
River Tale
Fishpond
Falston Farm
The Moor
Larkbeare
Escot Cottages
Hawthorn Cottage
Front Lodge
Drain
Chapel Corner
Church
Big Wood
Fairmile Farm
Fairmile
Fairmile Bridge
ROMAN ROAD
Larkbeare Brake
Bellbottom Covert
Coombelake
Pitt Farm
Higher Pitt
Three Corners
Lower Pitt Copse
Ledee Copse
Sand Pit Copse
Cadhay


MAP 5
Licence 01/0484
Abstraction Point
Overspill
Tail race discharge
OTTERY ST MARY
OTTERY ST MARY UD & CP
Three Corners
Cadhay Barton
Head Weir
Cadhay Bridge
Cadhay Bridge Farm
Dunkirk
Thorne Farm
Playing Field
Thorne Cottages
Police House
Barrack Farm
Island Farm
Wks
Salston Barton
Salston Hotel
Foxenholes
Long Copse
96


OTTERY ST MARY UD. & CP
MAP 6
Licence 01/0440
Alder Grove
Burnt House
Lower Walson
Sandgate Lane
Bishop's Court
Burcombe Manor Farm
Little Burcombe
Cotley
Fluxton Farm
Fluxton
Mountstephen Farm
Lower Court Farm
Lancercombe Farm
Lancercombe Lane
Northhill
Perry Cottage
Abstraction Point
Tipton Mill
Tipton Vale
Metcombe Barton
Metcombe Vale
Metcombe ho
Tipton St Johns
Mount Pleasant
Coombe Vale
Lower Coombe Farm



ATIONAL GRID

APPENDIX H

Electrofishing Data 1983 - 1992

RIVER OTTER FISH SURVEYS 1983 – 1992

TROUT DENSITY (100m2)

RIVER	SITE NAME	TROUT FRY (0+) 1983	1984	1986
OTTER	Royston	14.29	–	0.00
	Knackers Hole br.	–	–	–
	Hoemoor	60.71	–	0.00
	Twistgates	6.48	–	0.40
	Philishayes Farm	–	–	–
	Upottery	0.00	–	0.00
	Round Copse	–	–	–
	Monkton	0.68	–	0.00
	Langford	0.00	–	–
	Clapper	0.00	–	–
	Clapper Br.	–	0.21	–
	D/S weston Br.	–	0.00	–
	Deer Park	–	0.00	–
	D/S Colhayes Br.	–	0.00	–
	Fenny Br.	–	0.04	–
	U/s Cadhay Br.	–	0.00	–
	Dunkirk	–	0.00	–
	Salston Barton	–	0.00	–
	Cotley Barton	–	0.04	–
	Tipton st John	–	0.00	–
	Dolton	–	0.00	–
	Colaton raleigh	–	0.00	–
	Otterton	–	0.00	–
LUXTON Str.	Churchingford	53.23	–	3.28
ULLCOMBE BROOK	Ullcombe Farm	0.00	–	0.00
NEWCOTT Str	Highley Farm	–	–	–
FAIROAK Str.	Upottery	0.00	–	0.00
ODLE BROOK	Odle Brook	0.00	–	0.00
LUPP	Mathayes	–	–	–
	U/S Lupitt Br.	0.00	–	0.00
	Lake Farm	60.78	–	0.00
	Hillside	0.68	–	0.00

TROUT PARR (1++)				
1992	1983	1984	1986	1992
24.63	20.71	–	65.01	17.34
15.25	–	–	–	24.40
20.05	45.41	–	33.70	21.58
17.96	27.13	–	21.49	33.29
1.71	–	–	–	15.89
1.97	14.60	–	16.75	11.47
0.00	–	–	–	9.57
0.49	4.73	–	1.10	9.38
0.93	3.08	–	–	2.56
–	1.22	–	–	–
0.00	–	2.30	–	6.08
–	–	0.52	–	–
–	–	0.86 *	–	–
–	–	0.14	–	–
–	–	0.91 *	–	–
–	–	1.14	–	–
–	–	3.19 *	–	–
–	–	0.75	–	–
–	–	0.49	–	–
–	–	8.53	–	–
–	–	0.39 *	–	–
–	–	0.46 *	–	–
–	–	0.97	–	–
51.53	9.68	–	20.30	7.16
3.72	0.00	–	1.93	3.72
	–	–	–	
16.60	2.99	–	5.00	11.77
0.00	0.00	–	0.00	4.77
27.27	–	–	–	28.83
14.20	25.00	–	24.41	31.96
3.88	31.37	–	21.41	11.65
22.09	20.41	–	15.17	19.32

	Barn Farm	0.00
	Shelvin	0.00
	Wick	0.91
	Nursery	–
	Lake Cottage	2.94
	Uxford Br.	5.48
	Millhouse	1.30
COOMBE RALEGH Str.	NewHouse	0.00
	Longwood	0.00
GISSAGE	U/S Blannicombe	89.90
	D/S Blannicombe	25.53
	Coombehayes	8.70
WOLF	Wolverstone	18.84
	Grange Farm	4.44
	Old Chapelfield	–
	Aller Farm	0.00
	D/S Godford Br.	0.00
	Godford Mill	0.00
	Awliscombe	0.00
	Winneford	0.00
GITTISHAM	U/S Gittisham	19.12
	D/S Pomery	6.84
BUCKERALL	Treaslake farm	0.00
VINE WATER	Whitehouse Corner	0.00
ALFINGTON Str.	D/S Alfington	0.00
TALE	Landend	–
	Broadhembury	–
	D/S Colliton Br.	16.56
	D/S Colliton Barton	34.54
	Danes Mill	3.53
	Tuck Mill	1.59
	Payhembury	0.00
	Milton	0.00
	Talewater	0.47
	Talaton	0.00
	Escot Park	0.00
	Taleford	1.06
PAYHEMBURY Str.	D/S Payhembury Br.	–

0.00	–	0.00	–	0.00	–
0.00	–	0.00	–	0.00	–
0.00	1.93	12.79	–	9.84	14.18
–	1.83	–	–	–	11.00
0.00	2.50	1.47	–	4.91	0.00
0.00	1.53	2.05	–	7.14	9.17
1.11	1.43	3.04	–	5.01	10.04
–	–	0.00	–	–	–
–	0.00	0.00	–	–	0.00
–	39.56	20.20	–	–	44.50
–	10.58	10.64	–	–	33.52
–	5.49	31.74	–	–	55.36
0.00	40.79	21.74	–	18.09	25.68
0.00	50.10	8.89	–	10.55	17.02
–	7.63	–	–	–	6.16
0.00	0.00	0.00	–	0.00	3.77
0.00	–	0.00	–	2.25	–
0.00	3.38	0.00	–	0.74	5.91
0.00	0.00	0.00	–	1.67	0.00
0.00	0.00	0.00	–	0.00	0.00
–	4.36	19.12	–	–	35.67
–	12.20	6.84	–	–	7.03
–	0.00	0.00	–	–	2.68
–	0.00	0.00	–	–	2.84
–	0.00	0.00	–	–	0.00
–	19.66	–	–	–	35.54
–	9.55	–	–	–	41.26
31.45	51.74	12.74	–	2.94	9.30
14.37	12.67	1.55	–	3.29	2.80
0.00	9.86	18.24	–	19.14	15.08
0.40	4.17	8.73	–	4.92	5.84
0.00	–	0.00	–	0.00	–
0.00	–	0.00	–	1.98	–
0.00	6.21	3.77	–	0.98	13.75
0.00	–	0.00	–	0.00	–
0.00	5.85	4.05	–	1.71	6.69
0.00	4.20	5.29	–	2.82	2.10
–	0.00	–	–	–	0.00

