Sampling Point	Miles from Source		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O. % Saturation	Water Temp. °C	Flow cumec
Rockingham	21¼	Average Values	—	7	39	0·28	4·8	5·3	5·2	161	12	
		Maximum Values	9·4	9	49	0·40	7·1	12.8	8·4	226	18	
		Minimum Values	8·25	5	30	0·15	1·1	2·2	3·7	132	9	
Eye Brook at Caldecott	—	Average Values	—	7	26	0·21	3·7	4·5	3·2	107	11.5	
		Maximum Values	8·2	11	30	0·24	7·1	6·8	4·1	108	16	
		Minimum Values	8·05	5	22	0·17	Nil	3·4	2·5	105	8	
Gretton, Upstream of Sluice	24½	Average Values	—	8	39	0·31	4·7	5·1	3·1	114	12	
		Maximum Values	9·1	9	48	0·40	7·7	9·6	3·5	146	17	
		Minimum Values	8·3	5	32	0·20	1·1	3·4	2·4	102	9	
Wakerley/ Barrowden	33	Average Values	—	10	40	0·33	4·6	4·1	3·8	132	12·5	0·83
		Maximum Values	9·2	14	48	0·40	7·1	6·6	5·0	159	17	1·79
		Minimum Values	8·5	8	32	0·20	1·1	2·8	3·0	115	10	0·32
Collyweston Bridge	39	Average Values	—	8	37	0·20	5·2	4·2	5·1	140	12·5	
		Maximum Values	8·85	10	40	0·22	7·7	8·6	9·3	177	17	
		Minimum Values	8·2	4	32	0·15	2·7	2·6	2·2	120	10·5	
Chater at Station Road, Ketton	—	Average Values	—	9	27	0·23	7·9	3·5	2·9	115	11·5	0·21
		Maximum Values	8·35	13	30	0·38	8·7	7·6	3·7	131	14	0·38
		Minimum Values	7·85	5	24	0·15	6·8	2·2	2·6	99	10	0·07
Tinwell Mill	42	Average Values	—	9	34	0·26	5·3	4·2	5·2	163	13	
		Maximum Values	8·95	13	38	0·40	7·1	8·6	9·6	220	18	
		Minimum Values	8·5	5	30	0·15	3·2	1·6	2·9	141	10·5	
Stamford Swimming Baths	43¾	Average Values	—	11	38	0·22	5·1	3·3	3·6	103	11	
		Maximum Values	8·9	13	50	0·34	7·1	7·2	6·5	168	17	
		Minimum Values	8·4	8	29	0·10	3·2	1·4	2·5	111	9	
Gwash, Upstream of confluence with Welland		Average Values	—	10	31	0·17	6·5	2·9	3·4	128	11	0·72
		Maximum Values	8·7	20	37	0·22	7·1	5·0	4·7	141	17	1·28
		Minimum Values	8·45	5	27	0·10	5·6	1·6	2·0	119	9	0·29
Uffington	46¼	Average Values	—	11	36	0·25	5·7	3·2	3·8	123	11	
		Maximum Values	8·8	13	43	0·29	7·1	6·4	5·7	153	17	
		Minimum Values	8·2	6	32	0·14	4·4	2·0	1·4	98	9	
Deeping St. James Crown and Anchor	53	Average Values	—	9	35	0·19	5·5	2·7	3·4	132	11	2·68
		Maximum Values	8·85	14	41	0·28	7·1	3·8	4·8	151	17	4·68
		Minimum Values	8·3	4	30	0·10	3·8	1·8	1·5	118	9	0·84
Deeping St. James Railway Bridge	55	Average Values	—	8	36	0·19	5·9	3·2	3·9	132	11	
		Maximum Values	8·85	13	41	0·34	7·1	5·6	6·0	146	17	
		Minimum Values	8·4	4	30	0·10	4·4	2·0	2·6	124	9	
Crowland Bridge	59	Average Values	—	26	37	0·20	5·0	3·1	5·8	141	11	
		Maximum Values	8·9	65	43	0·28	6·6	5·6	12·3	220	17	
		Minimum Values	8·3	5	30	0·14	2·7	1·6	2·0	97	9	
Inlet to Coronation Channel	67½	Average Values	—	18	37	0·21	4·5	3·3	5·2	127	11	
		Maximum Values	8·8	29	43	0·28	7·1	4·6	8·9	162	17	
		Minimum Values	8·2	7	32	0·14	1·1	2·4	1·5	92	9	
Tidal Sluice Coronation Channel	70	Average Values	—	23	41	0·27	4·5	3·5	5·5	117	11	
		Maximum Values	8·7	36	44	0·46	7·1	4·0	9·2	151	17	
		Minimum Values	8·2	9	34	0·19	1·1	3·0	2·1	88	9	
Fosdyke Bridge (Tidal Section)	—	Average Values	—	98	4,574	0·23	2·9	4·7	6·3	73	11	
		Maximum Values	8·25	254	11,425	0.39	6·1	6·2	8·5	109	17	
		Minimum Values	7·3	32	840	0·11	Nil	3·8	4·2	10	9	

