WELLAND
AND
NENE
RIVER
AUTHORITY

FIFTH ANNUAL REPORT 1969-1970



Printed by Stanley L. Hunt (Printers) Ltd, Rushden, Northants

WELLAND AND NENE RIVER AUTHORITY

FIFTH

ANNUAL REPORT

1969-1970

Chairman

T. R. PICK, Esq., O.B.E.

Vice Chairman

COUNTY ALDERMAN H. C. L. WARWICK

OUNDLE Peterborough D. S. AKROYD

Clerk of the Authority

CONTENTS

Part							Page
	Preface						4
1	MEMBERSHIP						
	Membership of the Au	ıthority	. ,				5
	Membership of Comm	nittees					7
II	Staff						
	Principal Officers						9
	Other Officers						9
	Water Bailiffs						10
	Labour Force						10
Ш	Water Resources						
111	General Review						11
				• •			11
	Periodic Survey						11
	Hydrometric Schemes						
			• •		• •	• •	12
	Minimum Acceptable			• •	• •		13
	Research and Experim	iental W	ork	* *	• •		13
	Licences			• •		• 1 • 1	13
	Conservation Works		**	* *			16
	Agreements under sect	tions 81	and 82				18
	Charges						18
	Rainfall and River Ga	uging Ta	ables				21
IV	LAND DRAINAGE						
	Capital Works		54.54				33
	Maintenance						38
	Work in Internal Drai	nage Dis			12.12		39
	Floods			5.7			40
	Drainage Charges						41
	Statutory Schemes for				• •		41
	Other Matters	Internal		Dourds		* 1 * 1	43
	Other Watters						73
V	FISHERIES						
	General Report						46
	Salmon and Migratory	y Trout					50
	Licences issued					*1*1	50
	Commercial Salmon a	nd Trou	t Fisheries			*1*1	50
	Prosecutions						50
	Assessed Fisheries						51
	Research						51

Part				Page
VI	PREVENTION OF POLLUTION			
	Quality of Water		 	 52
	Standards applied to Effluents		 	 54
	Samples and Analyses of Effluer	nts	 	 55
	Sewage and Trade Effluents		 	 55
	Remedial Action		 	 61
	Statistics relating to Pollution C	ontrol	 	 61
	Research		 	 63
	Analytical Results		 	 63
VII	GENERAL INFORMATION			
	Recreational Facilities		 	 69
	Commercial Navigation		 	 69
	East of England Show Exhibit		 	 69
VIII	ACCOUNTS		 	 70

PREFACE

This Report is published as required by section 110 of the Water Resources Act 1963, and is in the form and contains particulars as directed by the Minister of Agriculture, Fisheries and Food and the Minister of Housing and Local Government.

The Welland and Nene River Authority were constituted by the Welland and Nene River Authority Constitution Order 1964 (S.I. No. 1030) made by the Minister of Housing and Local Government and the Minister of Agriculture, Fisheries and Food in exercise of the powers conferred on them by sections 3, 7 and 134 of the Water Resources Act, 1963.

That Order provided that the number of local authority members should be as follows:

	County				No.	of Members
Bedford			 	 		None
Buckingham			 	 		None
Cambridgesh	ire and I	sle of Elv	 	 		One
Huntingdon			 	 		Two
Leicester, Ru			 	 		One jointly
Lincoln, Part		land	 	 		One
Lincoln, Part			 	 		One
Norfolk			 	 		None
Northampton			 	 		Six
,		Borough				
Northampton			 	 		Two

One of the two members appointed by Huntingdon and Peterborough County Council shall be from among persons nominated by Peterborough Municipal Borough Council.

One of the six members appointed by Northampton County Council shall be from among persons nominated by Corby Urban District Council.

The Minister of Agriculture, Fisheries and Food in accordance with the provision of section 6 (3) of the Water Resources Act, 1963 made five appointments of persons qualified in respect of land drainage, two appointments of persons qualified in respect of fisheries, and two appointments of persons qualified in respect of agriculture.