TALATON Str	D/s Talaton STW	–	–
St MARY STREAM	D/S B3176	5.00	–
SALSTON Str.	Gauging St.	–	–
WEST STREAM HILL	U/S Salston	10.81	–
KNIGHTSTONE BROOK	U/S Pixys Parlour	0.00	–
WIGGATON BROOK	Lower Wolston	0.00	–
FLUXTON BROOK	Mount stephen	44.33	–
METCOMBE BROOK	Higher Metcombe	201.22	–
	U/S Metcombe	30.00	–
	Metcombe Vale	3.90	–
VENN OTTERY	D/S Venn Ottery Barton	0.00	–
SOUTHERTON	Southerton	0.00	–
BACK BROOK	Stoney Ford	32.67	–
	Goosemoor	13.43	–
	Hillside	17.09	–
COLATON RALEIGH Str.	Stowford	–	–
	Pophams Farm	6.30	–
BUDLEIGH BROOK	Kerslake	163.73	–
	U/S Sawmills	–	–

–	0.00	–	–	–	0.00
–	0.00	0.00	–	–	0.00
–	14.66	–	–	–	2.66
–	–	0.00	–	–	–
–	0.00	0.00	–	–	0.00
–	0.00	2.99	–	–	0.00
–	42.19	8.25	–	–	5.37
–	8.65	15.85	–	–	7.31
–	42.83	16.67	–	–	10.93
–	15.45	23.38	–	–	11.58
–	–	0.00	–	–	–
–	–	0.00	–	–	–
–	–	1.98	–	–	–
–	–	14.93	–	–	–
–	17.57	0.00	–	–	7.59
–	33.41	–	–	–	8.74
–	8.27	0.79	–	–	0.75
–	36.93	6.86	–	–	16.25
–	23.50	–	–	–	14.09

APPENDIX I

Summary of Trends in Stocking and Cropping

Table 2.1 - Summary of Trends in Cropping and Stocking in the River Otter Catchment Area - Per Cent Land Use 1940 to 1985

Year	1940			1950			1960			1970			1980			1985		
Section of Catchment Area	North	South	Total	North	South	Total	North	South	Total	North	South	Total	North	South	Total	North	South	Total
	% 1/	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Cropping																		
Cereals and Fallow	10	17	14	13	15	14	7	14	11	9	19	15	8	24	17	8	25	18
Root Crops	1	1	1	1	3	2	-	1	-	-	1	-	-	1	1	-	2	1
Oilseed Rape & Other Crops	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Horticulture & Orchards	2	4	3	2	5	3	2	4	3	-	3	2	-	2	1	-	2	1
Leys	3	4	3	10	9	9	14	15	15	14	19	17	12	21	18	11	19	16
Permanent Pasture	70	65	68	62	59	61	65	56	60	68	51	59	71	48	58	73	47	58
Rough Grazing	12	5	8	9	4	7	9	4	6	8	3	5	8	2	4	7	1	4
Other Forage Crops	2	4	3	3	5	4	3	6	5	1	4	2	1	2	1	1	3	2
TOTAL - %	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
TOTAL - Ha 1/	9409	11194	20603	9437	10882	20319	9319	11317	20636	9011	11791	20802	8794	11677	20471	8710	11702	20412
Stocking Rate - Ha/GLU 2/	1.10	1.03	1.06	1.02	0.95	0.98	0.93	0.91	0.92	0.79	0.71	0.74	0.70	0.59	0.64	0.59	0.59	0.59

1/ Excludes woodland and other land

2/ Grazing Livestock Unit

APPENDIX J

SSSI Designations In the River Otter Catchment

CITATION SHEET

COUNTY: DEVON SITE NAME: OTTER ESTUARY

DISTRICT: EAST DEVON

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 (as amended)

Local Planning Authority: Devon County Council, East Devon District Council

National Grid Reference: SY 073830 Area: 33.3 (ha) 82.3 (ac)

Ordnance Survey Sheet 1:50,000: 192 1:10,000: SY 08 SE

Date Notified (Under 1949 Act): - Date of Last Revision: -

Date Notified (Under 1981 Act): 1986 Date of Last Revision: -

Other Information: A new site. In East Devon Area of Outstanding Natural Beauty. In County Structure Plan Coastal Preservation Area. Part a Devon Trust for Nature Conservation Nature Reserve (leased).

Description and Reasons for Notification:

The Otter Estuary contains a wide range of saltmarsh communities which together with additional areas of tall herb and scrub, support high numbers of breeding and overwintering bird species. Otterton Point is an important location for vertebrate palaeontology.

Flowing due south, the lower 2km reach of the River Otter is bounded by sea embankment to the west and a cliff of sandstone rising to some 10m on its eastern side. Below White Bridge the divergence of the embankment from the direction of the river channel :he estuary to broaden to a maximum width of 0.5km. Here, the deep, fine alluvium ...s enabled a well-developed pan and creek system to form. A shingle ridge running eastwards from the west shore virtually closes the estuary from the sea, the river entering the sea at Otterton Point through a 5m gap.

The saltmarsh flora is particularly well developed, with successions of Glassworts (Salicornia spp) and Common Cord-grass (Spartina anglica) at the lower levels; Common Saltmarsh-grass (Puccinellia maritima), Sea-purslane (Halimione portulacoides) and Sea Arrowgrass (Triglochin maritima) occurring on the middle marsh with Annual Sea-blite (Suaeda maritima), Sea Aster (Aster tripolium) and Thrift (Armeria maritima) becoming more abundant on the higher areas. Characteristic of the uppermost levels are Sea Rush (Juncus maritimus), Spear-leaved Orache (Attriplex hastata) and Red Fescue (Festuca rubra). Areas subject to only occasional flooding support stands of Common Reed (Phragmites australis) or Sea Club-rush (Scirpus maritimus), both of which support high numbers of invertebrates. Additional habitat variety is found along the western side of the sea wall. Here the damp areas support a marsh vegetation which includes Yellow Iris (Iris pseudacorus), Common Fleabane (Pulicaria dysenterica), Purple-loosestrife (Lythrum salicaria), Cross-wort (Cruciata laevipes) and Divided Sedge (Carex divisa), as well as a small reedbed with areas of open water. Rock Sea-lavender (Limonium binervosum) is present on the cliff ledges towards the sea.

...e river terrace upstream of White Bridge, a dense growth of Willow (Salix spp) scrub ind tall herbs provides undisturbed cover for many breeding birds, particularly for summer visitors such as the Reed and Sedge Warblers (Acrocephalus scirpaceus and A. schoenobaenus). Also breeding on the site are Serin (Serinus serinus), Nuthatch (Sitta europaea), Stonechat Saxicola torquata), all three species of Woodpecker, Little Owl (Athene noctua), Shelduck Tadorna tadorna) and Mute Swan (Cygnus olor). Overwintering species include Firecrest Regulus ignicapillus), Siskin (Carduelis spinus) and waterbirds such as Teal (Anas crecca), ater Rail (Rallus aquaticus) and Dunlin (Calidris alpina).

here are several distinct communities of mud-dwelling invertebrates in the estuary. haracteristic species include the bivalve Peppery Furrow-shell (Scrobicularia plana), he ragworm Nereis diversicolor and the crustacean Corophium volutator. This variety, ogether with adjacent habitats, provides food for a corresponding variety of bird species, ome of which can be present in large numbers, principally Curlew (Numenius arquata) and apwing (Vanellus vanellus). The area is an important additional feeding station for irds from the nearby Exe Estuary, especially during severe weather.

tterton Point itself has yielded the best remains of the diagnostic tooth plates, as ell as a lower jaw, of a fossil known as "the Devon rhynchosaur". As the only fossils, hese allow approximate mid-Triassic dating of the Otter Sandstone Formation. This is lso the most southerly occurrence of Rhynchosaurus, and it is of interest as a feature f ancient geography. The lower jaw was collected recently, and there is potential for ire finds and future research.