RIVER ISE—ANALYTICAL RESULTS

Sampling Point	Miles from Source		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O. % Saturation	Water Temp. °C	Flow cumec
Clipston and Oxendon Station	3	5.5.71	8·3	11	29	0·48	3·0	8·2	5·6	124	11	
		5.8.71	7·6	11	34	0·52	1·6	7·6	4·4	46	16	
Newbottle Bridge	6	5.5.71	8·6	9	24	0·09	5·0	7·0	3·7	135	12	
		5.8.71	7·7	8	31	0·11	1·1	7·2	2·4	65	17	
Rushton Bridge	10	5.5.71	8·5	10	37	0·14	6·1	7·0	4·3	130	12	
		5.8.71	7·8	5	48	0·17	4·4	4·0	2.5	64	17	
Geddington A43 Road Bridge	13½	5.5.71	8·7	9	35	Nil	5·6	6·0	4·2	159	12	
		5.8.71	8·05	6	44	0·11	3·2	3·2	1·5	101	16·5	
Warkton	15	5.5.71	8·7	9	36	Nil	6·1	5·8	3·6	151	13	
		5.8.71	8·0	7	40	0·05	3·2	2·8	1·7	96	17	
Barton Seagrave	17	5.5.71	8·4	12	36	Nil	6·1	7·4	2·7	112	13	
		5.8.71	8·05	3	41	0·05	3·2	2·8	3·4	93	17·5	
Slade Brook A504 Road Bridge	—	5.5.71	8·5	17	48	0·23	8·2	3·2	4·8	152	13·5	
		5.8.71	8·1	9	55	0·28	5·0	4·0	3·9	98	18	
Finedon Station	19½	5.5.71	8·85	15	38	0·09	6·1	2·2	6·5	168	14	
		5.8.71	8·45	5	42	0·11	2·1	3·4	2·3	146	19	
Harrowden Road Bridge	21	5.5.71	8·4	37	48	0·95	8·2	10·4	10·5	145	16	
		5.8.71	7·75	8	55	0·63	8·6	5·8	5·8	82	19	
Finedon Road Bridge	22	5.5.71	8·3	33	48	0·45	7·1	10·2	7·8	160	17·5	0·75
		5.8.71	7·95	6	50	0·22	6·2	4·2	3·0	96	19	0·41
British Leyland Wellingborough	22½	5.5.71	8·5	29	46	0·20	7·1	6·8	5·9	160	16	
		5·8·71	7·8	6	55	0·40	6·2	4·8	4·9	79	19	

HARPER'S BROOK—ANALYTICAL RESULTS

Sampling Point	Miles from Source		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O. % Saturation	Water Temp. °C	Flow cumec
Pipewell	2½	Average Values	—	14	36	0·24	2·6	4·5	3·3	96	12·5	
		Maximum Values	8·3	16	40	0·34	5·0	6·0	5·0	151	17·5	
		Minimum Values	7·7	13	30	0·14	Nil	3·2	1·7	60	7·5	
Spread Eagle A6003 Road Bridge	4	Average Values	—	20	43	0·52	2·4	5·1	5·2	108	12·5	
		Maximum Values	8·55	33	47	1·10	4·5	8·4	10·0	124	17·5	
		Minimum Values	8·1	11	35	0·19	trace	2·8	2·5	98	7·5	
Little Oakley Road Bridge	6	Average Values	—	24	35	0·31	1·6	2·6	3·8	129	13	
		Maximum Values	8·2	44	42	0·46	3.0	2·8	5·5	157	18	
		Minimum Values	8·0	13	28	0·14	Nil	2·0	2·2	103	8·5	
Brigstock, Grafton Road Bridge	10	Average Values	—	13	39	0·18	1·7	2·1	3·0	121	13·5	
		Maximum Values	8·6	16	45	0·34	3·0	2·4	4·4	174	18	
		Minimum Values	7·9	9	33	0·09	trace	1·6	1·5	95	8	
Sudborough	12	Average Values	—	11	39	0·20	2·3	1·9	3·6	140	14·5	
		Maximum Values	8·8	17	42	0·40	3·5	2·0	4·6	162	21	
		Minimum Values	8·15	8	32	0·09	1·6	1·6	2·2	121	8·5	
Lowick	13½	Average Values	—	12	38	0·22	2·8	1·9	2·9	110	12	
		Maximum Values	8·8	13	41	0·40	4·0	2·0	3·8	113	16	
		Minimum Values	8·0	10	32	0·11	1·6	1·8	2·0	105	8·5	
A6116 Road Bridge	14½	Average Values	—	16	38	0·31	2·9	2·5	4·3	138	14	0·15
		Maximum Values	8·8	20	42	0·52	4·5	2·8	5·8	161	20	0·24
		Minimum Values	8·05	12	32	0·17	1·6	2·0	3·0	107	8	0·08

WILLOW BROOK—ANALYTICAL RESULTS

Sampling Point	Miles from Source		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O.% Saturation	Water Temp. °C.	Flow cumec
Northern Stream, Weldon Lodge	—	Average Values	—	28	336	11·5	trace	7·3	7·7	50	12·5	
		Maximum Values	7·0	40	378	13·7	trace	7·6	8·7	58	14·5	
		Minimum Values	6·8	16	289	9·2	trace	6·8	7·1	45	9·5	
Central Stream, Water Lane	—	Average Values	—	12	88	5·8	6·5	4·3	2·4	88	18·5	
		Maximum Values	11·15	14	123	10·8	8·2	5·2	2·8	95	20	
		Minimum Values	10·35	9	54	2·5	5·6	3·6	2·1	80	17·5	
Southern Stream, Great Weldon Road Bridge	5	Average Values	—	43	206	7·2	19·2	9·2	7·7	96	15·5	
		Maximum Values	7·55	55	291	13·1	23·0	10·4	12·0	121	18·5	
		Minimum Values	7·15	21	116	1·7	13·2	8·0	4·6	77	11	
Deene Lake Outlet	8	Average Values	—	24	165	5·9	9·2	5·6	10·6	97	14	
		Maximum Values	8·5	25	200	12·2	10·9	6·4	17·0	108	19	
		Minimum Values	7·8	22	143	2·2	8·0	5·2	6·1	84	9	
Gretton Brook, Hollow Bottom Lodge	—	Average Values	—	12	34	0·12	2·9	1·1	2·7	115	13	
		Maximum Values	8·05	14	36	0·22	3·5	1·6	2·9	138	17	
		Minimum Values	7·5	6	30	0·04	1·6	0·8	2·3	96	8	
Bulwick A43 Road Bridge	9	Average Values	—	24	155	5·3	9·0	5·7	9·2	95	14·5	
		Maximum Values	8·25	30	180	11·1	9·8	6·8	13·0	123	19	
		Minimum Values	7·9	18	140	1·4	8·0	4·6	5·6	67	8	
Blatherwycke Bridge	10½	Average Values	—	21	157	4·4	9·4	5·1	9·2	85	14·5	
		Maximum Values	8·25	24	180	9·9	10·3	6·2	12·0	121	19	
		Minimum Values	7·6	17	142	0·72	8·6	4·2	5.7	60	8	
Kingscliffe Bridge	13½	Average Values	—	24	143	1·1	9·6	4·3	7·5	114	13·5	
		Maximum Values	9·15	33	161	1·9	10·3	4·8	8·9	140	18	
		Minimum Values	7·9	17	128	0·48	8·7	3·6	6·3	100	7	
Apethorpe Bridge	15	Average Values	—	23	130	0·8	9·4	4·6	8·3	114	13	
		Maximum Values	9·0	32	144	1·5	10·3	4·8	9·6	146	17·5	
		Minimum Values	7·8	18	114	0·43	8·7	4·4	6·0	95	7	
Woodnewton Bridge	17	Average Values	—	29	126	0·54	8·8	6·0	8·5	126	13·5	
		Maximum Values	9·15	56	140	1·30	10·3	8·0	13·0	160	19	
		Minimum Values	7·8	15	110	0·04	8·0	4·0	6·2	100	6·5	
Fotheringhay Bridge	19	Average Values	—	29	126	0·43	9·25	4·5	7·8	139	13	0·67
		Maximum Values	9·15	56	144	1·0	10·3	6·0	12·1	168	18	0·77
		Minimum Values	7·95	15	108	0·14	8·2	2·8	5·0	108	6·5	0·53

