

**WELLAND & NENE LOCAL
FLOOD DEFENCE COMMITTEE**

**ANNUAL REPORT
1997/98**



Weedcutting, River Nene - White Mills

ENVIRONMENT AGENCY



116787

WELLAND & NENE LOCAL FLOOD DEFENCE COMMITTEE

ANNUAL REPORT 1997/98

The following report has been prepared under Section 12 of the Water Resources Act 1991.

RON LINFIELD
Area Manager (Northern)
June 1998

WELLAND & NENE LOCAL FLOOD DEFENCE COMMITTEE
ANNUAL REPORT 1997/98

CONTENTS

<i>Item No.</i>		<i>Page No.</i>
1	Welland & Nene Local Flood Defence Committee Members	1
2	Officers serving the Committee	3
3	Flood Defence Data and Catchment Area Map	4
4	Staff Structure - Northern Area	6
5	Area Managers Introduction	7
6	Operations Report:	
	a) Capital Works	9
	b) Maintenance Works	14
	c) Hydrometric Data and Flooding Events	18
7	Flood Defence & Conservation Report	24
8	Flood Defence & Operations Revenue Account 1997/98	26

WELLAND & NENE LOCAL FLOOD DEFENCE COMMITTEE
Membership as at 31 March 1998

Appointed by the Regional Flood Defence Committee

D J RIDDINGTON Esq OBE - Chairman
Wolf Hill House, Newborough, Peterborough, Cambs., PE6 7SW

J K ROYSTON Esq - Vice Chairman
Manor Cottage, Weekley, Kettering, Northants, NN16 9UP

P BROWN Esq
62 Church Street, Whittlesey, Peterborough, PE17 1DB

J H R HOYLES Esq
Newton Hall, Newton, Wisbech, Cambs.,

Dr C NEWBOLD
English Nature, Monkstone House, City Road, Peterborough, Cambs., PE1 1JY

A H PROCTOR Esq
Hill House, Gosberton, Spalding, Lincs.

I SYMINGTON Esq
94 Lynn Road, West Winch, Kings Lynn, Norfolk, PE33 0JU

A J L WORTH Esq
Old White House, Holbeach Hurn, Holbeach, Lincs.

Appointed by the Constituent County Councils

Cambridgeshire County Council

COUNCILLOR J R HORRELL CBE TD DL
The Grove, Longthorpe, Peterborough, Cambs. PE3 6LZ