The Minister of Housing and Local Government in accordance with the provision of that section made two appointments of persons qualified in respect of public water supply and two appointments of persons qualified in respect of industry other than agriculture.

The River Authority came into existence on the 15th October, 1964 (S.I. No. 1267) and took over the functions assigned to them on the 1st April, 1965. The first meeting was held at Peterborough on the 17th November, 1964. The first re-constitution took place on the 1st November, 1967, and the present appointments will expire on the 31st October, 1970.

The Area comprises 1,547 square miles, of which 934 square miles are in the Nene Hydrometric area and 613 square miles are in the Welland Hydrometric area. The total length of main river on the 31st March 1970 was 492 miles, the length of the River Nene and tributaries being 258 miles and the length of the River Welland and tributaries being 234 miles. The estimated penny rate product for 1969-70 was £134,584. The precept of the County and County Borough Councils for the year ended 31st March 1970 was 2.35 pence, and produced £316,272. The contribution required of internal drainage boards amounted to £73,065. Annual loan charges amounted to £169,000.

Part I

MEMBERSHIP

1. MEMBERSHIP OF THE AUTHORITY

CHAIRMAN OF THE AUTHORITY

T. R. Pick Esq., O.B.E.

VICE CHAIRMAN OF THE AUTHORITY

County Alderman H. C. L. Warwick

MEMBERS AND APPOINTING AUTHORITIES

Appointed by Cambridgeshire and Isle of Ely County Council

County Councillor M. H. T. Carter

Appointed by Huntingdon and Peterborough County Council

County Alderman Lt. Col. the Hon. P. E. Brassey, J.P., D.L.

Councillor G. A. Foster (appointed on the nomination of Peterborough Municipal Borough Council)

Appointed by Leicester and Rutland County Councils, jointly

County Alderman J. A. E. Bryan, O.B.E.

Appointed by Lincoln (Parts of Holland) County Council

County Alderman H. Waltham

Appointed by Lincoln (Parts of Kesteven) County Council

County Councillor G. A. Griffin

Appointed by Northampton County Council

County Alderman P. Campion, M.B.E.

County Councillor J. R. Carr (appointed on the nomination of Corby Urban District Council)

Alderman C. E. Goode

County Alderman Mrs. D. P. Oxenham, C.B.E., J.P.

County Alderman H. C. L. Warwick

County Alderman E. E. Wright, M.B.E.

Appointed by Northampton County Borough Council

Alderman T. H. Cockerill (from 1st June 1969)

Alderman J. B. Corrin

Councillor R. P. Dilleigh (to 31st May 1969)

Appointed by the Minister of Agriculture, Fisheries and Food as being qualified in respect of Land Drainage

R. J. Berry, Esq.

G. H. Hoyles, Esq.

T. R. Pick, Esq., O.B.E.

A. C. Pyrah, Esq., J.P.

H. Cole Tinsley, Esq., M.B.E.

Appointed by the Minister of Agriculture, Fisheries and Food as being qualified in respect of Fishery **Interests**

- P. H. Tombleson, Esq., F.Z.S.
- L. G. Turnill, Esq.

Appointed by the Minister of Agriculture, Fisheries and Food as being qualified in respect of Agriculture

- H. J. T. Carter, Esq., J.P.
- D. Whittome, Esq.

Appointed by the Minister of Housing and Local Government as being qualified in respect of Public Water Supply

Councillor C. S. Bowering

L. H. Brown, Esq., B.Sc., F.I.C.E., M.I.W.E.

Appointed by the Minister of Housing and Local Government as being qualified in respect of Industry other than Agriculture

- G. C. S. Oliver, Esq.
- N. A. Pearce, Esq., B.E.M.