SOUTH HOLLAND MAIN DRAIN—ANALYTICAL RESULTS

Sampling Point	Miles from Confluence		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O.% Saturation	Water Temp. °C.	Flow cumec
Shell Bridge	9¾	Average Values	—	99	840	0·10	Nil	9·3	7·8	77	16·5	
		Maximum Values	8·5	131	1,080	0·17	Nil	10·6	11·0	92	17	
		Minimum Values	8·05	56	560	0·05	Nil	6·6	5·1	60	15	
Cliftons Bridge	6½	Average Values	—	89	2,023	0·14	Nil	9·4	10·9	88	16·5	
		Maximum Values	8·45	110	3,660	0·22	Nil	10·0	14·0	127	17	
		Minimum Values	8·4	76	1,080	0·09	Nil	8·8	6·6	44	15	
Foreman's Bridge	4½	Average Values	—	91	3,057	0·10	Nil	9·8	10·2	93	16·5	
		Maximum Values	8·6	125	5,440	0·11	Nil	12·4	11·3	130	17	
		Minimum Values	8·5	60	1,650	0·09	Nil	8·4	8·4	62	15	
A1101 Road Bridge	2	Average Values	—	86	4,840	0·12	Nil	9·4	8·8	95	16·5	
		Maximum Values	8·6	112	7,400	0·17	Nil	12·0	10·4	129	17	
		Minimum Values	8·45	48	2,660	0·05	Nil	7·4	7·3	60	15	

EYE BROOK—ANALYTICAL RESULTS

Sampling Point	Miles from Confluence		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O. % Saturation	Water Temp. °C	Flow cumec
Allexton	8¼	12.5.71	8·55	8	26	0·19	4·5	1·0	1·7	119	15	
		22.7.71	8·4	5	27	0·11	3·2	2·4	2·9	123	21	
Stockeston	4¾	12.5.71	8·5	10	30	0·14	4·0	1·2	2·6	115	15	
		22.7.71	8·4	4	27	0·05	trace	3·0	4·0	160	21	
Caldecott	¾	12.5.71	8·3	6	27	0·19	3·0	1·4	1·9	104	15	
		22.7.71	8·3	3	37	0·17	trace	5·2	6·7	129	21	

RIVER CHATER—ANALYTICAL RESULTS

Sampling Point	Miles from Source		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O.% Saturation	Water Temp. °C.	Flow cumec
Ridlington	5½	12.5.71	8·3	8	24	0·23	3·0	1·8	1·5	106	15	
		6.7.71	8·2	7	22	0·05	trace	3·0	4·6	95	16	
Manton Station	8	12.5.71	8·35	13	26	0·23	4·5	1·2	2·9	111	15	
North Luffenham Bridge	11¼	12.5.71	8·3	8	30	0·28	6·6	0·6	3·7	106	15	
		6.7.71	8·25	5	28	0·05	5·0	2·4	2·8	100	16	
North Luffenham Station	12½	12.5.71	8·5	7	30	0·23	7·1	2·0	2·0	120	15	
		6.7.71	8·55	6	32	0·05	7·4	1·6	4·2	127	16	
A6121 Road Bridge	13½	12.5.71	8·3	7	32	0·19	7·1	0·6	2·0	109	15	0·23
		6.7.71	8·3	9	33	0·05	7·4	1·6	3·1	107	16	0·11
Station Road, Ketton	15½	12.5.71	8·2	5	32	0·14	6·6	1·0	2·4	99	15	
		6.7.71	8·15	4	29	0·05	6·8	1·2	3·6	110	16	

