	BELMESTHORPE (River Gwash)								
	1967-68			1968-69			1969-1970		
	cusec	*m.g.d.*	*m³/sec.*	*cusec*	*m.g.d.*	*m³/sec.*	*cusec*	*m.g.d.*	*m³/sec.*
April	32.53	17.50	0.9206	19.18	10.32	0.5428	55.69	29.96	1.5760
May	66.07	35.55	1.8698	23.71	12.75	0.6710	93.63	50.37	2.6497
June	29.01	15.61	0.8210	15.82	8.51	0.4477	42.08	22.64	1.1909
July	16.39	8.82	0.4638	46.94	25.25	1.3284	24.05	12.94	0.6806
August ..	12.67	6.82	0.3586	31.62	17.01	0.8948	19.82	10.66	0.5609
September ..	10.55	5.67	0.2986	53.82	28.95	1.5231	13.89	7.47	0.3931
October ..	13.01	7.00	0.3682	46.85	25.21	1.3259	12.70	6.83	0.3594
November ..	34.73	18.68	0.9829	74.40	40.03	2.1055	20.33	10.94	0.5753
December ..	29.94	16.11	0.8473	59.35	31.93	1.6796	54.01	29.06	1.5285
January ..	58.57	31.51	1.6575	79.11	42.56	2.2388	70.10	37.71	1.9838
February ..	47.09	25.33	1.3326	90.26	48.56	2.5544	83.57	44.96	2.3650
March ..	26.72	14.37	0.7562	101.3	54.50	2.8668	75.72	40.74	2.1429
Monthly Av'ge	31.44	16.91	0.8897	53.53	28.80	1.5149	47.13	25.35	1.3338
*1967-70 Av'ge.	44.03 cusecs—23.69 m.g.d.—1.2460 m³/sec.								

Comparative Table

Year	*Per Cent of Average*
1969-70	107
1968-69	121
1967-68	71

LAND DRAINAGE

1. CAPITAL WORKS

(i) General Account and Progress Report

Welland Outfall, LDW 17319, 17638, 18568, 18821, 19656, 20307, 21011, 21803, 21940, 22606 22875, 23552. *Estimated Cost:* £470, 510.

The first stage of the extension of the north training wall to Tabs Head was nearing completion with the placing of 16,000 tons of stone. Raising the wall by a further two feet to design level will proceed when further accretion has occurred on the landward side.

Stone protection was provided upstream of Holbeach Outfall Sluice.

Sea Bank (1948) *Holbeach Marsh. LDW* 24831. *Estimated Cost:* £4,200.

More stone was placed along the most vulnerable length. Experimental Hydra seeding was tried on a short length of the bank but the grass was killed off by an exceptional tide at the end of September. Turf was used to reinstate the batter.

Welland South Bank Fascines, LDW 21682, 22104, 22870 *and* 24206. *Total estimated cost for Sections* 2, 3, 4 *and* 5 £15,237.

Work began in January on Section 5 of the tidal river bank protection upstream of Fosdyke.

River Welland, Locks Mill to Folly River Fascines, LDW 20784, 21428, 22103, 23050, 23747, 24418, 25516. *Estimated Total Cost* £35,271.

Fagot protection work along the frontage of the Cowbit Wash Cradge was carried out in the Spring and Autumn. Schemes Nos. 5 and 6 were nearing completion and work started on Scheme 7.

River Glen Improvement, LDW 16111. *Estimated Cost:* £205,279.

This Scheme was completed with the strengthening of the Glen Bank near Counter Drain Railway Brigade and the flood protection wall and berm at Brownlow Crescent, and some slips near Surfleet Road bridge were secured.

Car Dyke, North Arm, LDW 21012. *Estimated Cost* £20,390.

Work on this flood alleviation scheme near Bourne was completed but due to difficulties arising from rock sub-strata and the high compensation claims the expenditure exceeded the estimate by some £10,000.

Market Harborough Flood Alleviation Scheme, LDW 17460. *Estimated Cost* £176, 088.

An old house upstream of Northampton Road Bridge was demolished so that the earth embankment between the bridge and Welland Park could be completed. Leicestershire County Council were reconstructing St. Mary's Road Bridge to accord with the Scheme.

Car Dyke, Newark Hill to Eye, LDW 22752. *Estimated Cost* £44,078.

The improvement scheme to provide for the discharge of surface water from Peterborough was completed. Unstable material in some places caused considerable slumping, and remedial work will be necessary.

River Welland, Stamford to Market Harborough Improvement, LDW 18106, 24076, 24768. *Estimated Cost* £170,000.

Very satisfactory progress was made on this Scheme, described in the Fourth Annual Report. Dredging along about 16 miles of river to near Rockingham, and a diversion at Ashley were completed.

Reconstruction of Rockingham Road Bridge was in progress, the River Authority are making a contribution to the Northamptonshire County Council for the increased waterway that is provided.

River Chater Improvement, LDW 24751. *Estimated Cost* £11,600.

Other than for the seeding down of spoil heaps improvement was completed from the confluence with the River Welland to Ketton.