COUNCILLOR J PEACH
195 Broadway, Peterborough, Cambs. PE1 4DS

Rutland County Council

COUNCILLOR M E BAINES
17 Main Street, Ridlington, Rutland, LE15 9AH
Cont/d

Cont/d 1

Lincolnshire County Council

COUNCILLOR D G MAWBY

Little Coppice, Church Lane, Hagworthingham, Spilsby, Lincs. PE23 4LP

Northamptonshire County Council

COUNCILLOR D F COWIE

21 Croyland Road, Wellingborough, Northants, NN8 2LB

COUNCILLOR P MCGILL

91 Chelveston Drive, Corby, Northants. NN7 2QH

COUNCILLOR S C ROBERTS

50 Twyford Avenue. Raunds, Wellingborough, Northants. NN9 6HD

COUNCILLOR R SEERY

10 St. Andrews Close, Titchmarsh, Northants. NN14 3DS

COUNCILLOR B J W SMITH

Orchard House, 31 Banbury Road, Litchborough, Towcester, Northants, NN12 8JF

Observers representing the Welland & Nene Area Environment Group

Mrs P HALLIWELL

Oriel House, 40 St. Georges Avenue, The Racecourse, Northampton, NN2 6 JA

R HOLE Esq

5 Barrowden Lane, South Luffenham, Nr. Oakham, Rutland, LE15 8NH

OFFICERS SERVING THE COMMITTEE

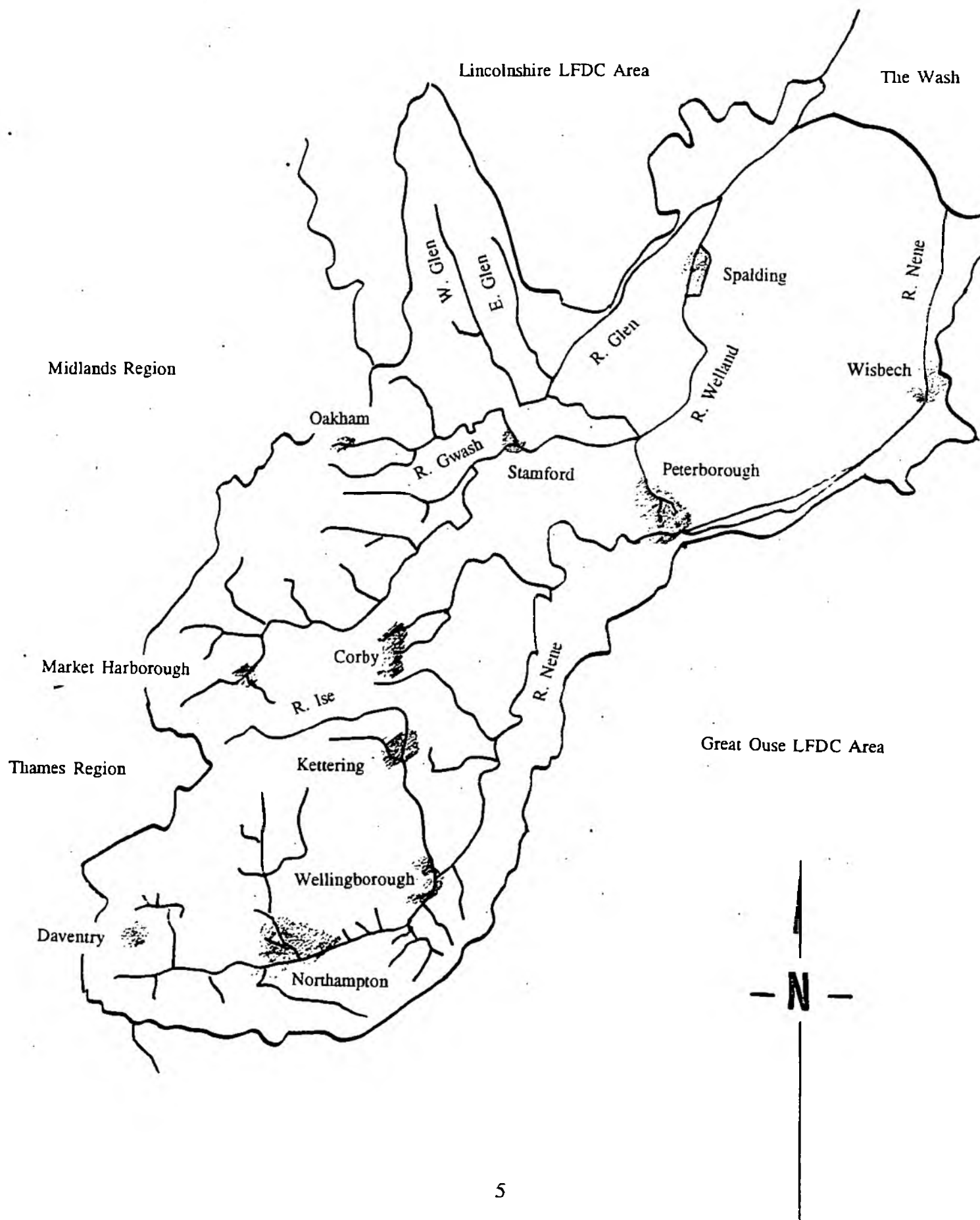
as at 31 March 1998

Grainger Davies	Regional General Manager
Ian Ripley	Regional Finance Manager
Steve Wheatley	Regional Flood Defence Manager
Ron Linfield	Area Manager
Andy Baxendale	Area Flood Defence Manager
Tom Youdan	Catchment Engineer
David Bruce	Area Accountant
Jim Marshall	Flood Defence Engineer