RIVER GWASH—ANALYTICAL RESULTS

Sampling Point	Miles from Confluence		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O.% Saturation	Water Temp. °C.	Flow cumec
Manton A6003 Road Bridge (S. Gwash)	—	Average Values	—	10	27	0·20	2·1	5·6	2·5	103	12·5	
		Maximum Values	8·3	11	34	0·40	3·2	8·0	3·7	126	18	
		Minimum Values	7·9	8	20	0·09	trace	3·6	1·9	90	8	
Normanton Park (S. Gwash)	—	Average Values	—	12	27	0·18	3·2	4·1	2·0	84	12·5	
		Maximum Values	8·15	16	34	0·28	5·0	4·8	2·5	96	18	
		Minimum Values	7·9	9	22	0·11	trace	2·8	1·6	63	8	
Fox Bridge (N. Gwash)	14	Average Values	—	20	44	0·22	3·6	3·9	4·2	108	12·5	
		Maximum Values	8·9	26	48	0·34	6·8	5·2	7·0	141	18	
		Minimum Values	7·95	10	37	0·14	trace	2·4	2·7	82	8	
Bull Bridge (N. Gwash)	12	Average Values	—	32	42	0·27	3·1	3·7	3·4	108	12·5	
		Maximum Values	8·8	56	46	0·40	5·6	5·4	5.2	134	18	
		Minimum Values	8·0	16	36	0·14	trace	2·8	2·1	90	8	
Church Bridge, Empingham	10	Average Values	—	19	35	0·25	3·2	2.6	2·8	105	12·5	
		Maximum Values	8·5	31	40	0·40	5·0	4·0	3·7	142	18	
		Minimum Values	7·9	12	29	0·14	trace	1·2	1.9	81	8	
North Brook, Empingham	—	Average Values	—	14	21	0·14	6·0	1·8	4·0	103	12·5	
		Maximum Values	8·2	24	24	0·28	6·6	3·0	6·0	108	18	
		Minimum Values	7·9	8	19	0·04	5·0	0·8	2·1	100	8	
Great Casterton	6	Average Values	—	10	28	0·18	5·4	1·2	3·1	118	12·5	
		Maximum Values	8·3	12	32	0·28	6·2	1·8	3·8	138	18	
		Minimum Values	7·9	4	24	0·11	5·0	0·4	2·0	96	8	
Upstream of Ryhall	3	Average Values	—	10	28	0·13	6·2	1·2	2·3	116	12·5	
		Maximum Values	8·4	12	33	0·28	6·8	1·6	2·9	126	18	
		Minimum Values	8·0	7	24	Nil	5.0	0·4	1·3	105	8	
Downstream of Ryhall	2	Average Values	—	8	29	0·16	6·1	1·6	2·2	116	12·5	
		Maximum Values	8·45	10	34	0·28	7·1	2·0	2·6	123	18	
		Minimum Values	8·1	3	26	0·09	5·0	0·8	1·8	106	8	
Newstead Mill		Average Values	—	9	30	0·20	5·9	2·1	2·4	112	12·5	0·51
		Maximum Values	8·4	12	35	0·28	7·1	2·8	2·9	125	18	0·59
		Minimum Values	8·0	5	25	0·11	4·4	1·6	1·9	102	8	0·42

RIVER GLEN—ANALYTICAL RESULTS

Corby Glen	20	5.5.71	8·3	13	40	0·23	8·2	2·8	2·9	135	15	
Edenham	17	Average Values	—	9	39	0·28	3·3	3·5	4·0	125	14.5	
		Maximum Values	8·6	13	41	0·46	9·8	4·0	5·9	186	20	
		Minimum Values	7·95	5	38	0·04	Nil	3·0	1·9	80	8	
Tongue End	11	Average Values	—	9	38	0·97	2·1	2·5	3·5	130	14·5	
		Maximum Values	8·4	10	52	2·9	6·1	4·6	3·8	150	20	
		Minimum Values	8·2	6	26	Nil	Nil	0·8	3·1	105	8	
Surfleet	2	Average Values	—	8	55	0·13	2·2	4·3	5·4	143	14·5	
		Maximum Values	8·5	11	80	0·34	6·6	7·4	7·1	169	20	
		Minimum Values	7·8	2	42	Nil	Nil	2·6	3·3	90	8	

BOURNE EAU—ANALYTICAL RESULTS

Sampling Point	Miles from Confluence		pH	Suspended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O.% Saturation	Water Temp. °C.	Flow cumec
Footbridge u/s T. W. Mays	3½	Average Values	—	6	45	0·12	1·6	1·8	2·9	110	13	
		Maximum Values	8·4	9	64	0·28	2·5	2·2	3·6	132	15	
		Minimum Values	7·7	1	28	0·04	trace	1·4	2·3	96	9	
Roadbridge d/s T. W. Mays	3¼	Average Values	—	7	63	0·15	1·7	2·0	2·3	100	13	
		Maximum Values	8·3	11	79	0·40	3·0	2·8	2·5	130	15·5	
		Minimum Values	7·75	5	36	Nil	Nil	1·4	2.0	83	9	
Old Railway Bridge	2	Average Values	—	11	78	0·93	6·1	9·3	6·5	81	13·5	
		Maximum Values	8·3	15	98	2·6	9·2	9·0	12·0	127	17	
		Minimum Values	7·7	6	46	0·05	4·0	2·8	1·8	52	9	
Tongue End	—	Average Values	—	11	81	0·42	4·1	5·5	4·5	146	14	
		Maximum Values	8·9	24	110	0·99	6·2	8·6	6·9	172	18	
		Minimum Values	8·0	2	44	0·05	1·6	4·0	3·0	104	9	

RAM DYKE, BROOK DRAIN AND SOUTH DRAIN—ANALYTICAL RESULTS

Ram Dyke opposite Helpston Paper Mill	4¼	Average Values	—	48	37	0·44	1·4	11·5	50·4	92	17·5	
		Maximum Values	8·1	296	58	0·75	8·2	28·8	182·0	113	22	
		Minimum Values	5·5	7	23	0·10	Nil	1·8	5·4	70	12	
Brook Drain, Helpston Road, Glinton	2½	Average Values	—	51	51	0·43	3·9	8·7	27·8	70	15	
		Maximum Values	8·15	212	101	1·10	19·9	28·8	113·0	99	25·5	
		Minimum Values	6·8	8	25	0·17	Nil	2·2	3·4	45	6·5	
South Drain at Peakirk	¾	Average Values	—	32	59	0·53	4·5	6·0	19·7	71	13	
		Maximum Values	8·45	166	153	2·4	18·3	17·0	97·0	236	22·5	
		Minimum Values	7·0	5	35	Nil	Nil	2·0	3·2	13	4·5	

BLUE GOWT DRAIN—ANALYTICAL RESULTS

Pinchbeck A16 Road Bridge	3¼	14.7.71	9·1	15	600	0·05	Nil	8·4	7·0	—	—	
		26.8.71	9·1	13	280	0·05	Nil	5·4	3·3	141	17·5	
Upstream of Pumping Station	2½	14.7.71	8·3	17	306	8·5	Nil	9·8	12	—	—	
		26.8.71	8·65	56	223	10·8	Nil	12·2	25	225	19	
Downstream of Pumping Station	2	14.7.71	8·3	17	408	11·6	Nil	7·4	11	—	—	
		26.8.71	8·45	43	232	1·7	Nil	11·4	17	165	19	
Marsh Farm, Surfleet	½	21.7.71	7·8	5	118	0·11	Nil	3·2	2·7	76	19	
		26·8·71	8·7	7	178	0·05	Nil	5·2	2·6	143	19	

GENERAL INFORMATION

1. RECREATION FACILITIES

(a) Fishing

The fishing rights vested in or controlled by the Authority are as stated in the Second Annual Report. The statistics for the past year are included in Part V.