1

2. MEMBERSHIP OF STATUTORY AND STANDING COMMITTEES

Finance and General Purposes Committee

T. R. Pick, Esq., Chairman

County Alderman H. C. L. Warwick, Vice-Chairman

R. J. Berry, Esq.

Lt. Col. the Hon. P. E. Brassey

H. J. T. Carter, Esq. Alderman T. H. Cockerill (from 1st June 1969)

Alderman J. B. Corrin

Councillor R. P. Dilleigh (to 31st May 1969)

County Alderman Mrs. D. P. Oxenham

N. A. Pearce, Esq.

H. Cole Tinsley, Esq.

L. G. Turnill, Esq.

County Alderman H. Waltham

County Alderman E. E. Wright

Land Drainage Committee

R. J. Berry, Esq., Chairman

H. Cole Tinsley, Esq., Vice-Chairman

County Alderman J. A. E. Bryan

County Alderman P. Campion H. J. T. Carter, Esq.

County Councillor M. H. T. Carter

Councillor G. A. Griffin G. H. Hoyles, Esq.

T. R. Pick, Esq. A. C. Pyrah, Esq.

County Alderman H. Waltham County Alderman H. C. L. Warwick

D. Whittome, Esq.

Fisheries and Pollution Prevention Committee

L. G. Turnill, Esq., Chairman

Councillor G. A. Foster, Vice-Chairman

Councillor C. S. Bowering Alderman P. Campion

County Councillor J. R. Carr Alderman J. B. Corrin

G. C. S. Oliver, Esq. N. A. Pearce, Esq.

T. R. Pick, Esq. A. C. Pyrah, Esq.

P. H. Tombleson, Esq. County Alderman H. C. L. Warwick

D. Whittome, Esq.

Water Conservation Committee

Lt. Col. the Hon. P. E. Brassey, Chairman Alderman E. E. Wright, Vice-Chairman

Councillor C. S. Bowering L. H. Brown, Esq.

County Alderman J. A. E. Bryan

Alderman P. Campion Alderman T. H. Cockerill (from 1st June 1969)

Councillor R. P. Dilleigh (to 31st May 1969)

Councillor G. A. Foster Alderman C. E. Goode

G. C. S. Oliver, Esq. County Alderman Mrs. D. P. Oxenham

T. R. Pick, Esq.

County Alderman H. C. L. Warwick

Ι

Rutland Project Committee

Lt. Col. the Hon. P. E. Brassey, Chairman

L. H. Brown, Esq., Vice-Chairman

R. J. Berry, Esq. T. R. Pick, Esq.

County Alderman H. C. L. Warwick

County Alderman E. E. Wright

County Alderman H. Waltham

PART II

9

STAFF

1. PRINCIPAL OFFICERS

Office		Name
Clerk of the Authority		D. S. Akroyd, LL.B., Solicitor.
Chief Engineer		H. W. Clark, A.M.I.Struct.E., M.I.W.E.
Deputy Chief Engineer		G. E. Bowyer, B.Sc., M.I.C.E., A.M.I.W.E
Treasurer		A. E. Lane.
Chief Fisheries and Pollution	Pre-	
vention Officer		R. E. Field, A.M.Inst.W.P.C.
	2	OTHER OFFICERS

2. OTHER OFFICERS

(as at 31st March, 1970)

Clerk's Department and General Administration

Chief Assistant	 	Senior Officer
Clerical Assistant	 	Clerical 2/3
Secretary	 	Clerical 1
Field Officers (2)	 	Misc. $5/6/7$
Typists (7)		Scale as appropriate
Telephonist	 	Scale as appropriate
Chief Engineer's Department		

Senior Engineer Principal Officer I
Divisional Engineers (5) . . . Senior Officer
Hydrologist . . . Principal Officer I
Engineer i/c Rutland Project . Principal Officer I
Senior Assistant Engineer (2) . . Senior Officer

Design Engineer ... Senior Officer (non established)

Assistant Engineers (6) .. AP 3/4/5 or Tech 5/6

Assistant Hydrologist ... AP 3/4 Chief Draughtsman ... Tech. 6

Senior Draughtsman .. Tech. 6 (non established)