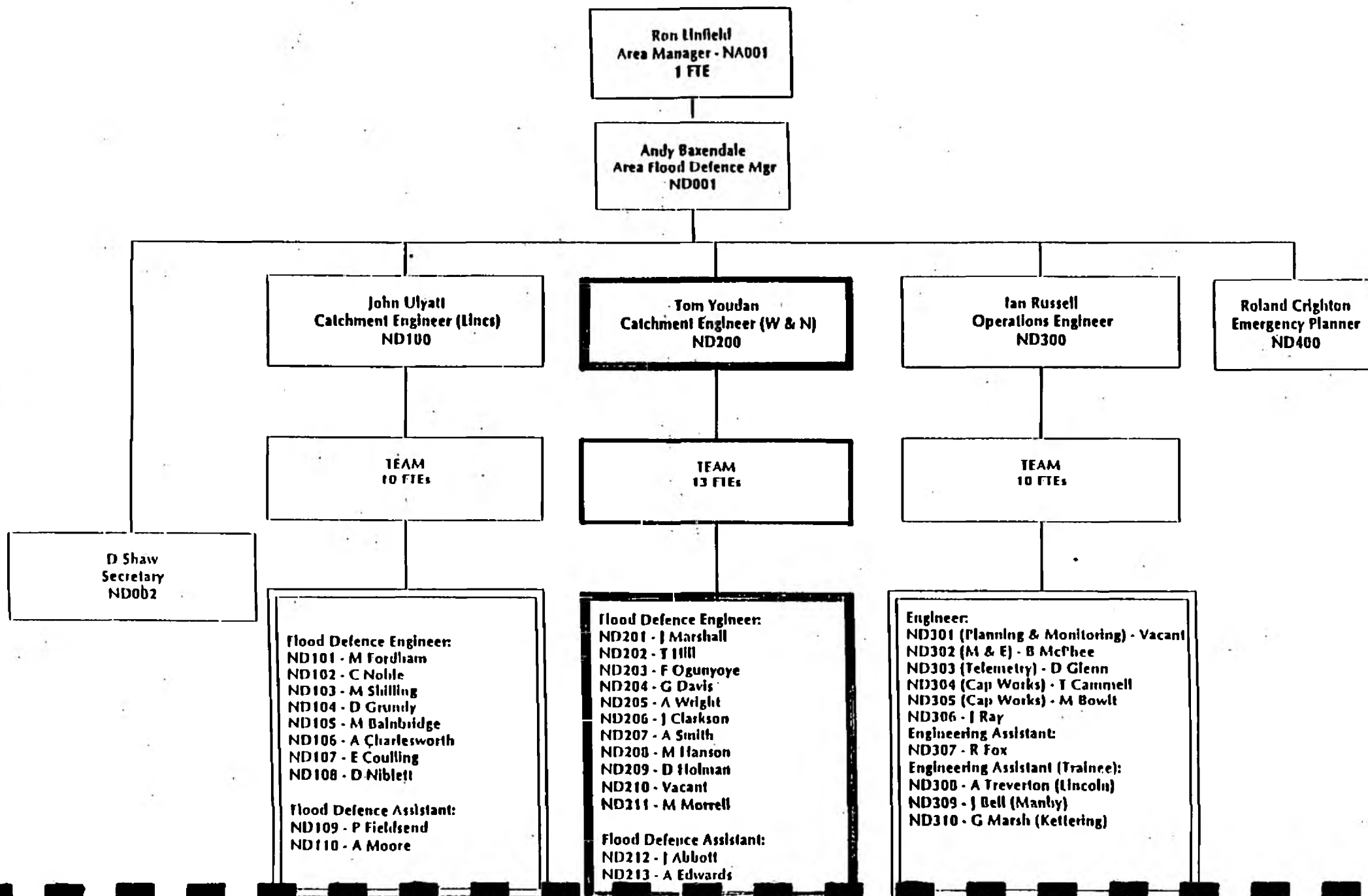
WELLAND & NENE CATCHMENT FLOOD DEFENCE DATE 1997/98

1	Resident population in Local Flood Defence District (at January 1991)	860,000
2	Relevant population in Local Flood Defence District (at January 1991)	656,000
3	Area of Local Flood Defence District	4007 km ²
4	Total length of fluvial Main River (downstream limit to be MAFF demarcation point for sea defence supplement)	1057 km
5	Total length of embanked fluvial Main River included in Item 4 above	121 km
6	Total length of fluvial Main River embankments	222 km
7	Total length of fluvial Main River maintained primarily for the benefit of an urban/industrial environment	113 km
8	Total length of tidal Main River	50 km
9	Total length of tidal Main River embankments/defences	100 km
10	Total length of estuarine Main River	13 km
11	Total length of estuary embankment defences	0 km
12	Total Main River length - Fluvial/Tidal/Estuary	1120 km
13	Total length of first line sea defences	45 km
14	Total length of first line sea defence maintained primarily for the benefit of an urban/industrial development	17 km
15	Total number of Internal Drainage Boards	9
16	Total area of Internal Drainage Boards	1124 km ²
17	Income from IDB precept	£532,000
18	Levies from County Councils £/relevant household	£13.23
19	Income from County Council levy	£3,821,000
20	General Drainage Charge rate	128.6p/Ha.
21	Income from General Drainage Charge	£260,000
22	Grant Earnings Ceiling	£700,000
23	Capital Programme (Grant Eligible Works)	£725,479

WELLAND & NENE LOCAL FLOOD DEFENCE COMMITTEE CATCHMENT AREA



STAFF STRUCTURE AS AT 31st MARCH 1998



AREA MANAGERS INTRODUCTION

This report summarises the flood defence works undertaken during 1997/98 within the Welland and Nene Catchment and outlines the associated financial position. A number of key points are highlighted below.