(b) Pleasure Navigation

The position relating to the lower Welland is as stated in the Second Annual Report.

Five hundred and eighty-nine locally owned pleasure craft (an increase of 39) were registered on the Nene, and owners of a further 186 craft were supplied with keys for the navigation locks to make limited journeys, or for limited periods.

2. COMMERCIAL NAVIGATION

Wisbech Corporation are the Port and Harbour Authority for the River Nene from Bevis Hall above the town to the sea. According to the statistics kindly supplied by the Town Clerk, 283 foreign going vessels of a total of 65,876 net registered tons used the port carrying a total cargo of 177,302 tons. A further 71 coastwise ships of a total of 24,565 net registered tons carried 63,627 tons of cargo. Imports comprised grain, fertilisers, timber, potash, coal and petroleum. The principal exports were bricks, grain and pulses.

3. WATER AND SEWAGE SERVICES—REORGANISATION

The Department of the Environment's Circular 92/71 containing the Government's proposals for the reorganisation of Water and Sewage Services and the replacement of River Authorities by Regional Water Authorities was received in December.

The following submissions were made thereon on the 6th January, and forwarded to the Department, to the Ministry of Agriculture, to local Members of Parliament, and to other interested bodies:

"The Welland and Nene River Authority have considered the Department of the Environment's Circular 92/71.

The Authority point out that river authorities have only had six and a half years in which to carry out their functions under the Water Resources Act 1963, and it was very premature to criticise them for insufficient progress in overcoming the problems with which they were confronted, particularly when the difficulties in pollution control and sewage disposal have been due primarily to the Government's successive financial restriction. The Authority obtained Parliamentary Powers to build Empingham Reservoir—which will be the largest man-made reservoir in England—and they have made substantial progress towards its construction.

The Authority also regret that so little time should have been afforded for representations to be made on the Circular when the Department have had the Central Advisory Water Committee's Report before them for ten months.

The Circular poses three principal questions:

(i) Are the proposals acceptable in so far as they provide for the re-organisation of water and sewage, and for the assumption of responsibility for canals and recreation ?

(ii) What provisions should be made for Land Drainage ?

(iii) What provision should be made for Fisheries ?

(i) *Are the proposals acceptable in so far as they provide for the re-organisation of water and sewage and for the assumption of responsibility for canals and recreation* ?

The Authority are strongly opposed to the proposals as contained in the Circular, which go much further than they consider necessary to achieve the Department's object, and they seek the support of all local Members of Parliament and others of influence in persuading the Department to reconsider the problems.

The Authority are of the opinion that the Department's object could have been obtained with far less disruption, and without sacrificing democratic representation and control if

(a) the Water Resources Board was given more positive and constructive powers, and particularly to co-ordinate the functions of all river authorities

(b) there was better legislative provision for inter-authority transfer of water, and the consequential financial arrangements

(c) all public water resources (except possibly those of only local significance) were placed under river authorities, the water undertakings being responsible for distribution to the consumer

(d) some river authority areas were amalgamated.

The Authority believe that the Welland and Nene Area is of sufficient size to be an efficient and economic unit, they see no advantage in creating large geographical areas, and indeed they believe that above an optimum size efficiency and economy will decrease as democratic control and local representation diminishes the larger an Area becomes.

Although amalgamations may reduce in number inter-authority problems, such problems can not be eliminated as no amalgamation will create an entirely 'water tight' and self-sufficient Area.

In case the Department should not be persuaded to depart significantly from the proposals as published the Authority have nevertheless examined them constructively.

(ii) *What provision should be made for Land Drainage* ?

Land Drainage in the Eastern Counties generally, but particularly in the Fens, is an essential feature of the economy, and it is of the utmost importance that in any amending legislation there should be provision for a strong and effective body to administer the Land Drainage Acts as energetically as in the past and with the least disruption.

If regretfully, the Department's proposals should be implemented then the five fold area of Regional Water Authority No. 5 would be impossibly large for land drainage administration to continue as in the past forty years.

The first reaction may be that there should be a return to the independent and single purpose Catchment Boards established in 1931, and that may appear attractive in so far as it would preserve local responsibility and knowledge.

It may be emotive to suggest that that would be to put the clock back forty years, but other alternatives must be examined as the present circumstances and the future tasks are now very different from what they were when Catchment Boards were functioning.

Experience in the last forty years had led directly to river basin management, and in particular to the combination of land drainage and water conservation which has hitherto developed in two stages by the River Boards Act and the Water Resources Act. When river basin management is about to be fully implemented for the first time it would be incredible to take away Land Drainage, the pillar around which it has developed. The integration of land drainage and water conservation must become more tightly knit as greater use is made of river regulation. It would be extremely difficult, if not impossible, if abstractions at Wansford and Tinwell for Empingham Reservoir were under the control of a Regional Water Authority while a Catchment Board was responsible for controlling river flow and levels. It would be quite impossible if navigation and the maintenance and operation of the locks were to be the responsibility of the Regional Water Authorities, and a Catchment Board was to be responsible for all other river and flood regulating controls. Information required for either purpose is equally essential for the other. The Nene Catchment Board was the first Catchment Board to install river gauging stations in the late 1930's solely for effective land drainage planning and control, but it is now an essential feature of hydrometry.

The Wash Estuarial Storage proposals will require the closest reconciliation between land drainage and water conservation interests.

If the two functions were to be separated, then the Authority fear that Land Drainage would become a secondary and subservient consideration to Water Conservation, and that reconstituted Catchment Boards would be inferior in all respects to the ten Regional Water Authorities with their dominant functions, and not least in the calibre of their technical staff.

The Authority have come to the conclusion that land drainage interests will best be served if Regional Water Authorities are given a statutory responsibility for that work. The Minister of Agriculture should be empowered to make orders establishing Statutory Land Drainage Committees, and defining their constitution—a representative of the Regional Water Authority, representatives of the County Councils, of internal drainage boards, and of agriculture—perhaps fifteen in all. It is considered most important that the Statutory Committees should be constituted in relation to the present River Authority Areas, but there may be some Areas where land drainage work may not be of sufficient importance to necessitate the appointment of such a Committee.