River Jordan Improvement, LDW 24971. *Estimated Cost* £42,500.

The Ministry approved the Little Bowden scheme, referred to in the Fourth Annual Report, and work commenced early in the year. Channel excavation, concrete lining, two footbridges, much of the ancillary work and the embankment of the flood regulating reservoir was completed.

New River Improvement, LDW 24246. *Estimated Cost* £15,142.

Reference to this Scheme was made in the Fourth Annual Report. The re-siting of the length of New River adjacent to School House corner, the levelling of spoil heaps, and remedial work at slips was completed.

Bell Row Tunnel Scheme, LDW 24435. *Estimated Cost* £1,867.

A new culvert was constructed for this fresh water intake from the River Welland in the vicinity of Brotherhouse Bar, and the old culvert beneath the Wash bank was sealed off.

Wingland (1954) *Sea Bank Improvement, LDW* 22702. *Estimated Cost* £2,074. *Sea Bank Improvements, LDW* 23237. *Estimated Cost* £29,503.

This scheme was described in the Third Annual Report. Shaping to profile and re-seeding of the Gedney Enclosure Sea Bank was completed.

River Nene (*Foul Anchor*) *Improvement, LDW* 23492. *Estimated Cost* £145,294.

This scheme was described in the Third Annual Report. A stone toe was laid along about three-quarters of a mile of the right bank, and brushwood fagots were placed to stabilise the batter. Additional plant and craft were hired for emergency work to remedy a sudden deterioration along a short length of the left-hand bank.

River Nene, Slips near Baths Cottage, Wisbech, LDW 22580. *Estimated Cost* £82,283.

Further work on this scheme was deferred so that funds could be reallocated to more urgent work on the tidal river.

River Nene, Cromwell Road to Bevis Hall Improvement, LDW 23419. *Estimated Cost* £109,600.

The scheme was described in the Third Annual Report. Fagot work and re-shaping of the profile was substantially completed on the left bank, and preliminary excavation and placing of stone proceeded along the right bank bordering the A.47 road.

River Nene, Cross Guns Pumping Station, LDW 23803. *Estimated Cost* £21,000.

The scheme for the replacement of the discharge pipe was completed. To minimise the time in which the station would be out of use the pipe was laid adjacent to the old one which was later removed.

River Nene, Bank Protection upstream Dog-in-a-Doublet Sluice, LDW 22540, 23417/4, 24736. *Estimated Cost for Sections* 1, 2 *and* 3—£11,304.

Section 3 of the Scheme, consisting of driving asbestos sheets to prevent erosion along the frontage of the North Bank near the Bedford Arms, was completed.

River Nene, Lilford Improvement, LDW 24955. *Estimated Cost* £19,225.

The scheme was referred to in the Third Annual Report. The sluice structure was completed, and the channel excavation was nearing completion.

River Nene, Denford Improvement, LDW 23416. *Estimated Cost* £14,970.

Spoil spreading and seeding down was carried out on this Scheme, described in the Third Annual Report.

Alledge Brook Improvement, LDW 24766. *Estimated Cost* £12,571.

Reference was made to this scheme in the Fourth Annual Report. Four miles of tree clearance and channel excavation was completed to near Twywell. A temporary bridge was erected on the Woodford Mill Road so that the old bridge could be reconstructed.

Hog Dyke Improvement, Raunds, LDW 24437. *Estimated Cost* £6,600.

This improvement, part of which was a main river scheme and part of which was a main drain scheme of the Nene Commissioners (Second District) comprises laying a 42in. diameter Armco tube beneath the River Nene to provide an improved outfall for agricultural land upstream. It was completed other than for spreading spoil and re-seeding.

Chelveston Brook Improvement, LDW 24370. *Estimated Cost* £8,400.

The scheme was referred to in the Fourth Annual Report. Tree clearance and dredging was completed but the levelling of spoil, fencing and the erection of a footbridge remains to be done.

Pages Mill Improvement, Wellingborough, LDW 24279. *Estimated Cost* £7,400.

The Scheme referred to in the Fourth Annual Report was completed.

Grendon Brook Improvement, LDW 25532. *Estimated Cost* £26,400.

The scheme referred to in the Fourth Annual Report was substantially completed. Northamptonshire County Council underpinned the road bridge near Grendon Hall.

River Nene, Northampton, Dredging, LDW 23615. *Estimated Cost* £11,919.

The scheme described in the Third Annual Report was completed except for some consequential work on the towpath wall downstream of South Bridge.

River Nene, Upton to Flore Improvement, LDW 33764. *Estimated Cost* £39,538.

The scheme was described in the Third Annual Report. Channel excavation was completed

to Heyford Bridge and accommodation bridges were improved at Kislingbury and Harpole Mills. Spoil spreading and re-seeding was in progress.

(ii) Future works agreed in principle

River Nene, Northampton to Wellingborough.

Reference was made in the Third and Fourth Annual Reports to outline proposals for controlling flood discharges at Northampton and Wellingborough. Further technical discussions with those responsible for the development indicate that the expenditure at current prices will be of the order of £2m.

Harpers Brook Improvement. Estimated Expenditure £112,000.