Junior Draughtsmen and

Clerks and Machine Operators (3)

Engineering Assistants (21) ... Tech. 1 to 5 (non established—4)

Clerical 1

Typists/General Clerk (2) ... Scale as appropriate

Treasurer's Department

11

Fisheries and Pollution Prevention Department

Chemist			 AP 5
Assistant Cl	nemist	**	 T5/6
Senior Assis	tant Insp	ector	 AP 5
Assistant In	spector (1)	 AP 3/4
Junior Assis	tant Insp	ector (1)	 Tech. 4
Trainee Insp	pector		 Tech. 3/4
Laboratory	Assistant	s (2)	 Tech. 1
Shorthand 7	Cypist		 Scale as appropriate

3. WATER BAILIFFS

Water Bailiffs (2) Misc. 4 Honorary Water Bailiffs (58)

4. LABOUR FORCE

(as at 31.3.70)

Tradesmen				 14
Foremen and	Under Forem	en		 25
Plant Drivers				 47
Storekeepers,	Sluicekeepers,	Toll	-keepers, etc.	 6
Labourers				 85
				177

WATER RESOURCES

1. GENERAL REVIEW

PART III

The Rutland Project again dominated water conservation, but important although more routine work continued with a view to "securing the protection and proper use of inland waters and waters in underground strata".

Close co-operation with the Water Resources Board has been maintained, and their guidance and assistance was appreciated. Assistance was given to the Board and to their Consultants on the Desk Study for the Wash Barrage, or the Wash Estuarial Storage Scheme as it should now be called. At the time of writing, their Report on the Desk Study has been received, and it is hoped that the Government will soon authorise a full feasibility study, as the uncertainty as to whether the Wash will prove a major source of water must dominate water resources planning in the South East—and particularly in the Central Area Deficiency Zone—for some years to come. The Authority's staff will be pleased to provide any further assistance which may be required in this very important investigation.

As was stated in the Fourth Annual Report, unless by 1990 water can be obtained from the Wash, desalination has become an economic proposition, or some of the other tentative possibilities have been proved, a second pumped storage reservoir will be needed in this Area.

At the end of the year the Development Corporation at Peterborough and Northampton were about to start on building the first new townships leading to a planned population increase of 290,000 in the next fifteen years, to which must be added the "overspill" expansions at Wellingborough and Daventry and continuing "new town" expansion at Corby. The first customers for Empingham Reservoir are about to arrive.

2. PERIODIC SURVEY

Unfortunately the staff's very heavy commitment on Empingham Reservoir made it impossible to publish the First of the Periodic Surveys as soon as had been hoped, but much of the data was assembled for the proceedings on the Bill, and it only remains to publish it in the prescribed form.

3. HYDROMETRIC SCHEMES

Expenditure on Part I of the Hydrometric Scheme amounted to £17,734, bringing the aggregate to £73,021 and leaving an estimated balance of £5,300 to complete that part.

Work continued on new gauging stations, and on the improvement of gauging stations built by the Nene Catchment Board some 30 years ago. In the Welland Sub-Catchment, work was completed at Ashley Gauging Station on the Welland. It will measure flows up to 4.815 cumecs (170 cusecs), but as it was designed to take account of a River Improvement Scheme it could not be brought into use until the drainage works have been completed. Low flow gauging stations of a capacity of 0.566 cumecs (20 cusecs) were installed on the Chater at Ridlington, and on the Strixton Brook near the Great Bowden—Welham Road, and work was nearing completion on stations on the Langton Brook, Medbourne Brook, Morcott Brook and the Jordan. The low flow stations comprise a prefabricated sheet steel Crump weir designed by the staff, which provide accurate measurement and are easy to install.