The Capital works programme completed during the year totalled £1.642m, some 84% of the expenditure achieved in 1996/97.

The Committee's Grant Earning Ceiling of £0.7m. was reached and exceeded with grant aided works totalling £0.725m.

The Capital Works Programme again had dual emphasis between Tidal and Fluvial works. Tidal protection works have been carried out to the River Nene and the major refurbishment of the River Welland tidal sluice at Marsh Road, Spalding was completed. Alongside these schemes, further stabilisation works to the River Glen have been carried out and the River Glen Strategy Review completed.

Activity with regard to non grant eligible schemes was largely confined to the completion of reconstruction /refurbishment works to a number of River Nene structures commenced during the previous year financed from 'windfall' monies from the Department of the Environment.

Routine maintenance works totalling £2.078m. have been carried out. Notable works being the near completion of an enhanced maintenance scheme at Weedon and the refurbishment of the locks at Billing and Upper Wellingborough. The weed control works were split into 2 separate Contracts with the in-house Direct Services group successfully competing for the works in Kettering District whilst the Spalding works were awarded to John Bradshaw Ltd.

The year has been wetter than average with monthly rainfall totals falling below the historical mean in only 3 months. However soil moisture deficits remained above the historical mean and consequently river flows generally remained below average. As a result there was only 1 occasion when it was necessary to issue a fluvial flood warning and the Area Control Room was in operation to monitor a number of tidal events although it was not necessary to issue any warnings for the Welland & Nene catchment. These events are expanded upon in the Operations Report which follows.

The year saw the completion of the Wash LEAP, The Welland LEAP Consultation process was concluded with the Action Plan being released in January and the combined Nene LEAP Consultation process was begun during March.

In line with the Agency's duty to promote the conservation and enhancement of the environment all of the flood defence works undertaken have been subject to both internal and external prior consultation so that, wherever possible the works have included enhancements to the benefit of the environment. Some particular achievements are detailed in the Flood Defence and Conservation Report which follows.

As part of the Agency's 'Next Steps' re-organisation process aimed at producing a flatter management structure through the creation of teams, those posts reporting to the Catchment

Engineer now take the form shown in the preceding structure diagram.

Membership of the Committee changed during the year, partly due to the results of Local Authority elections and the establishment of Rutland County Council, the latter necessitating an amendment to the Local Land Drainage Scheme. On behalf of the Chairman I would extend to those Members having left the Committee, his sincere appreciation of their efforts in bringing to fruition the programme of works completed and extend a warm welcome to those new Members of the Committee.

In conclusion, at the end of a successful second year of the Environment Agency, it is again fitting to recognise the Committees continuing achievements in putting in place ongoing works which will maintain and enhance the standard of protection from flooding afforded to the many thousands of people who live and work throughout the Committees area, and to thank the Chairman and Members for their efforts and support.

Thanks are again also expressed to the funding bodies, the County Councils, the Internal Drainage Boards, the General Drainage Charge payers and to the Ministry of Agriculture, Fisheries and Food who have, by means of the grant enjoyed by the Committee, and the Grant Earning Ceiling awarded to it, enabled continuing investment to be placed in flood defences in the area.

Finally that so much work has again been delivered is a tribute to the continuing dedication, expertise and resourcefulness of the staff and manual workers in both the Client and Direct Services parts of the organisation.

RON LINFIELD
Area Manager
June 1998

BILLING WEIR



Minor Flood Conditions During Construction



Completed Works

WEEDCUTTING - RIVER NENE, WELLINGBOROUGH



Berky Weedcutting Boat



Conver Weedcutting Boat

GENERAL MAINTENANCE WORKS



Formation of Gravel Bed, Alledge Brook - Grafton Underwood



Cleansing of Flood Arch, River Welland - Welham

WEEDON ENHANCED MAINTENANCE SCHEME



Road Bridge With Lowered Inverts



Channel Re-Sectioning

WEEDON ENHANCED MAINTENANCE SCHEME



Improving Channel Alignment - Entry to Railway Tunnels



Bank Revetment Training Works to Railway Tunnels

WEEDON ENHANCED MAINTENANCE SCHEME



Training Works - Entry to Railway Tunnels



Completed Training Works to Railway Tunnels

WEEDON ENHANCED MAINTENANCE SCHEME



New Accommodation Bridge - Downstream of Canal



Channel Clearance Downstream of Canal



**RIVER WELLAND - DUDDINGTON
OTTER HABITAT ENHANCEMENT**



**WET GRASSLAND ENHANCEMENT
RIVER GLEN - PINCHBECK WEST**

OPERATIONS REPORT

CAPITAL WORKS 1997/98

Summary

Expenditure on the Committee's Capital Programme including capital salaries and fees was distributed as shown over the following categories of schemes:

1. Grant Eligible Schemes

Fluvial Flood Defence Works	£660,918
Tidal Flood Defence Works	£572,584
TOTAL	£1,233,502

2. Non Grant Eligible Schemes

Fluvial Flood Defence Works	£385,600
Tidal Flood Defence Schemes	£22,782
TOTAL	£408,382

GRAND TOTAL	£1,641,884
--------------------	-------------------

Notable Schemes

1 Grant Eligible Schemes

Coronation Channel, Marsh Road Sluice Refurbishment

The Contractor, Atlantic Power & Gas, successfully completed and commissioned this scheme in mid - year. The final cost was in excess of the original estimate but MAFF were fully aware of the reasons for this, all necessary variation orders being submitted and approved.

River Glen Stabilisation Ph. 5

The Contractor, Wrekin Construction, successfully completed the stabilisation of 1.2 km. of the left hand bank at Glenside, Pinchbeck.

Cont/d

Cont/d 1

2. Non Grant Eligible Schemes

River Nene Structures

The Contractor, Linpave, successfully completed the new weir at Billing Mill which provided a discharge capacity equivalent to the 2 structures it replaced. Additionally, the Contractor, Cranfield Construction, successfully completed the refurbishment of structures at Stanwick and Irthlingborough.

Whiston Sluice Automation

This project was finally completed but suffered a major failure shortly after commissioning which was subsequently satisfactorily rectified.

Cont/d

Cont/d 2

Expenditure on all schemes was as follows:

1. Grant Eligible

Fluvial Flood Defence Works

£

Bourne Eau Pumping Station Improvements	2,619
ARTS Phase 2	6,664
ARTS Phase 3	341,049
ARTS Phase 4 Batch A	52,137
ARTS Phase 4 Batch B	32,484
Coronation Channel Protection	4,443
Weedon FAS	-10,944
Greatford Cut Improvements	1,962
Cradge Bank Phase 2	-5,002
Peterborough Brooks, Car Dyke, Eye	2,627
Car Dyke, North Arm	1,103
Northampton FAS	881
River Glen, Pinchbeck, Hard Defences	5,900
River Glen Stabilisation, Surfleet Sluice	466
River Glen Stabilisation Phase 3	1,080
River Glen Stabilisation Phase 4	235
River Glen Stabilisation Phase 5	9,370
River Glen Stabilisation Phase 6	130,475
River Glen Strategy	34,145
W & N Flood Storage Reservoirs Phase 1	-140
Northern Area Bridge Strategy	49,364

TOTAL

660,918

Cont/d

Cont/d 3

Tidal Flood Defence Works

£

Coronation Channel Structures Phase 2	201,170
Nene Stabilisation Phase A Part 10	-1,884
Nene Stabilisation Phase A Part 12	4,416
Nene Stabilisation Phase A Part 13	367
Nene Stabilisation Phase B Strategy	44
Nene Stabilisation Phase A Part 1	47,654
Nene Stabilisation Phase B Parts 3,4,5	263,724
Welland Stabilisation Phase A Part 10	5,933
Welland Stabilisation Phase A Part 11	-22,093
Welland Stabilisation Phase A Part 12	226
Welland Stabilisation Phase A Part 13 (Vernatts)	-45,109
Wash River Outfall Study (W)	421
Welland Training Walls	80,783
Wash Shoreline Management Plan (N)	1,382
Tidal Nene Siltation	3,516
Shoreline Management Plan	14,020
Shoreline Monitoring - Welland & Nene	-45
Shoreline Management System 95/96	82
Shoreline Management System 96/97	746
Shoreline Management System 97/98	17,231
TOTAL	572,584

Cont/d

Cont/d 4

2 Non Grant Eligible **£**

Fluvial Flood Defence Works

Northampton Structures	312,377
Bridge Weight Limit Signs (Non - Highway)	15,478
Whiston Sluice Modification	4,887
Ditchford Weir Reconstruction	-2,174
Bridges	16,330
Wisbech Flood Wall	3,000
Market Harborough	387
Ise Brook	3,925
Peterborough Brooks	7,922
Bourne Eau Catchment	7,627
W & N Reservoirs Phase 2	15,841