In order to facilitate ironstone quarrying the drainage of about 1,000 acres in the Willow Brook Sub Catchment was diverted to the Harpers Brook Sub Catchment by means of a connecting channel, and the area was subsequently included in the Corby New Town Designation Area. Development is now proceeding and the connecting channel, a long length of which is culverted, is no longer adequate for the increased run off. Northamptonshire County Council, Corby Urban District Council, and Corby Development Corporation have co-operated in preparing a scheme to widen, culvert and to improve Harpers Brook. The proposals include a flood control reservoir near Great Oakley.

Tributary Streams

Nene Tributaries, Northampton.

Reference is made on page 37 to the Conference to consider numerous localised flooding problems convened by Northamptonshire County Council in September. Survey work proceeded for improvement schemes on several small channels which the Ministry have been asked to designate " main river ", priority being given to those where urban flooding occurs. Provision was made for expenditure of £36,000 on these small channels in the ensuing year.

Crowland and Cowbit Wash

Experimental work continued with the model air controlled siphonic weir referred to in the Third Annual Report.

Maxey North Drain

Unstable gravel in some parts of this flood relief channel was scoured with consequent shoaling downstream. The first of a series of experimental weirs was constructed near Lolham Station with a view to assessing measures necessary to stabilise the channel.

(iii) Other matters relating to grant aided or other works

(*a*) *Capital Expenditure*

As was foreshadowed in the Fourth Annual Report, the pressure for improved standards of drainage, particularly from the uplands, became such that it was necessary to consider the economics of undertaking works in excess of the Capital Expenditure Ceiling (the limit of grant aided expenditure) but within the Capital Investment Allocation (the limit of authorised capital expenditure), and thereby suffering a reduction in the overall rate of grant.

The Northamptonshire Flood Conference, referred to below, emphasized the problem.

The Capital Expenditure Ceiling was £247,166, and the Ministry made a Capital Investment Allocation of £268,000, but it was understood that that might be increased if the need could be shewn.

The following estimates for new and improvement works were recommended by the Land Drainage Committee, and accepted.

	£
Welland Outfall	35,000
Welland Fascines	9,000
Sea Banks	4,000
Cromwell Road to Bevis Hall	35,000
Foul Anchor	28,000
Car Dyke, Eye	12,000
Stamford—Market Harborough	25,000
Lilford	13,000
Market Harborough	10,000
River Jordan	20,000
Upton—Flore	10,000
New River	3,000
Bell Row Culvert	2,000
Cowbit Road Sluice	3,400
Cross Guns Pumping Station	10,000
Denford	3,000
Page's Mill	2,400
Tributaries (Nene)	20,000
Caldecott Sluices	1,200
	£246,000

In addition £37,000 was provided as a contingency item " for works consequent on representations following flooding of the past year ". Ultimately it was decided to spend £15,000 on Grendon Brook and an additional £15,000 on the Welland—Stamford to Market Harborough Scheme. This meant a total expenditure of £276,000, of which £247,166 would be eligible for grant aid amounting to £182,903. The rate of grant of 74 per cent, for which Schemes within the Capital Expenditure Ceiling were eligible, was thus reduced to an overall 66 per cent. It was estimated that the additional expenditure of £30,000 would raise the Ceiling for 1970-71 from £269,000 to £279,000, and that for 1971-72 from £274,000 to £289,000, assuming that the adjustment from rising costs continued to be at 8 per cent.

(*b*) *Northampton County—Flood Conference*

The Chairman of Northampton County Council invited representatives of the Authority, the Great Ouse River Authority, the Ministry of Agriculture, the District Councils, and those concerned in New Town and Overspill Expansions to a conference on the 29th September to consider remedial measures for the flooding which had been particularly severe in the previous two years. Several villages, particularly in the uplands, had been seriously affected, property damaged, and highways made impassable. The County Council felt that positive action should be taken to prevent a recurrence in the worst threatened places. The problem was likely to worsen with the increasing flow of surface water from new development in expanding towns and elsewhere, and the situation called for concerted action by all concerned. It was hoped that a common policy to alleviate flooding could be formulated.

The Chairman of the Land Drainage Committee pointed out that in the eighteen months ending in May rainfall had been 150 per cent above normal, and flooding had been exceptional. Flood problems were, however, going to get worse as building development proceeded. More co-operation with the Planning Authorities was essential to prevent development of land liable to flooding, and as advice given by the Authority had sometimes been ignored he suggested that safeguards should be written into planning consents. It was essential to prevent building in unsuitable places, which then had to be protected at public expense. Drainage works required

constant maintenance, and the Authority would give sympathetic consideration to extending Main River, but it was largely a question of finance, and at the present time insufficient funds were available. It was intended to expend £30,000 on river improvement works which would not be eligible for grant aid, but a lot of work needed to be done on the smaller streams. It was also intended to raise a General Drainage Charge, which it was estimated would produce £20,000 for work in the uplands.

The County Surveyor suggested that the problem was due to improvement in agricultural drainage, and the enormous urban development. The County was looking ahead to the year 2000, and was to expand greater than any other county in the British Isles. Flooding was going to be aggravated.