In the Nene Sub-Catchment, Wollaston Gauging Station on the Nene was nearly completed, and will measure flows of up to 2.266 cumecs (80 cusecs). Lilford Gauging Station on the

12 III

Nene upstream of Oundle will provide information on the low flows of up to 2.832 cumecs (100 cusecs) in the middle reaches. Unfavourable weather during the winter months delayed work, but (with the related land drainage improvement works) the station should be completed in the summer of 1970. These two stations will complete the programme on the main River Nene.

Improvements at Upton Mill Gauging Station (with the Bypass) were completed. Modifications of the station installed at St. Andrew's Mill in 1939 were carried out as a temporary expedient to improve its accuracy. The station may be replaced as a result of land drainage improvement works in connection with the Northampton expansion.

Low flow gauging stations were installed on the River Ise at Barford Bridge (capacity 0.850 cumec/30 cusec), on Willow Brook (Central tributary) at Tunwell Loop (capacity 0.566 cumec/20 cusec), on Willow Brook (South tributary) at Stanion Lane (capacity 0.566 cumec/20 cusec), and on Wittering Brook near Wansford (capacity 0.850 cumec/30 cusec).

A climatological recording station is shortly to be installed on the Lincolnshire Limestone outcrop. It will provide data as to evaporation, so that a more accurate assessment may be made of the natural recharge of the Limestone.

The rain gauging stations were discontinued and one new station was installed.

4. INVESTIGATION OF WATER IN UNDERGROUND STRATA

In February the Water Resources Board published their report on the Ground-water Hydrology of the Lincolnshire Limestone.

A summary of the interim Report has been previously circulated, and was referred to extensively in the Fourth Annual Report.

This comprehensive Report brings together for the first time much diverse and scattered information, and describes at length the hydrological and chemical characteristics of this important aquifer, evaluating the water resources, the demands and the deficits, within each of the four groundwater "catchments". The Report recommended that the optimum method of developing ground-water resources should be investigated, and that a pilot scheme to study the problem of artificial recharge should be carried out. That will involve the establishment of a ground water hydrometric net work to provide information of the inter relationship between surface and ground water. For the latter purpose a scheme under Section 18 of the Water Resources Act 1963 is in preparation which will pave the way for the pilot study, and the subsequent investigations.

As stated in the Third Annual Report, the yield from the river gravels at any one place is small. Four pumping tests were carried out. The following table supplements the records in the Fourth Annual Report:

GROUND WATER-GRAVEL INVESTIGATIONS

		- 1 6	Yi	eld	*
Site	Grid Reference	Length of Test	m.g.d.	g.p.h.	Remarks
Cotterstock	TL048902	7 days	0.65	2800	Existing wells public water supply
Woodford	SP972759	7 days	0.4	1800	Existing wells. Yield high, possibly due to site being flooded prior to test. Indications that the rate of abstraction would seriously deplete the aquifer
Ringstead	SP975752	7 days	0.48	2200	Jet well test. Appears to be suitable for limited development subject to test of longer duration.
Pilton	TL025838	7 days	0.005	200	Jet well test. Possible use for local agricultural supply

III 13

5. MINIMUM ACCEPTABLE FLOW

No action has been taken to prescribe "minimum acceptable flow" pursuant to Section 19 of the Water Resources Act 1963.

6. RESEARCH AND EXPERIMENTAL WORK

The Road Research Laboratory almost completed their five years' work at the Flore Experimental Catchment near the M1 west of Northampton to obtain basic data on rainfall and run-off from this small upland catchment.

The station is to be taken over, as the study area is typical of much of the uplands of both the Welland and Nene basins. Some modifications will be carried out.

7. LICENCES

(a) Abstraction Licences

The Table on page 14 records the Licences of Right (with some variations) extant at 31st March.

Forty-one Licences of Right, of which 28 were for spray irrigation, were revoked at the request of the Licence Holders.