OTTER ESTUARY
DEVON
84
83
82
07
08
Otterton Park
River Otter
Hume Down Barn
Upmoor
White Bridge
South Cottages
South Farm Road
South Farm
Cliff Lane
Coal Beach
Cricket Ground
Danger Point
Pilerton Point
edge
NATURE CONSERVANCY COUNCIL
Site boundary thus
Scale 1:10 000
0 Metres
600
0 Yards
600
Based on the Ordnance Survey 1:10 000 map with the permission of the Controller of Her Majesty's Stationery Office. Crown Copyright reserved 1985/10

Notified to Secretary of State on 15 Fe

CITATION SHEET

COUNTY: SOMERSET/DEVON SITE NAME: SOUTHEY AND GOTLEIGH MOORS

DISTRICT: TAUNTON DEANE, EAST DEVON, MID DEVON

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981(as amended)

Local Planning Authority: TAUNTON DEANE, MID DEVON, EAST DEVON DISTRICT COUNCILS SOMERSET COUNTY COUNCIL, DEVON COUNTY COUNCIL

National Grid Reference: ST 192110 Area: 81.3 (ha) 200.8 (ac)

Ordnance Survey Sheet 1:50,000: 193 1:10,000: ST 11 SE

Date Notified (Under 1949 Act): Date of Last Revision:

Date Notified (Under 1981 Act): 1988 Date of Last Revision:

Other Information: A NEW SITE.

Description and Reasons for Notification:

Southey and Gotleigh Moors is one of the richest mosaics of valley mire, acid-marsh grassland and Alder/Birch carr found on the Blackdown Hills. The site contains a large and diverse, moderately acid flush and bog complex

The Bolham River has cut through the Cretaceous Greensand on the Blackdown Hills creating a valley with shallowly slopi sides occupied by the two Moors. The Greensand gives rise to permeable coarse and loamy soils of the Hense series. Freque springs emerge from the valley sides locally raising the water table and producing shallow peaty surface horizons. In pr the valley sides appear terraced with a pronounced upper plateau, a sharp drop over Greensand to the mire system and a fu gentle slope down to the valley basin. On Southey Moor this transition is marked by abrupt vegetation changes.

The centre of the valley mire system lies on the spring line where bog pool communities have developed over exposed wa logged peat with Bog Pond Weed (Potamogeton polygonifolius), Common Cottongrass (Eriophorum angustifolium) and Marsh St Joh wort (Hypericum elodes). As water moves away from the springs it spreads into channels which intersect low hummock Sphagnum papillosum. Dividing hollows contain Drepanocladus revolvens, a moss very rare in Somerset. A very large populatio of White Beak-sedge (Rhyncospora alba) is dominant over much of this relatively base poor 'plateau' bog. Further down th slope hummocks are dominated by Sphagnum subnitens enjoying increasingly base rich conditions. Round-leaved sundew (Dro rotundifolia), Oblongleaved Sundew (D. intermedia) and Pale Buttervort (Pinguicula lusitanica) occur in the hollows w with Bog Asphodel (Narthecium ossifragum). The tops of hummocks host a wet heath community of Cross-leaved Heath (E tetralix), Heath Milkwort (Polygala serpyllifolia) and Heath Spotted-orchid (Dactylorhiza maculata).

Transitions to several related plant communities can be seen within the site. With increasing distance from springs seepages the water table falls allowing colonization by Heather (Calluna vulgaris), Bell Heather (Erica cinerea) and Euro Gorse (Ulex europaeus). A small population of Fir Club Moss (Hyperia selago) occurs in the dry heath community on Cott Moor. Acid marshy grassland tends to arise over flushed and lightly grazed areas. Sharp flowered rush (Juncus acutiflorus is often dominant in a sward containing Red Fescue (Festuca rubra), Sweet Vernal Grass (Anthoxanthum odoratum) and He Wood-rush (Luzula multiflora). Where channels form within the marsh grassland, Marsh-marigold (Caltha palustris), M Violet (Viola palustris) and Ragged Robin (Lychnis-flos-cuculi) can be found.

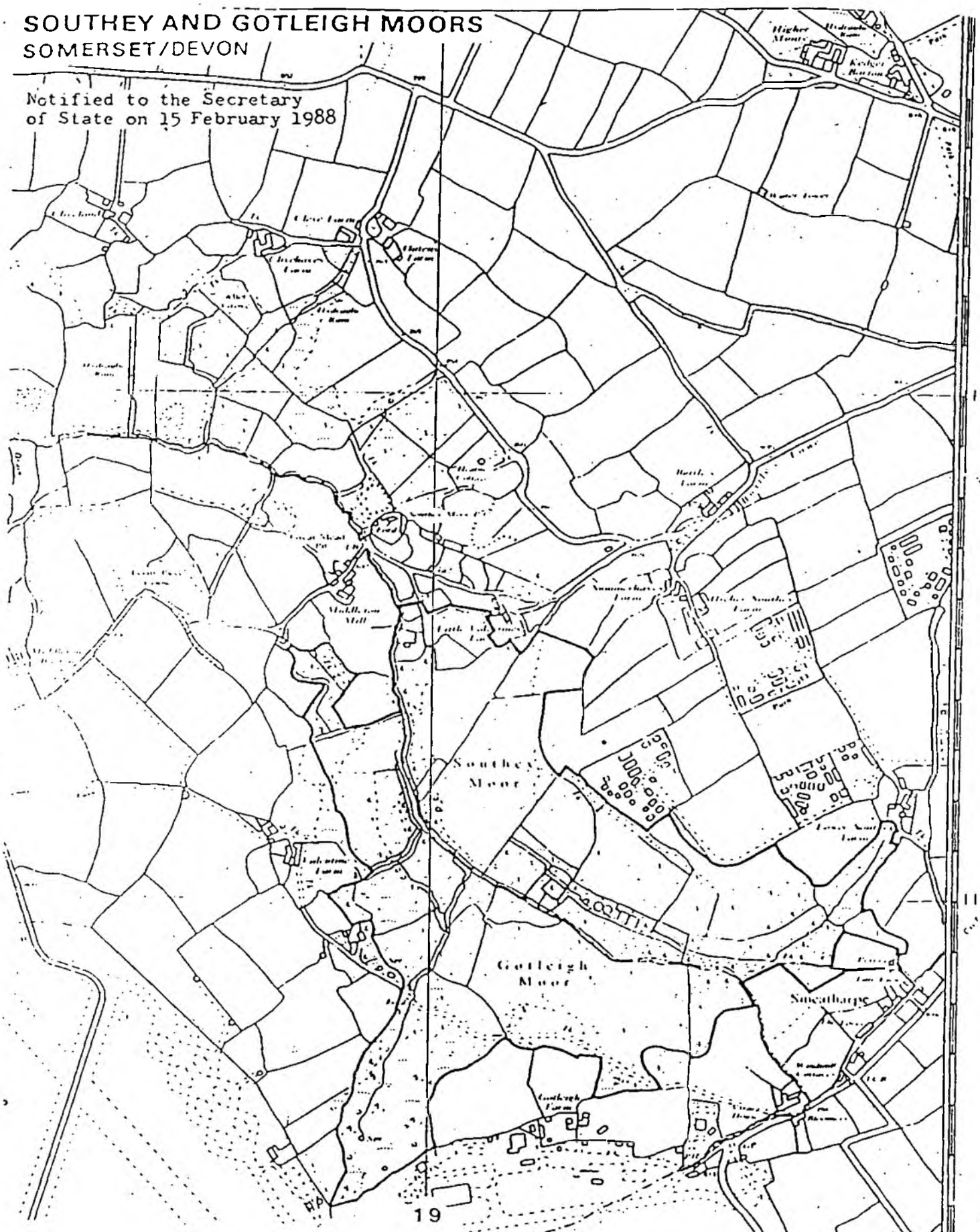
Heavily water-logged mineral soils in the valley basin and seepages on the valley sides are colonized by Alder (Alnu glutinosa) with a ground flora dominated by Greater Tussock Sedge (Carex paniculata) or Remote Sedge (Carex remo Bryophyte cover is extensive with mats of Rhizomnium punctatum and Brachythecium rutabulum. At the extreme west of the acid-marshy grassland grades into a grassland community dominated by Crested Dog's-tail (Cynosurus cristatus), Common (Agrostis capillaris) and Heath Grass (Danthonia decumbens) containing abundant Common Knapweed (Centaurea nigra).