In summing up the discussion, the Chairman of the County Council said planning difficulties would have to be resolved. She appealed for co-operation, co-ordination, and sharing of costs. The River Authority's Engineer and the County Surveyor would co-operate in design, and it was a matter of finance. There might have to be greater generosity by the County Council in paying for joint schemes, and co-operation with the Town Expansion authorities in planning and financing proposals would be necessary. The River Authority were prepared to do just as much as the constituent authorities were prepared to pay for, and the County Council made a substantial contribution through the Precept. Those concerned with flood problems should put forward a scheme and discuss the financial implications. Planning procedures would be tightened up to ensure property was not built on land subject to flooding.

As a result of the Conference it was decided to ask the Minister to extend main river, as mentioned on page 43. It was also decided to ask the County and County Borough Council for an additional halfpenny on the Precept, with a corresponding increase in the " basic " precept on the Internal Boards.

(*c*) *Nene Outfall*

The annual survey of the outfall showed that accretion occurred on both sides of the channel for a mile from the end of the training walls, but more heavily on the west. The narrow deep channel approaching the Elbow Bend had moved south and west, with accretion on the north of Big Annie beacon. A narrow bar now separates the flood tide channel from the ebb channel. Accretion continued at the southern end of the deep water in the Old Lynn channel near the Whiting Beacon.

(*d*) *Welland Outfall*

Reference was made in the Fourth Annual Report to the Survey work carried out in co-operation with the Lincolnshire River Authority. Favourable weather and the establishment of improved reference points made it possible to complete a satisfactory basic survey.

2. MAINTENANCE

Grass and weedcutting was carried out along 300 miles of main river, and 80 miles were cut twice to meet local requirements. Most of this work was by direct labour, and weedcutting launches and floating elevators were used on the major Channels.

Forty miles of maintenance dredging, principally in the upper reaches was completed. Wheeled hydraulic excavators were used wherever possible to remove root growth with a view to reducing the annual weedcutting. Unobstructed access is necessary along one bank, and the efficiency of the mechanical weedcutting buckets along partially obstructed watercourses is still being studied. Work was carried out on River Ise, Brampton Branch, Wootton Brook, Wollaston Brook, Moretons Leam, the River Welland near Deeping, Bourne Eau, Car Dyke (South of Bourne) and the soak dykes to the Coronation Channel at Spalding.

Regular inspections were made of the Sea and Barrier Banks, and the destruction of vermin was continuous.

Inspection and servicing of all sluices and locks was carried out. Steel pointing doors were installed at Lilford Lock, and new doors were delivered for Rush Mills and Woodford Locks.

The high quality of work carried out in the workshops was maintained, and the ingenuity and resource on the exhibit for the East of England show, a new task, was appreciated.

Work was also carried out at the South Holland Land Drainage Board's workshops as necessary, and this assistance was appreciated.

3. WORK IN INTERNAL DRAINAGE DISTRICTS

(*a*) *Administered Boards*

Two Internal Drainage Boards are administered, namely the Nene Valley Drainage and Navigation Improvement Commissioners (First District) with jurisdiction above Northampton, and the Nene Valley Drainage and Navigation Improvement Commissioners (Second District) with jurisdiction from Northampton to Peterborough.

Annual weedcutting and maintenance work was carried out on the First District main drains.

Maintenance dredging was carried out on 6 miles, and weedcutting only on a further 2½ miles of Second District main drains. Constructional work on an Armco culvert adjacent to Hog Dyke was completed.

(*b*) *Wisbech District Boards*

Schemes for further piling work and fagot protection, and an improvement scheme near Cox's Lane were prepared for Wisbech Northside Internal Drainage Board.

Tydd Internal Drainage Board and Leverington Internal Drainage Board were informed that engineering services would be provided as required on a rechargeable basis, pending a review of their requirements.

(*c*) *North Level*

Following the unsatisfactory conditions revealed by the heavy storms in 1968, the North Level Commissioners asked the Chief Engineer to make a thorough re-examination of their drainage system, and to recommend improvements. The last such re-examination resulted in the Farran Report in 1936, and it had become apparent that a higher standard of drainage was now required, particularly in Newborough and Postland. The Clark Report recommended major improvements estimated to cost £1m. It was accepted in principle by the Commissioners and by the Boards of the Districts which discharge to the North Level Main Drain.

(*d*) *South Holland District*

Serious and extensive flooding in the South Holland District in 1968 caused the Trustees (as they then were) to consider radical improvements in the drainage system. On the advice of their Engineer, they reached the conclusion that it would be an advantage if some 15,000 acres at the low lying south eastern end of the District above Decoy Sluice could be drained to the Welland by means of a new pumping station discharging into the Coronation Channel at Spalding. The Land Drainage Committee did not look upon this proposal favourably, as in times of high flow in the Welland any further rise in the water level might be to the detriment of the pumping station built in conjunction with the major Welland Improvement Scheme. Subsequently the Trustees presented a revised proposal which they considered far superior in efficiency and much cheaper than the other schemes which had been examined. They proposed a pumping station at Brotherhouse Bar four miles upstream from Spalding with an outfall across Cowbit Wash. The

Land Drainage Committee accepted this proposal which came to be known as the " Scheme A ", although subsequently there were some technical modifications, provided the new pumping station was a main river work under the control of the Authority so that it might be operated according to the circumstances prevailing in the Welland. In practice such restriction is not likely to be significant, for example it could arise during the tide locked period at critical stages of flow in the Welland, but the existing gravity discharge to the Nene would be available in conjunction with the reservoir capacity of the South Holland Main Drain. It is unlikely that both the Welland and the Nene will be running to capacity at the same time. Accordingly application was made to the Ministry for the South Holland Main Drain to be designated main river, and the Chief Engineer was instructed to proceed with the preparation of a Scheme.