The Authority see no reason why Land Drainage functions should not continue with the least disruption to be discharged under the Land Drainage Act 1930 (and amending legislation), and to be financed by precepts on the County Councils and the internal drainage boards, by drainage charges, and by government grant. Whether the Precepts should be raised by the Regional Water Authorities on the recommendation of the Statutory Land Drainage Committee, or whether that Committee should have power to precept directly is a matter of procedure. In practice the Land Drainage Committee would have very considerable autonomy in discharging their functions under the Land Drainage Acts, and each Committee within a Regional Water Authority's Area would be quite independent of the other Committees in that Area, as the character of the work and the financial implications can differ so much even in neighbouring areas.

The Authority consider it particularly important that responsibility for Land Drainage at Government Level should remain with the Minister of Agriculture as a counter poise to the close relationship which will exist in respect of other functions between the Regional Water Authorities and the Department of the Environment.

A principal advantage of the proposal is that the Committees would have the services of the Regional Water Authority's 'catchment area' technical staff, and that that staff in carrying out their overall functions would have a specific commitment to Land Drainage, for which they would look to the Committee for instructions as necessary. As Regional Water Authorities will have only a small high powered directorate, another advantage would be that the Committees

would provide democratic control with local representation and knowledge, so very important in relation to Land Drainage.

It may be argued that the area technical staff would be in difficulty in so far as they would take instructions from the Regional Water Authority on water conservation matters, and from the Statutory Land Drainage Committee on Land Drainage matters. But that would be no different from the present position, where a River Authority's Chief Engineer is responsible to the Land Drainage Committee and to the Water Conservation Committee for their respective functions. In practice no difficulty arises, because the Chief Engineer advises both Committees after balancing the requirements of land drainage and water conservation. The important point is that there should be a statutory obligation (similar to section 29 of the Water Resources Act 1963) to take account of Land Drainage interests.

Some may fear that the Statutory Catchment Committee would not be able to function effectively and independently under the umbrella of the Regional Water Authority. But the Committee would be subject to the same pressure—so far as pressure may be necessary—to which the present Land Drainage Committee are subject. The need for capital and maintenance works, which crystallise in the Annual Estimates, is prompted when necessary by representations by the County Councils, the District Councils, the National Farmers' Union and the Country Land Owners' Association, and the Internal Drainage Boards, which would continue to be a powerful lobby. The financial control of Land Drainage is to a large extent illusory, as capital expenditure is very tightly regulated by the Ministry of Agriculture, capital schemes are scrutinised and approved by the Ministry, and the accounts are verified by the District Auditor. If the Regional Water Authority's Area Engineer is of the right calibre with responsibility for land drainage the Committee should not have a difficult task, as experience shews that the balanced judgement of a competent technical officer is usually accepted.

To summarise:

(1) The Authority are strongly opposed to the Department's Circular, as they consider the proposals go much further than is necessary to achieve the Department's objective of more efficient water conservation and pollution control, and that the loss of local democratic control and knowledge is unacceptable.

(2) If nevertheless the Department's proposals are to be enacted, the Authority consider that the interests of Land Drainage will best be served if it is the responsibility of the Regional Water Authorities, provided

  (a) that the Minister of Agriculture, Fisheries and Food continues to be the Minister responsible for Land Drainage

  (b) that the Minister is empowered to constitute statutory Catchment Land Drainage Committees for those River Authority Areas where Land Drainage is sufficiently important to ensure local democratic control and knowledge, so important in relation to Land Drainage

  (c) that Land Drainage Work is financed on a Catchment Area basis and not on a regional basis by precepts on the County Authorities, and on the Internal Drainage Boards, and by Government Grants substantially as at present.

(iii) *What provision should be made for Fisheries* ?

The interests of a coarse fishery—and it is almost entirely coarse fishing in the Authority's Area—are best served by effective pollution prevention.

Technical fisheries problems may be relatively few. The amount of money spent on restocking and improvement may be small in relation to administration.

If recreation is to be the responsibility of the Regional Water Authorities, the Authority

consider that it would be inappropriate if the most popular of all river recreational activities was to be under the control of a reconstituted Fishery Board, and the former Fishery Boards were particularly ineffective.

The Authority consider that the Regional Water Authorities should be required to establish Fisheries Committees to advise them on the technical problems, and to represent the views of the anglers.

The Authority also consider that, as recreation is to be the responsibility of the Regional Water Authorities and the Department of the Environment, it will be important to distinguish between a fishery and the fishing facilities—the protection of the fish and the interests of the angler—in a way that has not been necessary when River Authorities have only had to administer the Salmon and Freshwater Fisheries Act 1923.

Technical fishery problems should remain the responsibility of the Minister of Agriculture, Fisheries and Food, but the administration and supervision of the fishing facilities must be integrated with other water recreations under the Department of the Environment."

The Clerk subsequently wrote a second Memorandum amplifying the reasons why it was considered essential

(i) that Land Drainage in the Area of each of the present River Authorities should continue to be financed by precepts raised on the counties and the internal drainage boards (and where so decided, by drainage charges) within the respective Area, rather than from the Regional Water Authority's " Water Fund " after pooling resources and expenditure over the whole Regional Water Authority Area, and

(ii) that where land drainage work was of sufficient importance (as in the Fens) it must be the responsibility of statutory land drainage committees appointed for the area of the present river authority.

If Land Drainage interests are to be properly safeguarded the work could not be primarily financed by the Regional Water Authority from a " water fund " for the following reasons:

(i) Land Drainage representation at Regional Water Authority level would be quite inadequate to assess land drainage requirements.

(ii) Land Drainage could not be dependent on a water fund raised under a charging scheme, subject to some form of public inquiry and to challenge by water consumers who may have no interest in, or concern for, that work.

(iii) It would be impracticable and inequitable to merge the individual finances of river authorities achieved by different policies over a long period of years.

The Memorandum concluded:

" It follows that the Catchment Land Drainage Committees must have a legal status if they are to make recommendations on Precepting to the Regional Water Authorities.