As was anticipated, the introduction of the Charging Scheme accelerated the trend first produced by the annual licence fees as many spray irrigators re-examined their requirements in relation to cost. Some of those who had abstracted (or who had contended that they had abstracted) in the qualifying period solely to obtain a Licence of Right surrendered their Licence, and those who obtained Licences for excessive quantities have made a more realistic estimate of their requirements. It was perhaps unfortunate that those who publicised the need to obtain a Licence of Right did not give similar publicity to the financial consequences, as accounts for charges assessed on the authorised abstraction irrespective of actual use resulted in a great deal of surprise and resentment. It is hoped that charges will never be so high as to "price out" any desirable, but perhaps less essential, use of water for spray irrigation and other purposes where the cost/benefit has to be considered. But as was stated in the Fourth Annual Report, putting a price on water has provided much needed data for a full appreciation of Water Conservation requirements.

It is hoped that those who have surrendered their Licences, or reduced the authorised quantities, sometimes a little petulantly on the receipt of an account, will not expect to obtain a new Licence at short notice in the event of a drought. In all cases they are advised as to the procedure and of the time required before a new Licence can be obtained.

As drought conditions have not been experienced in the past four years, there have been few cases where farmers were in urgent need of spray irrigation to save a root crop. Perhaps a modern parable would refer to water for spray irrigation rather than to oil for the lamps.

It would be unrealistic to tell those who are in desperate need of spray irrigation if valuable seedlings are to be saved that they "must not" take water, and it has been the practice of the staff to suggest that they should "do what they think best", but that if they do abstract water without a Licence the facts will be reported and they may be prosecuted. It may be that the maximum penalty on summary conviction under section 49 is not an effective deterrent, but it is right that no one should be put in a position where they have to watch their husbandry come to naught.

The two field officers have done a useful task in ensuring that the tremendous amount of work which arose in 1965/66 in licensing spray irrigation has not become a mere paper exercise. Moreover, it is only fair to the many who obtained Licences and paid the not insignificant charges that the few who did not do so should not be permitted to contravene the Act with

LICENCES OF RIGHT extant at 31st March, 1970

									extan	extant at 31st March, 1970	arch, 1970								
Area	48 (01)	Agriculture (other than spray irrigation)	A8 D	Agriculture and Domestic	Agr	Agricultural and Horticultural Spray Irrigation Summer All Year	l Hort igatio Al	orticultural tion All Year	In (ot water absi	Industrial (other than water cooling abstractions)	Industrial Cooling (C.E.G.B.)	Domestic (not exempt)	Domestic ot exempt)	78	Public Supply	Mis	Miscellaneous		Totals
	No.	Authorised annual No. abstraction		Authorised annual No. abstraction	No.	Authorised annual abstraction	No. a	Authorised annual No. abstraction		Authorised annual No. abstraction	Authorised annual No. abstraction	Authorised annual No. abstraction		No. a	Authorised annual abstraction	No.	Authorised annual abstraction	No.	Authoris annua abstracti
31/1	44%	1,146 1,936 1,087	60	1,052	12	450 806			44	490,200				-	290,000	-	1,000	4457	784,67
4 N C	4 v v	1,355		605 7,700 4,905			П	25										80;	6,6
0 8 9	10 26	1,189 4,478 3,946	120	2,252 6,595 6,159	44	325	4	5,820	-266	2,000,000 260,000 143,235		2	332	44	451,600			284	2,003,4 271,7 613,0 8,15,2
110	14	2,819		8,400	98.	15,900	44	790	36	113,450		7-	335		4,380			28	1,996,0
1122	9 10	1,220,568 1,332 197,735		10,140 300 4,332	27 48 48	15,650 61,588 122,236	10	7,800 25 31,660	111	933,065		-	200	25	2,120,000 1,400,140 2,912,800	3	5,086	51 116	2,396,4
TOTAL	136	3,267,796	96	62,487	112	259,555	24	46,620	41	4,920,821		2	1,167	19	7,731,395	4	980'9	437	16,295,9
32/1	- ZII	1,328 6,157 2,328	711151	3,215 4,087 6,017		3,200	6	6,895	210	12,115				N*	6,476,500	e -	9,800	26 26 26 27	25,55 7,058,1
400		3,620 1,059 6,732		1,653 5,000 3,727	440	3,000 12,475 35,000	2 - 1 - 2	1,781	766	218,085 218,085 888,900	1 15,000,000	1	8,000		585,000 585,000	7	110	344	1,519,5
r. & 0		2,780 17,717		9,757 8,235 11,890	222	2,900 13,605 77,667	- «	7,330	25	1,120,000			525 277	1 6	951,000	-	2,095	124	1,145,1
110		2,515		1,200	31	42,374 54,294	03	1,645 11,340	11	2,500	1 9,000,000			3	230,600			879	9,802,8
TOTAL	131	46,297	72	55,014	87	277,665	33	29,158	89	5,063,117	2 24,000,000	3	8,802	18	17,188,100	7	12,255	421	46,680,4
TOTAL 31 & 32	267	3,314,093	168	117,501	199	537,220	57	75,778	109	9,983,938	24,000,000	∞	696'6	37	24,919,495	=	18,341	858	62,976,3
	,					(d/h											Onantities in 1000 gallor	in 10	00 gallor