The South Holland Trustees then reconsidered their position, and preferred a very different Scheme (which became known as " Scheme B ") whereby the South Holland Main Drain would be made a high level carrier for water raised from the adjoining fen by a number of pumping stations.

Much time has been spent on obtaining data in order that a comparison may be made of the relative cost and efficiency of the two Schemes, and at the time of writing the engineering differences have not been resolved.

4. FLOODS

No exceptional floods occurred during the year. The wet winter of 1968/69 was followed by flood flows in May and August, but otherwise a general recession in river flows continued until early November. The soil moisture deficit increased to a maximum of 3.9 inches at the end of October, and was still 0.42 inches in mid-January. Between November and March there were floods of steadily increasing magnitude, although in the winter months flows were sustained rather than extreme.

Typical maximum discharges were as follows:

Welland Sub-Catchment	1970						*Previous Highest*
	January		*February*		*March*		
Site	*m³/sec.*	*cusecs*	*m³/sec.*	*cusecs*	*m³/sec.*	*cusecs*	*m³/sec.*
Tixover	12.98	459	20.17	713	24.87	879	May 1967 56.60
Tallington and Millstreams	17.57	621	33.22	1,174	40.44	1,429	May 1967 62.26
R. Glen Kates Bridge and King St.	9.90	350	6.33	224	11.46	405	November 1968 34.52

Data relating to the River Nene was as follows:

Average Winter Discharge	11.32 m³/sec.	(400 cusecs)
Average Summer Discharge	2.83 m³/sec.	(100 cusecs)
Maximum Recorded Discharge	359.41 m³/sec.	(12,700 cusecs)

	Maximum Discharge	
	m³/sec.	*cusecs*
1970 January	41.43	1,464
February	55.24	1,952
March	65.06	2,299

A fall of 2.05 inches in 2 hours was recorded on 29th May at Ufford, between Stamford and Peterborough. Such a fall is likely to occur on average only once in 56 years. The storm was localized and the flooding occurred in only a small area.

Instrumentation for the first stage of the telephonic rainfall and water level warning recorders was being installed. The scheme approved by the Ministry provides for four water level recorders and four rain gauges in the upper reaches.

On 29th September a wind blown tide reached very high levels, comparable with those of 19.2.69 referred to in the Fourth Annual Report. On both occasions some tidal water spilled over the sluice gates at Marsh Road, Spalding.

Comparison with the storm surge of 31st January 1953 illustrates the position.

	Levels to Newlyn Datum		
	Jan. 31st. 1953	*P.M. tide* 19.2.69	*A.M. tide* 29.9.69
River Welland Lawyers Sluice	17.8	17.1	16.7
Fosdyke Bridge	17.3	17.16	17.3
Marsh Road Sluice	about 19.	19.	18.7
River Nene Lighthouses	17.8	15.6	16.3*
Wisbech (Corporation Quay)	17.2	15.3	16.2
Dog-in-a-Doublet Sluice	12.7	11.3	12.3

(* From September 1969 records taken at Sutton Bridge)

5. DRAINAGE CHARGES

It was decided to prepare for raising a General Drainage Charge under section 1 of the Land Drainage Act 1961 for the year commencing 1st April 1971, and for subsequent years. Particulars of the chargeable land were accordingly being prepared to that end. It is estimated that the gross revenue will amount to about £22,000 per annum.

6. STATUTORY SCHEMES FOR INTERNAL DRAINAGE BOARDS

(a) General Review of Boundaries

In making his Statutory Report for the year ended 31st March 1969, the District Auditor drew attention to the provisions of sections 4 and 7 of the Land Drainage Act 1930. He pointed out that the boundaries of the internal drainage districts were generally much the same as those defined by local Acts upwards of 100 years ago, and that in many ways they were unsuitable for present day requirements. Some districts were too small, not appropriately staffed to undertake

large scale drainage works, and efficiency of working and cost was bound to be adversely affected when three or more different authorities were concerned in the drainage of quite a small area. He also drew attention to the " two-tier system " in the North Level, with its seven sub-districts.