The diversity of the site is enhanced by the presence of the Bolham river and small areas of standing water which incr the amphibian and invertebrate interest. The nationally scarce leaf beetle Phyllobrotica quadrimaculata has recently found here.

SOUTHEY AND GOTLEIGH MOORS

SOMERSET/DEVON

Notified to the Secretary of State on 15 February 1988



NATURE CONSERVANCY COUNCIL

Site boundary thus

Scale 1:10 000

0 Metres 600

0 Yards 600

CITATION SHEET

COUNTY: DEVON SITE NAME: LADRAM BAY TO SIDMOUTH

DISTRICT: EAST DEVON

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 (as amended)

Local Planning Authority: Devon County Council, East Devon District Council

National Grid Reference: SY 096847 to 106860 and SY 122868 Area: 18.4 (ha) 45.5 (ac)

Ordnance Survey Sheet 1:50,000: 192 1:10,000: SY 08 SE, NE; SY 18 NW

Date Notified (Under 1949 Act): 1952 (part) Date of Last Revision: 1976

Date Notified (Under 1981 Act): 1986 Date of Last Revision: -

Other Information:

Amended from previous Windgate Cliffs SSSI by extension and deletion.
In East Devon Area of Outstanding Natural Beauty (above HWM), and Heritage Coast.

Description and Reasons for Notification:

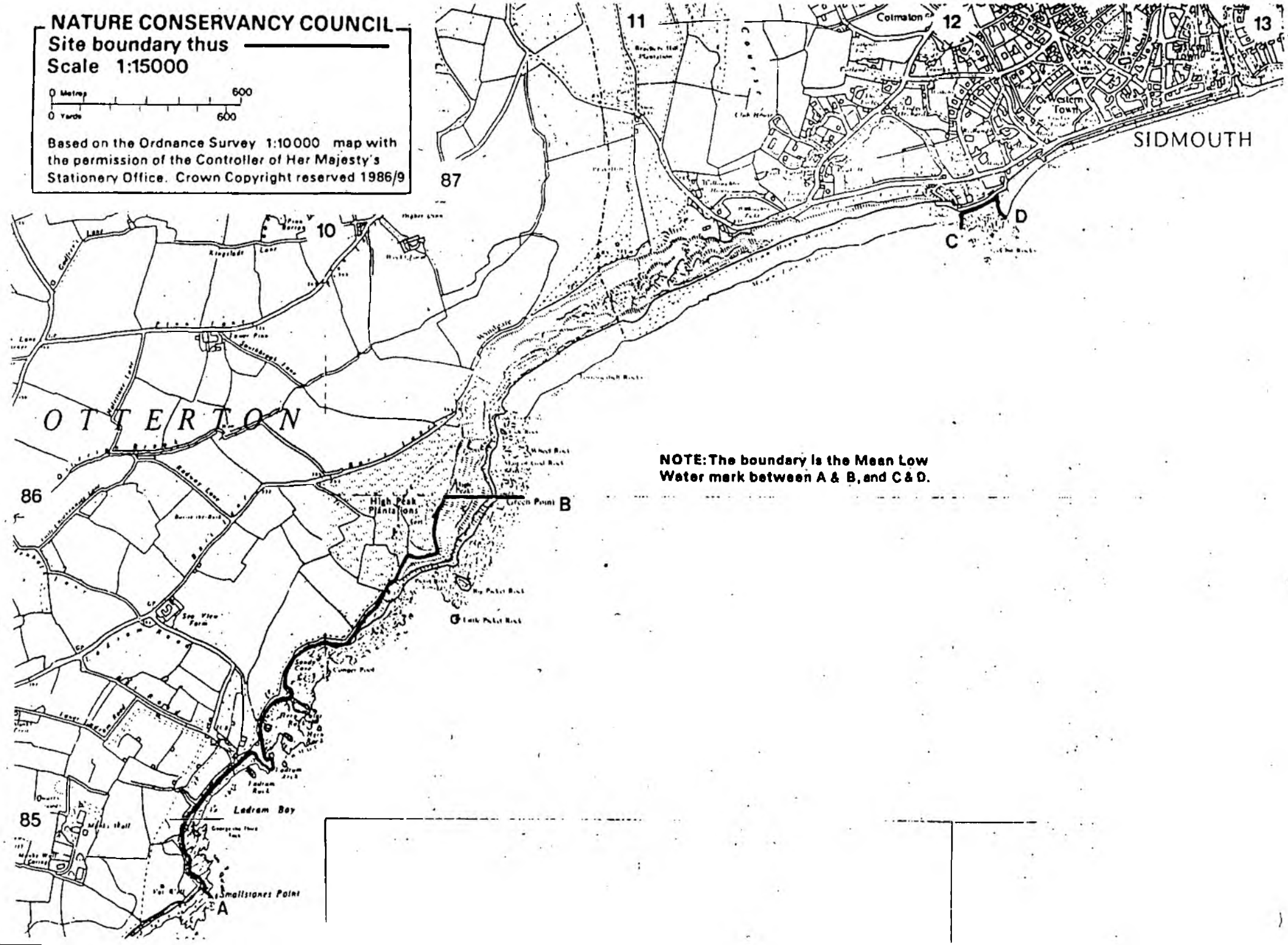
Ladram Bay is an important site for coastal geomorphology. A series of well-developed cliffs, stacks and shore platforms cut in the red sandstones of the Keuper represent one of very few assemblages of such forms in southern Britain. Moreover, they are unique in Britain in being formed in the relatively easily eroded sandstone, and owe their preservation largely to the relatively low energy regime in which they occur. The shore platforms are structurally controlled to the extent that some surfaces coincide with joint plates, while erosion along near-vertical joints has played a major role in isolating stacks from the mainland.