For that reason it is not agreed that the establishment of a Committee shall be at the discretion of the Regional Water Authority. The constitution could be prescribed on similar lines to that of River Authorities, except that the size of the Committee would be similar to that of a River Authority's Land Drainage Committee. There may be one representative from, or appointed by, the Regional Water Authority, representatives from the Counties according to penny rate products, representatives from internal drainage boards, and from such other interests as might appear justified.

Besides making recommendations to the Regional Water Authorities as to Precepts, the Statutory Committees would decide on the annual Land Drainage estimates, determine priorities and exercise their functions very much in the same way as the Land Drainage Committees of the River Authorities. The Regional Water Authority's Catchment Area

staff would be appointed by, and responsible to, the Regional Water Authority, but that should not prevent the closest possible co-operation and understanding between the Land Drainage Committees and the Area staff.

Any policy conflict between Land Drainage interests and Water Conservation interests would be very exceptional, most problems could be resolved at technical officer level as they are now. But it is essential that work on a river should not be divided between two engineers responsible to two independent authorities. Where it is necessary to take account of differing interests those interests should be viewed by technical officers who have equal responsibility and impartiality for them."

At the time of writing this Report it is possible to add that the Ministry of Agriculture's Consultative Paper on Land Drainage provides for all the safeguards which were sought. If the replacement of River Authorities after only nine years is accepted as inevitable, the proposals for the future of Land Drainage are considered to be as satisfactory as they can be.

Part VIII—Information about

TABLE 1—

Statement of Income and Expenditure on Loan and

Year 1970/71 Revenue Account £	Year 1970/71 Loan Account £	Year 1970/71 Grand Total £	Item	EXPENDITURE	Year 1971/72 Revenue Account £	Year 1971/72 Loan Account £	Year 1971/72 Grand Total £
				Capital Transactions			
				Grant-Aided Works			
8,439	—	8,439	1	Hydrometric Works (for details see Table 3) ..	2,213	—	2,213
—	—	—	2	Contributions to other Authorities under section 91 of the Water Resources Act, 1963	—	—	—
				Non-Grant-Aided Works			
799	442,127	442,926	3	Water Conservation Works (for details see Table 3)	16,167	2,092,425	2,108,592
—	—	—	4	Contributions to other Authorities under section 91 of the Water Resources Act, 1963	—	—	—
—	—	—	5	Other items	—	—	—
9,238	442,127	451,365			18,380	2,092,425	2,110,805
				Revenue Transactions			
			6	Water Conservation Works			
				Loan Charges:			
—	—	—		Principal Repaid	—	—	—
—	—	—		Interest	7,066	—	7,066
—	—	—		Contributions to Sinking Fund	—	—	—
			7	Hydrometric Works			
				Loan Charges:			
—	—	—		Principal Repaid	—	—	—
—	—	—		Interest	—	—	—
—	—	—		Contributions to Sinking Fund	—	—	—
4,959	—	4,959	8	Maintenance of Works	5,926	—	5,926
			9	Compensation for revocation or variation of a Licence under			
—	—	—		(a) Section 46 of the Water Resources Act, 1963	—	—	—
—	—	—		(b) Section 47 of the Water Resources Act, 1963	—	—	—
			10	Payments arising under actions for derogation of protected rights under Section 50 of the Water Resources Act, 1963	—	—	—
—	—	—	11	Expenditure on prevention of pollution under section 68 of the Water Resources Act, 1963	—	—	—
			12	Expenditure on special measures for improving the quality of water resources under section 77 of the Water Resources Act, 1963	—	—	—
—	—	—	13	Payments to other account under section 83(3)(b) of the Water Resources Act, 1963	—	—	—
—	—	—	14	Provision of recreational facilities	—	—	—
			15	Contributions to other Authorities under Section 91 of the Water Resources Act, 1963	—	—	—
—	—	—	16	Estates	—	—	—
			17	Administrative Charges			
13,403	—	—		Salaries and Allowances	22,560	—	—
41	—	—		Office Accommodation	—	—	—
1,131	—	—		Office Expenses	2,306	—	—
—	—	—		Legal and Parliamentary costs, etc.	—	—	—
7,374	—	—		Other items	1,656	—	—
19,130	—	41,079		Proportion of General Administrative Charges ..	20,200	—	46,722
1,139	—	1,139	18	Proportion of General Charges	1,519	—	1,519
—	—	—	19	Contributions to Reserve Fund	—	—	—
—	—	—	20	Contributions to Replacement Fund	—	—	—
—	—	—	21	Other Items	—	—	—
56,415	442,127	498,542		Total—Water Resources Account ..	79,613	2,092,425	2,172,038
28,511	—	28,511	22	Balance—Income in excess of Expenditure for the year	4,215	101,575	105,790
84,926	442,127	527,053			83,828	2,194,000	2,277,828