He suggested that regard should be paid to the changes brought about by the increased mechanisation of drainage work. When the chief requirement for efficient operation was a pool of locally based manual labour the small board was perhaps the ideal authority to be in charge. But looking to the future he considered that greater reliance should be placed on the use of expensive plant and machinery, and in the provision and maintenance of that the larger boards had a distinct advantage. Similar considerations applied on the administrative and financial sides. Although a large authority was not necessarily more efficient, there were great practical difficulties and disadvantages in running very small units. This had been demonstrated by the informal combinations which some boards had established, but such combinations had obvious defects, and he considered that they could with advantage be replaced by single and properly constituted boards for the enlarged areas. Only formal action by the Authority could abolish the system of duplicate rating in the North Level. There were practical difficulties, but he did not think them insuperable.

The Land Drainage Committee were asked to make a full examination of the possible re-organisation of drainage districts, and the Chairman of the Authority suggested that the Committee should be receptive to the need for change. It was pointed out that for some two or three years drainage boards had been in a state of uncertainty as to whether it was intended to promote schemes, and it was necessary that the position should be resolved as quickly as possible.

(*b*) *South Holland Internal Drainage Board*

The South Holland Drainage District was defined by Orders made under section 4(1) (b) of the Land Drainage Act 1930, but the pre 1930 constitution was retained.

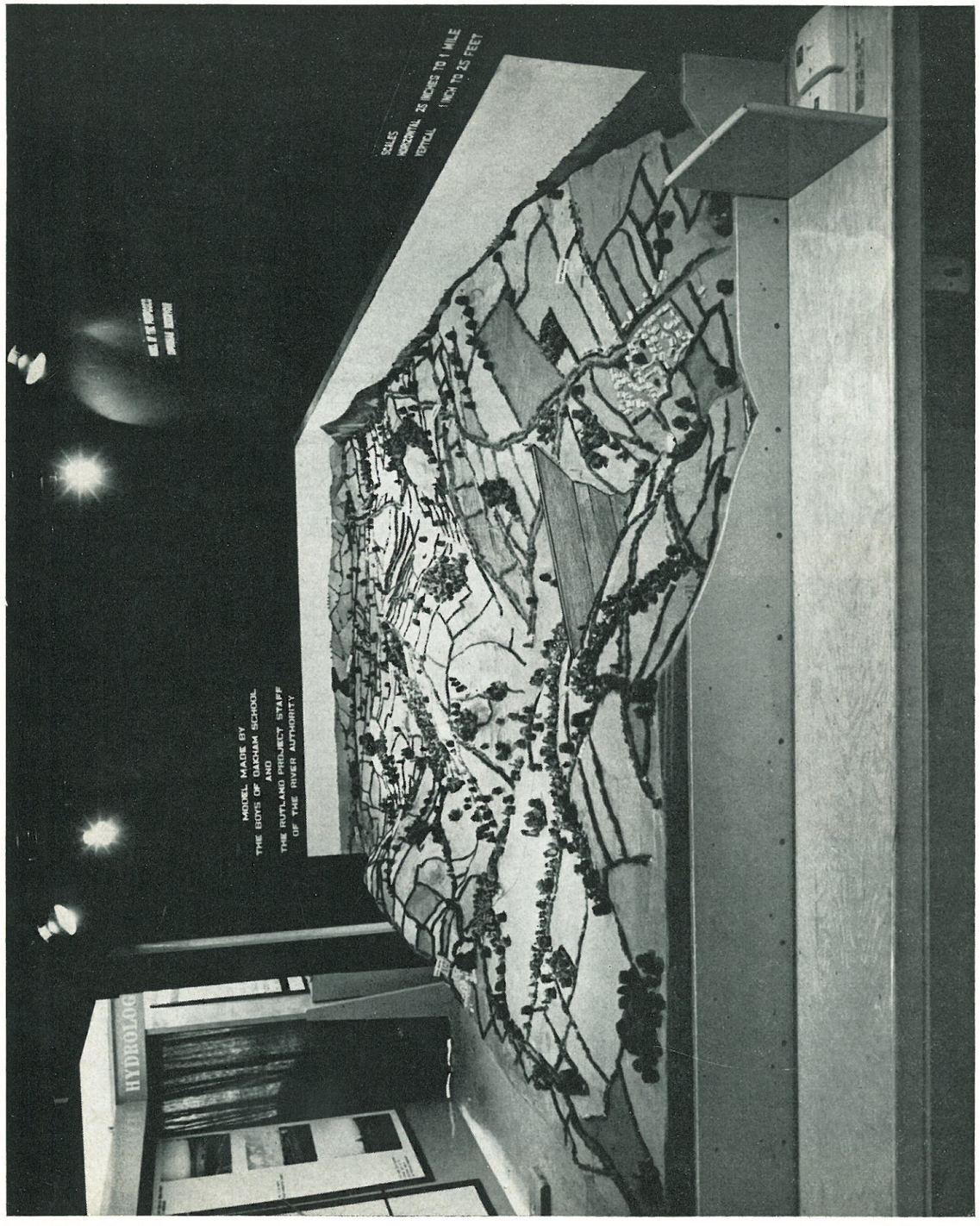
Complaints were received that it was wrong that the Trustees, not being fully representative of and elected by the ratepayers, should be considering a large and expensive improvement scheme. It was, therefore, decided to make a Scheme to abolish the Trustees and the Little Sutton Marsh Reeves (who had jurisdiction over a part of the District), and to establish the South Holland Internal Drainage Board, consisting of 15 members elected in accordance with the provisions of the Land Drainage Act 1930. The Scheme was not opposed, and was confirmed with effect from 1st April 1970 by the Welland and Nene River Authority (South Holland Internal Drainage District) Order 1970 (S.I.1970 No.450).