The cliffs below High Peak and Chit Rocks at Sidmouth, have yielded remains of Middle Triassic fossil fish, amphibians and reptiles. Specimens of the labyrinthodont Mastodonsaurus (including type material) and the rhynchosaur Rhynchosaurus are closely similar to forms from the Warwick and Bromsgrove area in the Midlands, and allow correlation between the two areas. The remains from High Peak are disarticulated but well preserved, and fresh cliff falls will almost certainly yield more material. The best fauna of Middle Triassic fossil vertebrates in southern Britain.

SITE NOTIFIED TO SECRETARY OF STATE ON 22 OCTOBER 1986

LADRAM BAY TO SIDMOUTH
DEVON

SITE NOTIFIED TO SECRETARY OF STATE ON 22 OCTOBER 1986



COUNTY: DEVON SITE NAME: BUDLEIGH SALTERTON CLIFF

DISTRICT: EAST DEVON

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

Local Planning Authority: Devon County Council, East Devon District Council.

National Grid Reference: SY 060815 Area: 10.6 (ha) 26.2(ac)

Ordnance Survey Sheet 1:50,000: 192 1:10,000: SY 08 SE

Date Notified (Under 1949 Act): 1964 Date of Last Revision: 1976

Date Notified (Under 1981 Act): 1985 Date of Last Revision:

Other Information:

In East Devon Area of Outstanding Natural Beauty.
Site boundary amended by extension and deletion.

Description:

A magnificent coastal section exposing the full thickness of the Lower Triassic Budleigh Salterton Pebble Beds, a sequence of texturally mature conglomerates deposited by braided rivers. These include pebbles of Ordovician quartzite with an indigenous fauna derived from the erosion of a ridge of much older Palaeozoic rocks lying to the south or south-west. The conglomerates are overlain by fluvial and aeolian sandstones of the Otter Sandstone Formation which contain at the base a layer of wind-facetted pebbles(dreikanter), and also well developed columnar calcrete horizons.

BUDLEIGH SALTERTON CLIFFS
DEVON

0|6

0|7

NATURE CONSERVANCY COUNCIL

Site boundary thus ——

Scale 1:10 000

0 Metres 600

0 Yards 600

CITATION SHEET

COUNTY: DEVON SITE NAME: EAST DEVON PEBBLEBED HEATHS

DISTRICT: EAST DEVON

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981(as amended)

Local Planning Authority: Devon County Council, East Devon District Council

National Grid Reference: SY 050880 Area: 1111.9 (ha) 2747.5 (ac)

Ordnance Survey Sheet 1:50,000: 192 1:10,000: SY 09 SW SE
SY 08 NW NE SW

Date Notified (Under 1949 Act): 1952 1972 1974 (parts) Date of Last Revision: 1976

Date Notified (Under 1981 Act): 1983 (part) 1986 Date of Last Revision:

Other Information: Nature Conservation Review site. Incorporates SSSIs notified under the National Parks and Access to the Countryside Act 1949 as Aylesbeare and Harpford Commons, Bicton and East Budleigh Commons, Colaton Raleigh and Woodbury Commons and Venn Ottery Common plus other areas included at this revision. In East Devon Area of Outstanding Natural Beauty. Parts are managed as non-statutory nature reserves. Mostly common land.

Description and Reasons for Notification:

This is the largest block of lowland heath in Devon. It is a nationally important representative of the inland Atlantic-climate, lowland heathlands of Britain and north-west Europe. A significant feature of the site is the diversity of heathland-associated communities, related to its large area and the range of substrate and topography. It also supports a wide range of birds and invertebrates.

The site overlies Triassic Bunter Pebblebeds, with some New Red Sandstone and Permian Marls, within an altitude range of 70m to 150m. The higher and drier areas are covered with heath dominated by Heather (Calluna vulgaris), Bell Heather (Erica cinerea), Western Gorse (Ulex gallii), Bristle Bent-grass (Agrostis curtisii) and Purple Moor-grass (Molinia caerulea). Grasses and Bracken (Pteridium aquilinum) are prevalent in places as are Bramble (Rubus fruticosus agg.) and scrub with scattered Pines (Pinus spp) and Birches (Betula spp).

A series of shallow valleys gives rise to distinct changes of vegetation. The dry heath gives way to wet heath with flushes on the valley sides, and to valley mire with patches of Willow (Salix spp) scrub mainly on the valley floors. Bell Heather is replaced by Cross-leaved Heath (E. tetralix) and characteristic species are Common Sedge (Carex nigra), Meadow Thistle (Cirsium dissectum), Lousewort (Pedicularis sylvatica), Bogbean (Menyanthes trifoliata), Heath Spotted Orchid (Dactylorhiza maculata), Lesser Butterfly Orchid (Platanthera bifolia) and Sharp-flowered Rush (Juncus acutiflorus). Other species associated with the wetter areas are Bog Asphodel (Narthecium ossifragum), Sundews (Drosera spp), Pale Butterwort (Pinguicula lusitanica), Bog Pimpernel (Anagallis tenella), Common Cotton-grass (Eriophorum angustifolium) and the Club-moss Lycopodiella inundata.

Mineral-rich flushes support Tawny Sedge (C. hostiana), Carnation Sedge (C. panicea), Bog Rush (Schoenus nigricans) and Devil's-bit Scabious (Succisa pratensis) together with the brown mosses Scorpidium scorpioides, Campylium stellatum and Drepanocladus revolvens.

Over 70 breeding bird species have been recorded notably Nightjar (Caprimulgus europaeus), Hobby (Accipiter nisus) and in most years Dartford Warbler (Sylvia undata). Among the 21 breeding dragonfly species are the Small Red Damselfly (Ceriagrion tenellum), Southern Coenagrion (Coenagrion mercuriale) and the Downy Emerald (Cordulea aenea). The Bog Bush Cricket (Metrioptera brachyptera) has been recorded here.

EAST DEVON PEBBLE BED HEATHS
DEVON

NOTE: A larger scale map, showing the definitive boundary, is available on request

NATURE CONSERVANCY COUNCIL

Site boundary thus ——

Scale 1:50000

0 Metres 2000

0 Yards 2000

CITATION SHEET

COUNTY: DEVON SITE NAME: HENSE MOOR MEADOWS

DISTRICT: EAST DEVON

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981(as amended)

Local Planning Authority: Devon County Council, East Devon District Council

National Grid Reference: ST 173068 Area: 3.2 (ha) 7.9 (ac)

Ordnance Survey Sheet 1:50,000: 192 1:10,000: ST 10 NE

Date Notified (Under 1949 Act): - Date of Last Revision: -

Date Notified (Under 1981 Act): 1986 Date of Last Revision:

Other Information:

A new site.