TOTAL **385,600**

Tidal Flood Defence Works

Wisbech Piling	22,782
----------------	--------

TOTAL **22,782**

Contributions

TOTAL **0**

CAPITAL EXPENDITURE GRAND TOTAL **1,641,884**

MAINTENANCE WORKS 1997/98

Brief details of works completed during the year and the expenditure incurred on each activity excluding financial charges for the year are shown:

	Expenditure £k
Dredging	291.8

All programmed dredging was completed using both Agency and hired plant. The dredging totalled 69 km. over the following watercourses:

River Welland & Tributaries

- 4 Mile Bar
- Harringworth
- Rockingham
- Ashley
- Car Dyke South
- River Glen, Fletland Mill
- River Chater

River Nene & Tributaries

- Nassington
- Warmington
- Wadenhoe
- Irthlingborough
- Wollaston
- Cogenhoe
- Northampton Washlands
- Kislingbury Branch
- Brampton Branch
- Hardingstone Dyke
- Creaton Brook
- Wootton Brook
- Dallington Brook
- Bugbrooke Brook
- Grendon Brook
- Slade Brook

Cont/d

Cont/d 1

Weed Control **233.2**

Work completed totalled 505 km. All work in the Kettering District was carried out by the in-house Direct Services Group who also carried out all boat cutting throughout the Catchment. The Spalding District work was contracted out to John Bradshaw Ltd. of Stibbington.

Banks & Embankments **427.4**

All programmed work was completed.

Grass cutting was carried out as necessary on all fluvial, reservoir, tidal and sea defence embankments along with normal repair operations and intensive vermin control.

Structures **355.9**

All routine scheduled maintenance was completed.

Significant works included:

- The refurbishment of the locks at Billing and Upper Wellingborough.
- The construction of a new accommodation bridge giving access to Islip sluice.

Obstructions **170.9**

The removal of debris from all vulnerable locations was carried out on a regular basis. In addition, all reported problems were dealt with and major clean up operations were carried out in Wellingborough, Swanspool Brook and Bourne, Bourne Eau

Sea and Tidal Defences **393.7**

Programmed maintenance on all tidal and sea banks, flood gates and control structures was carried out.

Cont/d

Cont/d 2

Pumping Stations 50.4

Maintenance and operation of Padholme, Peakirk and Bourne Eau Pumping Stations was carried out to programme and as required.

Other Activities 54.2

Including routine patrols and emergency response.

Weedon Enhanced Maintenance Scheme 101.2

Work on this scheme was carried out to provide increased flood discharge capacity through the village and included channel re-sectioning and improvements to bridges and culverts.

TOTAL EXPENDITURE ON OPERATIONAL ACTIVITIES 2078.7

Service Direct 249

Non operational expenditure, including flood warning costs, land and property, research and development, surveys etc.

Administration and General Charges 1,289

GRAND TOTAL OPERATING AND MANAGEMENT EXPENDITURE 3667

* Monitoring in bar chart form follows

**WELLAND & NENE LOCAL FLOOD DEFENCE COMMITTEE
OPERATIONS PROGRESS REPORT**

1997 / 1998

DREDGING	0	10	20	30	40	50	60	70	80	90	100	110	120	130+
TOTAL WORK PROGRAMMED														69.0 Km
WORK COMPLETED TO DATE														69.0 Km
BUDGET PROVISION														368.3 K
EXPENDITURE TO DATE														291.8 K

WEED CONTROL	0	10	20	30	40	50	60	70	80	90	100	110	120	130+	
TOTAL WORK PROGRAMMED															505.0 Km
WORK COMPLETED TO DATE															505.0 Km
BUDGET PROVISION															328.9 K
EXPENDITURE TO DATE															233.2 K

B/EMBANKMENTS	0	10	20	30	40	50	60	70	80	90	100	110	120	130+	
TOTAL WORK PROGRAMMED															320.0 Km
WORK COMPLETED TO DATE															320.0 Km
BUDGET PROVISION															341.9 K
EXPENDITURE TO DATE															427.4 K

STRUCTURES	0	10	20	30	40	50	60	70	80	90	100	110	120	130+	
BUDGET PROVISION															480.4 K
EXPENDITURE TO DATE															355.9 K

OBSTRUCTIONS	0	10	20	30	40	50	60	70	80	90	100	110	120	130+
BUDGET PROVISION														102.1 K
EXPENDITURE TO DATE														170.9 K

TIDAL/SEA DEFENCES	0	10	20	30	40	50	60	70	80	90	100	110	120	130+
BUDGET PROVISION														125.0 K
EXPENDITURE TO DATE														393.7 K