ised all times and all times are all times and all times are all times and all times are all times a

LICENCES NOT OF RIGHT

issued during year

							0.		120		
Agriculture (other than spray irrigation)	and cultur	iculture Horti- ral Spray igation	Sig	trial Uses nificant osses	Wa San	ustrial Uses ster cooling d and gravel er minimum losses	Domestic (not exempt)	Public Supply	Miscellaneous		Totals
Authorised annual No. abstraction		luthorised annual bstraction		Authorised annual bstraction		Authorised annual abstraction	Authorised annual No. abstraction	Authorised annual No. abstraction	Authorised annual No. abstraction	500000	Authorised annual abstraction
Nene Hydrom	etric a	rea	1	500	4	614,250				5	614,750
Welland Hydr	ometri	c area									
	1	1,050	3	19,940	3	157,000				7	177,990
	1	1,050	4	20,440	7	771,250				12	792,740

(Quantities in 1000 gallons)

LICENCES NOT OF RIGHT extant at 31st March 1970

(0	griculture other than spray rrigation)	cultu	riculture d Horti- iral Spray rigation		strial Uses gnificant losses	Wa San	ustrial Uses ater cooling d and gravel er minimum losses		omestic t exempt)		Public Supply	Mis	cellaneous		Totals
No.	Authorised annual abstraction		Authorised annual abstraction		Authorised annual abstraction		Authorised annual abstraction		Authorised annual abstraction	No.	Authorised annual abstraction	No.	Authorised annual abstraction	No.	Authorised annual abstraction
N	ene Hydrom	etric a	area												
4	3,797	10	15,661	6	580,020	8	1,669,100	2	6,300	5	630,950			35	2,905,828
W	elland Hydr	ometr	ic area												
5	879	5	7,303	5	224,660	3	154,940			1	365,000	1	27,000	20	779,782
9	4,676	15	22,964	11	804,680	11	1,824,040	2	6,300	6	995,950	1	27,000	55	3,685,610

(Quantities in 1000 gallons)

impunity. Two prosecutions were taken, and as they were the first it was anticipated that the Court would deal with the defendants leniently. They were conditionally discharged for abstracting water without a Licence, but one of them was fined £2 for contravening section 36 by putting a temporary dam in the fenland drain to raise sufficient water to enable an abstraction to be made. At the time of writing this report it is possible to add that the same Court did not deal so leniently with the cases before them in 1970.

It is interesting to note that, although there is a growing demand for water for public supply as the population expands and the consumption per head increases, there appears to be a trend towards a reduction in the "miscellaneous uses", as rationalisation and modernisation by public boards and large industrial organisations proceed. British Railways relinquished their Licences of Right as the steam locomotives were replaced by diesel locomotives. The Gas Board did the same as they closed their small plants made redundant by reorganisation and North Sea gas,