Expenditure and Income

WATER RESOURCES

Revenue Accounts—Year ended 31st March, 1972

Year 1970/71 Revenue Account £	Year 1970/71 Loan Account £	Year 1970/71 Grand Total £	Item	INCOME	Year 1971/72 Revenue Account £	Year 1971/72 Loan Account £	Year 1971/72 Grand Total £
				Capital Transactions			
				Grant-Aided Works			
—	400,000	400,000	1	Loans Raised	—	2,194,000	2,194,000
4,325	—	4,325	2	Exchequer Grants	9,196	—	9,196
—	—	—	3	Contributions from other Authorities under section 91 of the Water Resources Act, 1963	—	—	—
—	—	—	4	Contributions from Reserve Fund	—	—	—
				Non-Grant-Aided Works			
—	—	—	5	Loans raised	—	—	—
—	—	—	6	Contributions from other Authorities, etc. ..	—	—	—
—	—	—	7	Contributions from Reserve Fund	—	—	—
—	—	—	8	Contributions from Replacement Fund	—	—	—
—	—	—	9	Other items	—	—	—
4,325	400,000	404,325			9,196	2,194,000	2,203,196
				Revenue Transactions ..			
2,697	—	2,697	10	Licence Fees	2,604	—	2,604
74,517	—	74,517	11	Charges for water	72,028	—	72,028
—	—	—	12	Estates—Rents, Wayleaves, etc.	—	—	—
			13	Contributions by Minister towards Compensation for revocation or variation of Licences under			
—	—	—		(a) Section 51(2) of the Water Resources Act, 1963	—	—	—
—	—	—		(b) Section 51(3) of the Water Resources Act, 1963	—	—	—
			14	Contributions by Minister under section 51(1) of the Water Resources Act, 1963 towards payments arising under action for derogation of protected rights under section 50 of the Water Resources Act, 1963	—	—	—
—	—	—	15	Income for the provision of recreational facilities ..	—	—	—
—	—	—	16	Contributions from other accounts under section 83(2) of the Water Resources Act, 1963 ..	—	—	—
—	—	—	17	Contributions from Water Resources Board under section 90 of the Water Resources Act, 1963 ..	—	—	—
—	—	—	18	Contributions from other Authorities under section 91 of the Water Resources Act, 1963	—	—	—
—	—	—	19	Contributions from Replacement Fund	—	—	—
—	—	—	20	Contributions from Reserve Fund	—	—	—
—	—	—	21	Other Income	—	—	—
3,387	—	3,387	22	Precepts (for details see Table 5)	—	—	—
84,926	400,000	484,926		Total—Water Resources Account ..	83,828	2,194,000	2,277,828
—	42,127	42,127	23	Balance—Expenditure in excess of Income for the year	—	—	—
84,926	442,127	527,053			83,828	2,194,000	2,277,828

TABLE 2—INFORMATION ABOUT EXPENDITURE AND

Statement of Income and Expenditure on Loan and

Year 1970/71 Revenue Account £	Year 1970/71 Loan Account £	Year 1970/71 Grand Total £	Item	Expenditure	Year 1971/72 Revenue Account £	Year 1971/72 Loan Account £	Year 1971/72 Grand Total £
				LAND DRAINAGE			
				Capital Transactions			
384,299	—	384,299	1	Grant-Aided works, etc. (for details see Table 4) ..	444,123	—	444,123
36,457	—	36,457	2	Non-Grant-Aided Works, etc. (for details see Table 4)..	41,578	—	41,578
420,756	—	420,756			485,701	—	485,701
				Revenue Transactions			
			3	New Works and Improvement Schemes:			
				Loan Charges:			
81,686	—	—		Principal Repaid	82,417	—	—
72,458	—	154,144		Interest	70,285	—	152,702
126,069	—	126,069	4	Maintenance of Works	158,271	—	158,271
			5	Contributions to Water Resources Account under section 83(2)(b) of the Water Resources Act, 1963	—	—	—
—	—	—					
55	—	55	6	Contributions to Internal Drainage Boards	55	—	55
—	—	—	7	Prior Charges	—	—	—
			8	Subsidiary Accounts (e.g. Motor Vehicle and Plant, On-cost etc.) balance of expenditure	—	—	—
—	—	—		Deduct—amount transferred to other accounts in excess of expenditure for the year	—	—	—
—	—	—			88	—	88
2,232	—	2,232	9	Estates			
			10	Administrative Charges:			
69,807	—	—		Salaries and Allowances	73,627	—	—
1,171	—	—		Office Accommodation	988	—	—
5,836	—	—		Office Expenses	5,839	—	—
—	—	—		Legal and Parliamentary Costs, Stamp Duty, etc.	—	—	—
2,267	—	—		Items other than shown above	1,440	—	—
				Proportion of General Administrative Charges (see Item 27 Income)	41,338	—	123,232
36,630	—	115,711					
Cr. 2,814	—	Cr. 2,814	11	Proportion of General Charges (see Item 30) ..	Cr. 5,087	—	Cr. 5,087
5,891	—	5,891	12	Other Items	—	—	—
822,044	—	822,044		Total—LAND DRAINAGE	914,962	—	914,962

INCOME (OTHER THAN FOR WATER RESOURCES)

Revenue Accounts—Year ended 31st March, 1972

Year 1970/71 Revenue Account £	Year 1970/71 Loan Account £	Year 1970/71 Grand Total £	Item	Income	Year 1971/72 Revenue Account £	Year 1971/72 Loan Account £	Year 1971/72 Grand Total £
				LAND DRAINAGE			
				Capital Transactions			
				Grant-Aided Works			
—	—	—	1	Loans raised (for details see Table 4)	—	—	—
1,663	—	1,663	2	Contributions from Local Authorities, Private Frontagers, etc.	25,842	—	25,842
215,922	—	215,922	3	Exchequer Grants-Schemes financed from Revenue ..	293,711	—	293,711
—	—	—	4	Other Items	—	—	—
				Non-Grant-Aided Works			
—	—	—	5	Loans Raised (for details see Table 4)	—	—	—
—	—	—	6	Contributions from Local Authorities, Private Frontagers, etc.	3,500	—	3,500
—	—	—	7	Other Items: Sale of Property	—	—	—
217,585	—	217,585			323,053	—	323,053
				Revenue Transactions			
113,119	—	113,119	8	New Works and Improvement Schemes: Exchequer Grant towards Loan Charges	108,706	—	108,706
			9	Maintenance of Works:			
—	—	—		Contributions from Local Authorities, Private Frontagers, etc.	—	—	—
1,513	—	1,513		Commutation Fund—Interest	3,265	—	3,265
—	—	—		Other Items	—	—	—
			10	Contributions by Local Authorities under section 17 of the Land Drainage Act, 1961	—	—	—
—	—	—	11	Contributions from Water Resources Account under section 83(3)(b) of the Water Resources Act, 1963 ..	—	—	—
6,803	—	6,803	12	Estates—Rents, Wayleaves, etc.	6,675	—	6,675
			13	Administrative Charges:			
562	—	562		Recovered through Rechargeable Works, Fees, etc. .. Apportioned to and excluded in Capital Expenditure and Subsidiary Revenue Accounts	3,953	—	3,953
—	—	—			—	—	—
			14	Other Items:			
—	—	—		Navigation Dues	—	—	—
6,794	—	6,794		Miscellaneous Income	4,394	—	4,394
346,376	—	346,376		Total—LAND DRAINAGE	450,046	—	450,046