PUMPING	0	10	20	30	40	50	60	70	80	90	100	110	120	130+	
BUDGET PROVISION															23.0 K
EXPENDITURE TO DATE															50.4 K

OTHER	0	10	20	30	40	50	60	70	80	90	100	110	120	130+
BUDGET PROVISION														75.4 K
EXPENDITURE TO DATE														54.2 K

WEEDON	0	10	20	30	40	50	60	70	80	90	100	110	120	130+	
BUDGET PROVISION															150.0 K
EXPENDITURE TO DATE															101.2 K

TOTAL	0	10	20	30	40	50	60	70	80	90	100	110	120	130+	
BUDGET PROVISION															1995.0 K
EXPENDITURE TO DATE															2078.7 K

HYDROMETRIC DATA AND FLOODING EVENTS 1997/98

Rainfall

Areal Situation

The average total rainfall for the Welland and Nene catchment area in 1997/98 was 671mm., compared with a long term mean of 600mm. (112%). This follows 425 mm. in 1996/97 and 448 mm. in 1995/96.

Monthly Rainfall

Only in 3 months of the year, April, September and February did rainfall totals fall below the historic mean values. In the remaining months they were marginally above the historical mean save for during June when recorded totals were more than double the historic mean.

Soil Moisture Deficit

Soil moisture defecits generally remained above the historic mean save for June and August

River Flows

In all 3 main rivers, flows generally remained just below the historic mean throughout the year save for during January, when in response to the heavy rains over Christmas and New year flows in the Welland and Glen exceeded the historic maximum while that in the Nene was some 83% of the historic maximum for the month.

The following graphs and bar charts illustrate each of the above.

Flooding

Fluvial Events

Throughout the year rainfall, river flows and levels were monitored on a daily basis by the Area Duty Flood Officer. On receipt of Heavy Rainfall Warnings from the Meteorological Office the frequency of monitoring was increased and, when necessary, the Area Control Room was opened to monitor and forecast events.

As described earlier, there was only 1 occasion when it was necessary to issue a fluvial flood warning, for villages in the upper Glen valleys, following the heavy rain over Christmas and New Year when 55 mm. of rain fell in less than 4 days with 23 mm. being recorded in a 7 hour period. The Kettering office was opened over the weekend of 3/4 January to monitor the situation and out of hours working to regulate river levels and clear obstructions etc. was necessary throughout the holiday period. For the first time in recent years fairly extensive flooding occurred in the Welland valley and 2 properties flooded in Castle Bytham and Little Bytham.

Cont/d

Cont/d 1

The Northampton Washlands and Duston Flood Storage Reservoir both partially filled.

Minor flooding on 29 November and 18 December also necessitated out of hours working.