The work done by the last of the Trustees over many years is appreciated, and good wishes are extended to the new Board in dealing with problems of great magnitude which face them.

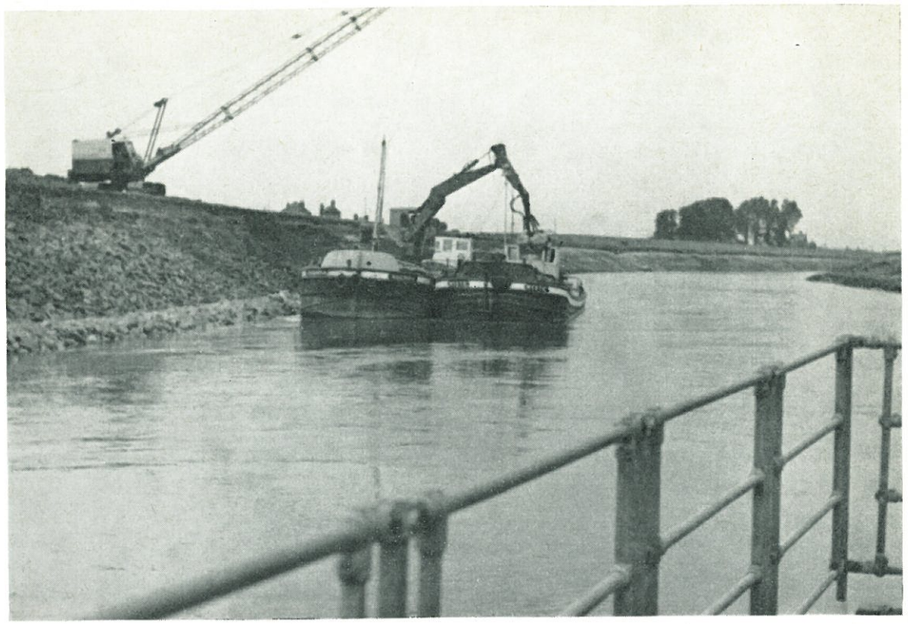
On 6th October 1969 the following petition presented by 48 " qualified persons " pursuant to section 36 of the Land Drainage Act 1961 was received from Spalding Urban District Council:

> " We the Undersigned, being Owners and/or Occupiers of land within the area of the South Holland Internal Drainage District, hereby petition the Welland and Nene River Authority to review the boundaries of the Internal Drainage Districts within the Authority's jurisdiction with a view to transferring to the area of the Deeping Fen, Spalding and Pinchbeck Internal Drainage District that part of the Urban District of Spalding situated on the east side of the River Welland.
>
> We consider that all the ratepayers in the Urban District of Spalding should have the same standard of drainage irrespective of where they live in the district and should all pay the same rate for this service."
>
> An Ad hoc Committee was appointed to consider it.

Following publication of the statutory notice, representations were received from the following:

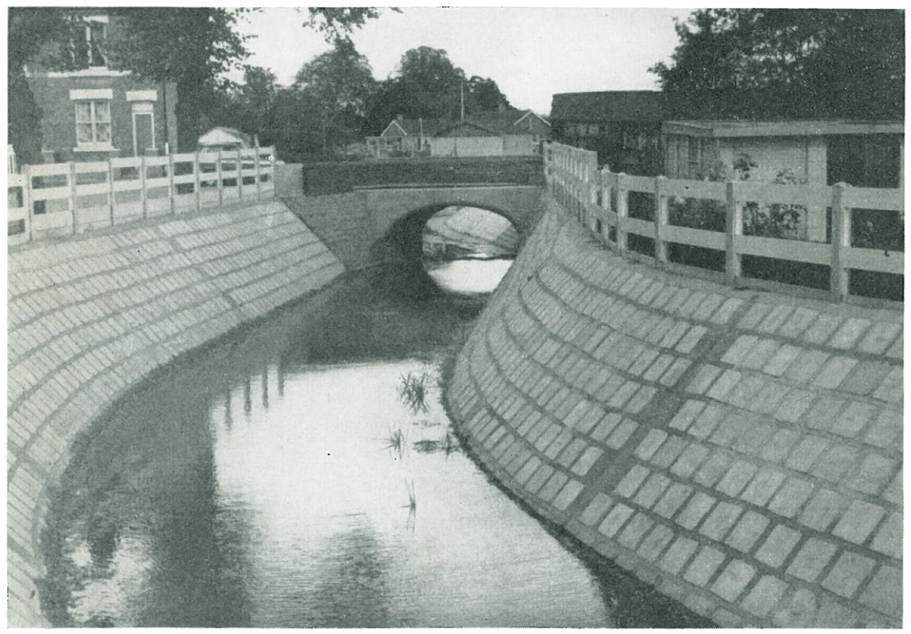


Empingham Reservoir — site model



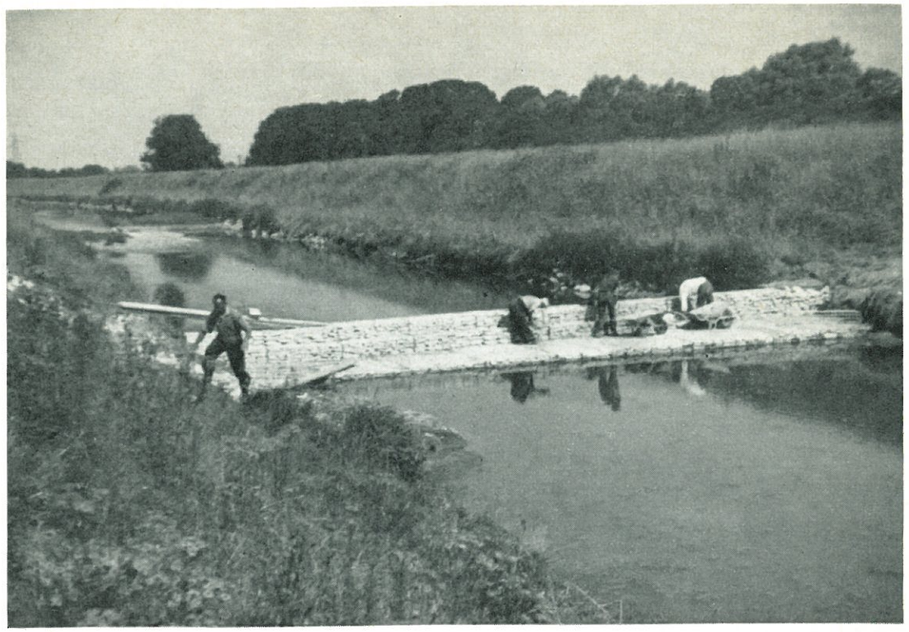
(*above*) **Foul Anchor Improvement**
Hydraulic Excavator mounted on barge operating cactus grab

(*below*) **Greatford Cut**
maintenance, using weed cutting bucket



(*above*) **Bugbrooke Flood Alleviation Scheme**
Channel Improvement — public sewer to be lowered

(*below*) **River Jordan Flood Alleviation Scheme**
Improvement in Little Bowden



(*above*) **Maxey North Drain**
experimental weir to stabilise gravel bed of flood channel

(*below*) **River Nene — Lilford**
electrically controlled automatic sluice gate

South Holland Trustees
Spalding Urban District Council
Councillor Ernest Fisher, M.B.E., and 27 others supporting the Petition
Mr. J. W. E. Banks, and 77 others supporting the Petition
Mr. L. K. Braybrooks, and 87 others opposing the Petition.

Deeping Fen, Spalding and Pinchbeck Internal Drainage Board reserved their position.

Those who made representations were invited to make formal written submission to be exchanged, so that supplementary submission might then be made thereon.

The matter was not disposed of until the meeting on the 17th June 1970, but it is convenient to record here that the ad hoc Committee came to the conclusion that there was no merit in the reasons which had prompted the Petition, namely that the whole of the Urban District should be in one drainage district and that people in the urban district should pay the same drainage rates. Nevertheless they considered whether there were any other grounds which would justify the ends which the Petitioners sought.

The Committee were of the opinion that the whole problem of drainage district boundaries and administrative arrangements in South Lincolnshire should be reviewed as soon as possible, and that some radical innovations should be considered, but as that was beyond their terms of reference they finally came to the conclusion that—other alternatives being eliminated—the Petition should be rejected.

The ad hoc Committee's report was unanimously accepted.

(*c*) *North Level*

After considering the District Auditors Statutory Report (referred to above), the problems of some of the Wisbech Boards in obtaining engineering assistance, and the need to ensure that the interests of the Contributory Boards (Wisbech Northside, Tydd, and Leverington Internal Drainage Boards) as regards the North Level Main Drain were adequately safeguarded if the drainage improvements proposed in the Clark Report were carried out, the Land Drainage Committee meeting on the 31st March 1970 recommended:

> " That the Authority make a 4(1) (b) Scheme providing (1) for the amalgamation of the North Level and the Tydd, Leverington, and Wisbech Northside Districts, (ii) for the abolition of the North Level Sub Districts (iii) for the establishment of a Board to take over the function of the several Boards, and (iv) for such consequential matters as may be required."

At the time of writing it is possible to add that the recommendation was accepted by the Authority.

7. OTHER MATTERS

(*a*) *Extension of Main River*

The Minister was asked to make an Order under section 12(b) of the Water Resources Act, 1963 to extend Main River by some 116.4 miles as follows:

Splash Dyke, Castor	0.5 miles	From existing main river. Along Splash Lane and Station Road
Southwick Brook	2.5 miles	South Arm to bridge approximately ½ mile to west of Southwick
	0.5 miles	North Arm to limit of Second District
Barnwell Brook	2.0 miles	From River Nene to confluence on East side of West Lodge