Description and Reasons for Notification:

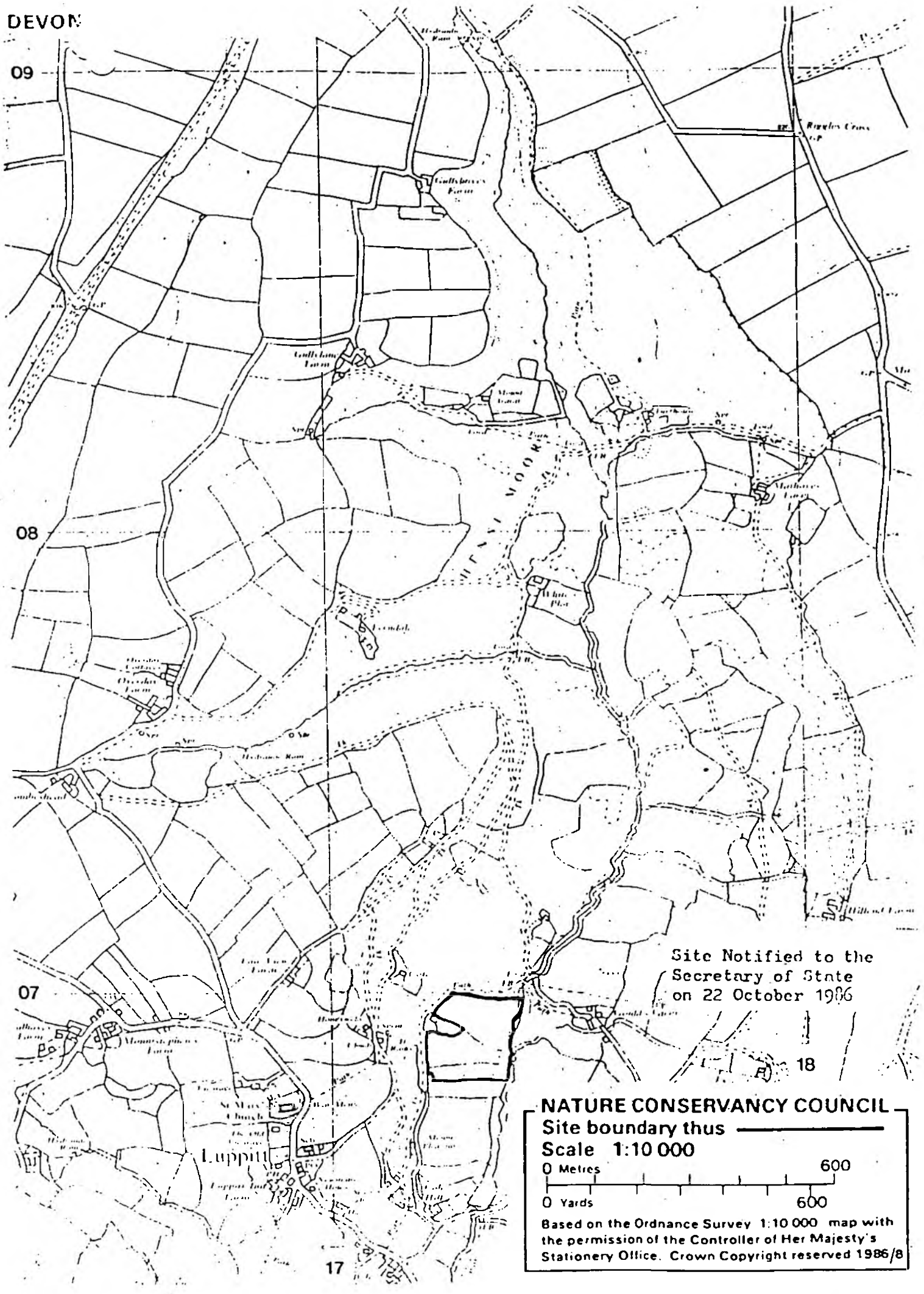
This site is comprised of three herb-rich meadows supporting a grassland community with a restricted distribution in Britain and one which contains several local species. This sward, together with a fen community, thick hedges and scattered trees, forms an area of exceptional wildlife value.

The meadows, which have not been cultivated or treated with artificial fertilisers or herbicides for at least 40 years, lie on Keuper Marl on the lower east-facing slopes of the valley that cuts through the valley mire of Hense Moor SSSI. The soil is loamy, neutral to calcareous, well-drained over most of the site but water-logged towards the tree-lined stream running at the base of the fields.

The sward over the freely-drained parts is characterised by frequent Common Knapweed (Centaurea nigra), Crested Dog's-tail (Cynosurus cristatus) and Meadow Vetchling (Lathyrus pratensis). A wide range of other herb and grass species are present, including Lady's-mantle (Alchemilla vulgaris), Cowslip (Primula veris), Common Spotted-orchid (Dactylorhiza fuchsii), Green-winged Orchid (Orchis morio) and Quaking-grass (Briza media), all local species in Devon. Corky-fruited Water-dropwort (Oenanthe pimpinelloides), a nationally-uncommon species, is abundant.

The fen community near the stream is dominated by Rushes (Juncus spp), with abundant Meadowsweet (Filipendula ulmaria). Here plants such as the local Marsh Valerian (Valeriana dioica) occur, together with Marsh-Marigold (Caltha palustris), Water Horsetail (Equisetum fluviatile) and Marsh Pennywort (Hydrocotyle vulgaris). On drier ground fringing this fen vegetation Meadow Thistle (Cirsium dissectum), Devil's-bit Scabious (Succisa pratensis), Betony (Stachys officinalis), Glaucous Sedge (Carex flacca) and Carnation Sedge (Carex panicea) may be found.

Species-rich hedges surround the fields, overgrown and thick in places, whilst an open stand of Pedunculate Oak (Quercus robur) and Ash (Fraxinus excelsior) occurs in the central field. Under this grow woodland plants such as Wood Anemone (Anemone nemorosa), Primrose (Primula vulgaris) and Common Dog-violet (Viola riviniana), while Bluebell (Hyacinthoides non-scriptus) is scattered throughout the site.


DEVON
09
08
07
Site Notified to the Secretary of State on 22 October 1986
18
17
Luppitt
NATURE CONSERVANCY COUNCIL
Site boundary thus
Scale 1:10 000
0 Metres
600
0 Yards
600
Based on the Ordnance Survey 1:10 000 map with the permission of the Controller of Her Majesty's Stationery Office. Crown Copyright reserved 1986/8

COUNTY: DEVON SITE NAME: HENSE MOOR

DISTRICT: EAST DEVON

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

Local Planning Authority: DEVON COUNTY COUNCIL, EAST DEVON DISTRICT COUNCIL

National Grid Reference: ST 175080 Area: 92.5 (ha) 229 (ac)

Ordnance Survey Sheet 1:50,000: 192 1:10,000: ST 10 NE

Date Notified (Under 1949 Act): 1969 Date of Last Revision: 1976

Date Notified (Under 1981 Act): 1984 Date of Last Revision:

Other Information:

In Blackdown Plateau Area of Great Landscape Value

Description:

Hense Moor includes some of the best remaining examples of lowland mixed valley bog in Devon, and is typical of this habitat in South Western Britain.

Within an altitude range of between 150m and 210m, the valley supports a mosaic of differen habitats. These are based on a variety of different soils derived from Keuper Marl on the valley bottoms, Greensand on the sides and Clay-with-flints on the valley tops. Peat has formed where drainage has been most impeded. Around the valley groundwater seeps from the Greensand and several streams arise in and flow through the site.

At the junction between the Greensand and Clay-with-flints moss-dominated springs occur, Bog-mosses include Sphagnum papillosum and S.tenellum. The site as a whole supports a diver moss flora, some sirty species having been recorded. Associated herbs are Bog Asphodel (Narthecium ossifragum), Bog St.John's Wort (Hypericum elodes), Pale Butterwort (Pinguicula lusitanica), Great Sundew (Drosera anglica) and Bog Pimpernel (Anagallis tenella).

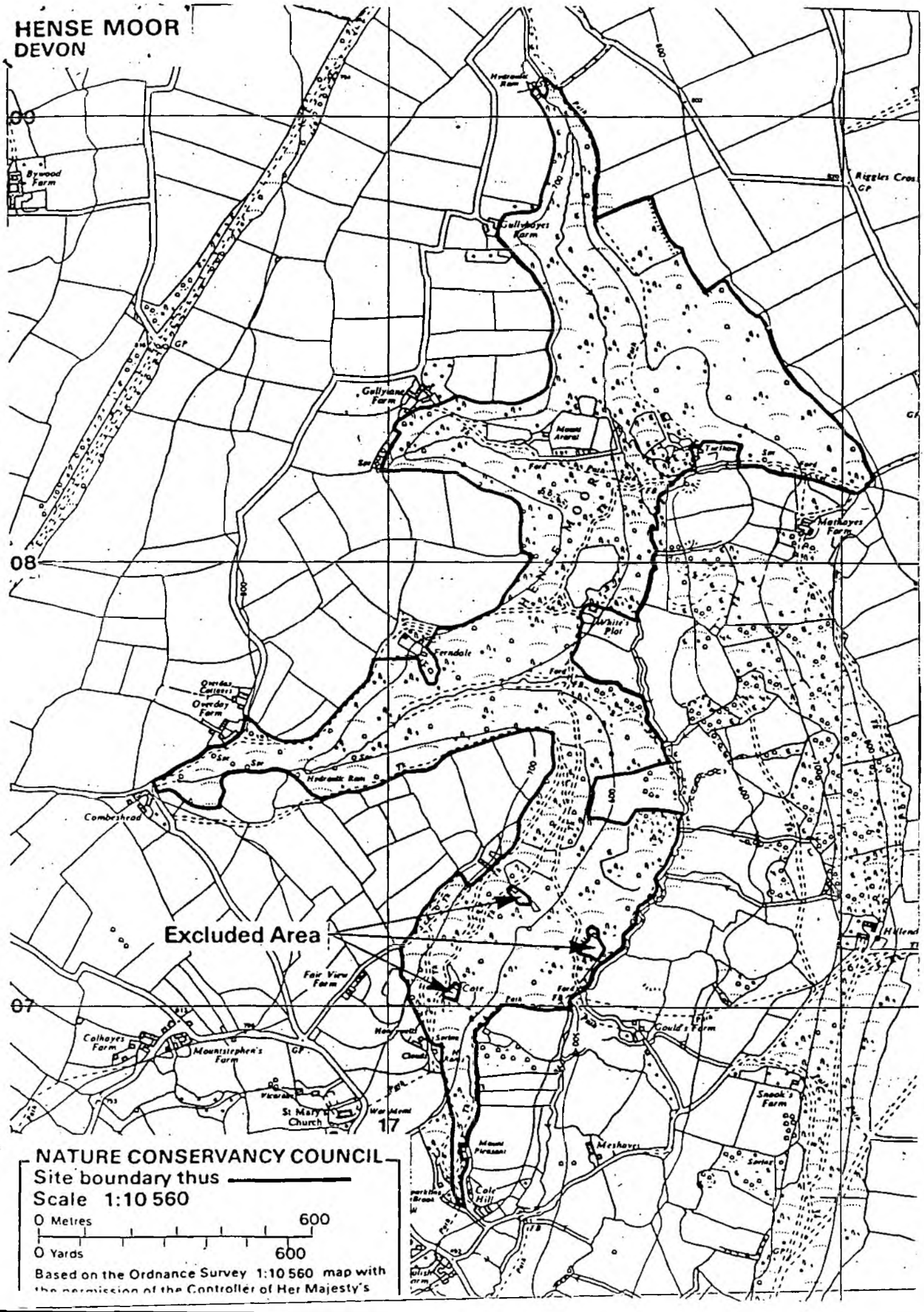
Where wet heath grades into these boggy areas, Purple Moor-grass (Molinia caerulea) and Cross-leaved Heath (Erica tetralix) become more abundant, together with a variety of other species, including Fir Clubmoss (Lycopodium selago), Round-leaved Sundew (D.rotundifolia), Long-leaved Sundew(D.intermedia), Tawny Sedge (Carex hostiana), Carnation-grass (C.panicea), Heath Spotted Orchid (Dactylorhiza maculata) and Lousewort (Pedicularis sylvatica). On more freely drained areas the wet heath has Purple Moor-grass and Dwarf Furze (Ulex gallii) as t codominant species.

In some areas Rushes, in particular Hard Rush (Juncus inflexus) become more abundant. Some areas of this acid marshy grassland contain Marsh Helleborine (Epipactis palustris), along with Star Sedge (C.echinata) and Meadowsweet (Filipendula ulmaria). Greater Tussock Sedge (C.panicuata) forms well-developed stands in some areas near the main stream.

Adding to the habitat diversity of the site are several wooded streams. Under a mixed canopy of Alder (Almus glutinosa), Goat Willow (Salix caprea), Birch (Betula spp.) and Pedunculate Oak (Quercus robur), the damp and shaded ground flora contains Golden Saxifrage (Chrysosple oppositifolium), Ramsons (Allium ursinum) and Enchanter's Nightshade (Circaea lutetiana).

On the well-drained, steeper valley sides and tops dry heath has developed, dominated by Dwarf Furze. This mixes in with areas dominated by Bracken (Pteridium aquilinum) and scrub, most of which consists of Common Gorse (Ulex europaeus)and Bramble (Rubus fruticosus agg.). In some places on the flatter valley tops semi-improved grassland occurs. Main sward components are Yorkshire Fog(Holcus lanatus) and Sweet Vernal-grass(Anthoxanthum odoratum).

The site's wide variety of habitats in turn supports a rich invertebrate fauna including of particular note the Raft Spider(Dolomedes fimbriatus).Reptiles and amphibians are present in


HENSE MOOR
DEVON
08
07
17
Excluded Area
Bywood Farm
Gollyhayes Farm
Gollyland Farm
Mount Arrael
Methayes Farm
White's Plot
Ferndale
Overday Cottages
Overday Farm
Hydraulic Ram
Combshead
Fair View Farm
Colhayes Farm
Mountstephen's Farm
St Mary's Church
Gould's Farm
Snook's Farm
Mount Pleasant
Methayes
Cole Hill
NATURE CONSERVANCY COUNCIL
Site boundary thus
Scale 1:10 560
0 Metres
600
0 Yards
600
Based on the Ordnance Survey 1:10 560 map with

APPENDIX K

List of Possible Causes and Effects Raised by the River Otter Association

APPENDIX K

LIST OF POSSIBLE CAUSES AND EFFECTS RAISED BY THE RIVER OTTER ASSOCIATION

This appendix lists the concerns raised by the River Otter Association with respect to possible causes and effects on the River Otter. These concerns have been raised in a number of documents:-

1 River Otter Association, July 1991. Submissions on River Otter Action Plan.

2 Brigadier Sheppard, March 1993. Independent Water Resources Study on the River Otter.

3 A. Knights, August 1993. Letter to C. Tubb, NRA

List of Effects/Causes with source and status:

APPENDIX K

LIST OF POSSIBLE CAUSES AND EFFECTS RAISED BY THE RIVER OTTER ASSOCIATION

Item	Effect	Cause	Reference	Status
A	Poor fish catches	Insufficient Spawning Grounds	1	Not addressed, additonal work required
B	Poor migrating fish catches	Barriers to fish migration	1	Not addressed, additional work required
C	Reduced ADF	Abstraction	1 (request for graphs of ADF mg/Distance for 1970, 1980 & 1990)	Hydrology Section Data Available To be addressed through modelling in later work
D	Reduced ADF	Over abstraction from Otterhead Lakes	1	Partly addressed in Hydrology Section, seasonal analysis remains to be undertaken
E	Q_{95} Flow not achieved in 1989 & 1990	Over abstraction of groundwater	1	Partly addressed in Hydrology Section modelling and contour mapping of water table remains to be undertaken
F	Failure of Water Quality Standards	Discharges, particularly in middle reaches	1	Partly addressed in Water Quality Section. Full analysis of discharges to be undertaken if data available
G	Bank Erosion	Over abstraction & low rainfall	1	Not addressed – No reliable data available

Item	Effect	Cause	Reference	Status
H	Over Abstraction	Groundwater Abstraction	2 (1) request for listing of all licences)	Summary of data for abstraction on reach by reach availability. See Hydrology Section and Tables 3.1.3 & 3.6.1
I	Over Abstraction	All Abstraction	2 (2A) (request for graphical display of all abstraction)	Hydrology Section. 3.1.2 addresses this extensively
J	Over Abstraction	Water Table Fluctuations relative to Bed Level	8^2 (3) (request for water table level in 1976 & 1992)	See discussion in Appendix L of report
K	Declining Flow	Abstraction/Rainfall?	2 (4) (request for average annual flow 1970-1992)	Hydrology Section 3.1.4
L	-	Declining Rainfall	2 (5) (request for plot of annual rainfall)	Hydrology Section 3.1.3
M	-	Increase in Discharge	2 (6) (request for plot of discharge as % of flow)	Not addressed. Inadequate data
N	-		2 (7) Patterns of flow from Fennybridges to Otterton in 1976 & 1989	See Section 3.1.4 addressed flow at Fenny Bridges and Dotton overstudy period
O	Low Flow	Despite normal rainfall	3	Addressed extensively in Hydrology Section

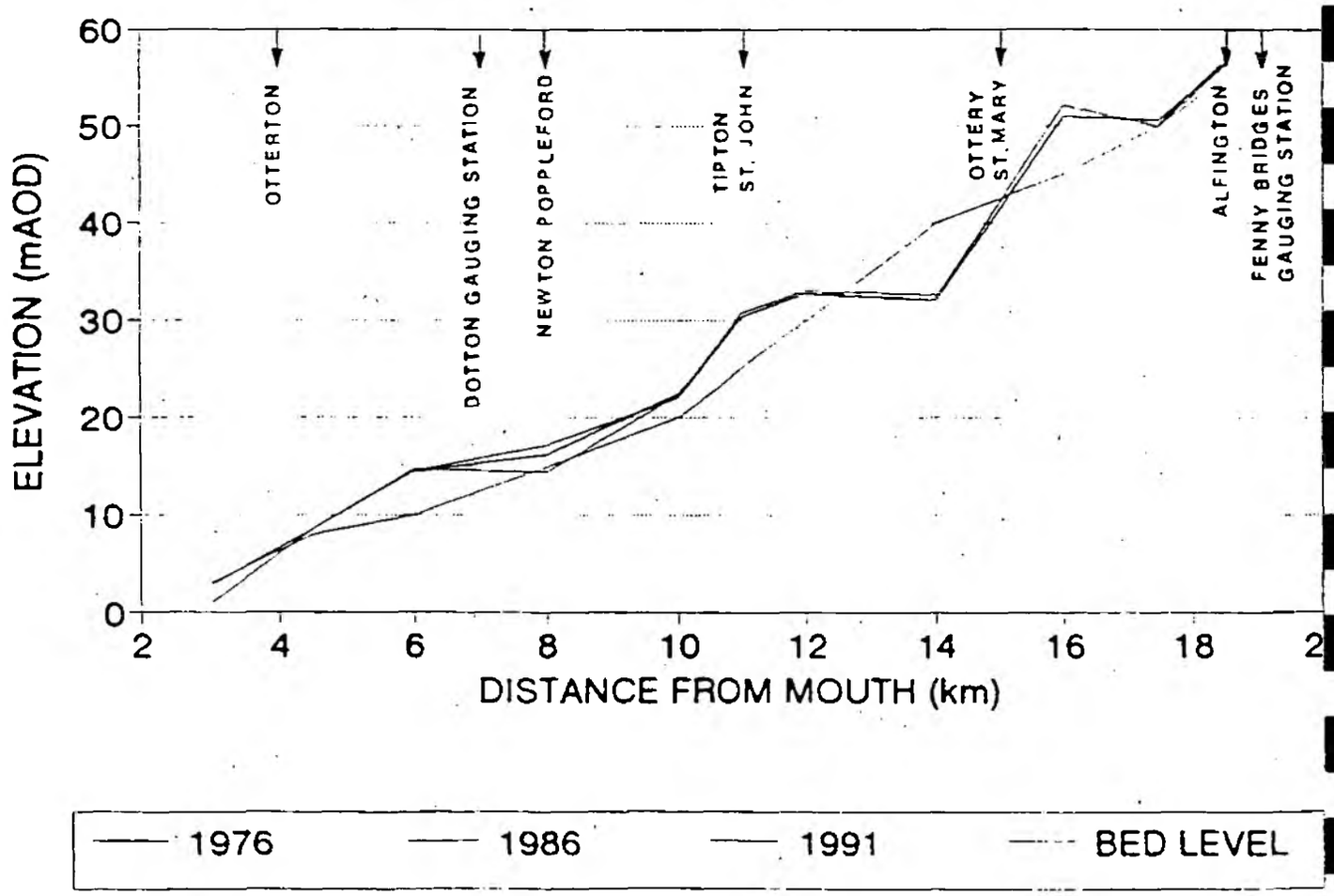
APPENDIX L
River and Ground Water Levels

APPENDIX L

The following figure shows the ground water level profile parallel to the River Otter from Fenny Bridges to its mouth at Budleigh Salterton. End of August water levels are displayed for a number of years. The ground water levels are defined by a limited number of points and therefore do not constitute a continuum. The plot should be interpreted with great caution for a number of reasons. Firstly, there is no hydrogeology on the plot. It is therefore impossible to say whether the river is in hydraulic continuity with the aquifer at any one point. The ground water levels in the aquifer may be significantly affected if it is locally confined. It is uncertain whether enough information currently exists to ascertain which sections of the river are in continuity with the aquifer and which are not. Secondly, the number of points used to derive the ground water profile is extremely limited, partly due to time limitations in producing the plot and partly due to a lack of suitable observation wells along the river. The horizontal resolution of the ground water profile is therefore very coarse. Thirdly, the river bed profile has been taken from the contours on the Ordnance Survey 1:50,000 map of the area. River bed levels are therefore unlikely to be accurate to more than about 5 metres. This is more than the annual fluctuation experienced by most boreholes in the catchment. The comparison therefore becomes almost meaningless unless more accurate elevation data are available for the river bed. For those reasons, the plot has been excluded from the main body of the report.

GROUND WATER LEVEL PROFILE

R.Otter



Additional copies are available at

£2.50 for Volume 1
£5.00 for Volume 2
£12.00 for Volume 3
£8.00 for Volume 4

(inclusive of postage and packing from :

National Rivers Authority
South Western Region
Manley House
Kestrel Way
Exeter EX2 7LQ

Cheques should be made payable to :
National Rivers Authority