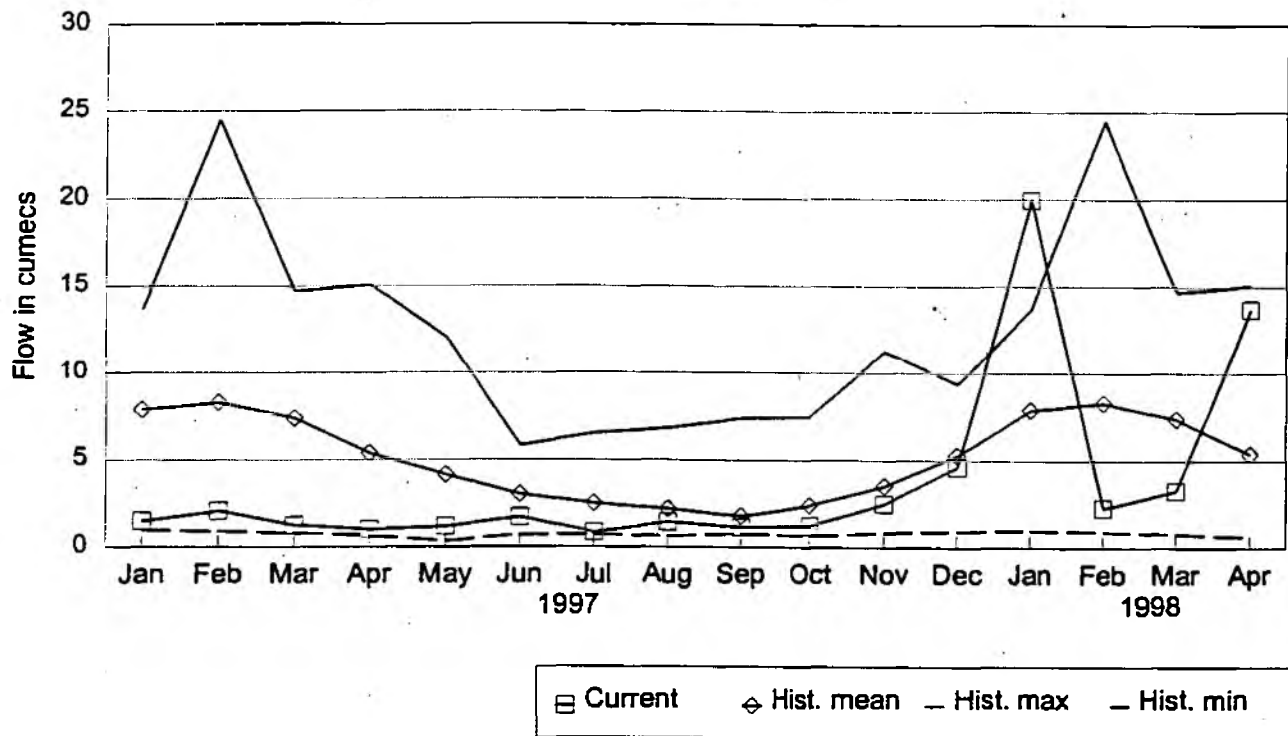
Tidal Events

There were no occasions during the year when it was necessary to issue a tidal flood warning.

Monthly Mean River Flows

GRAPH 1

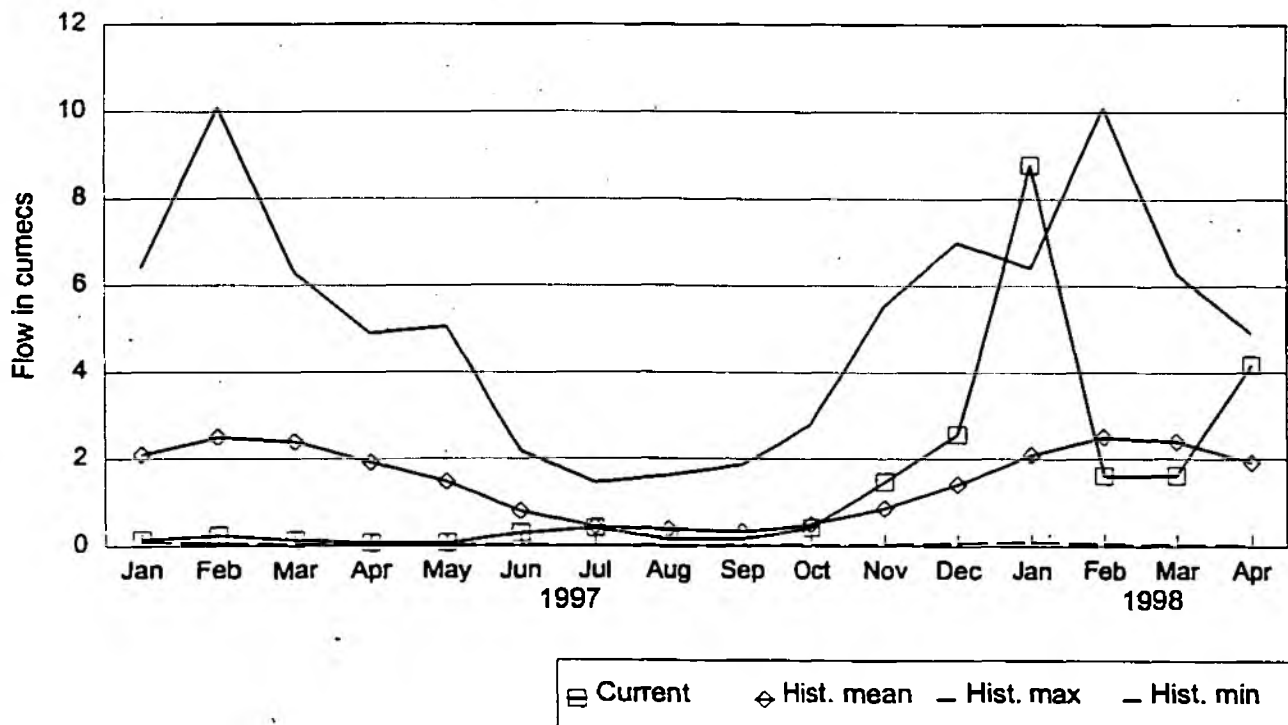
River Welland



Monthly Mean River Flows

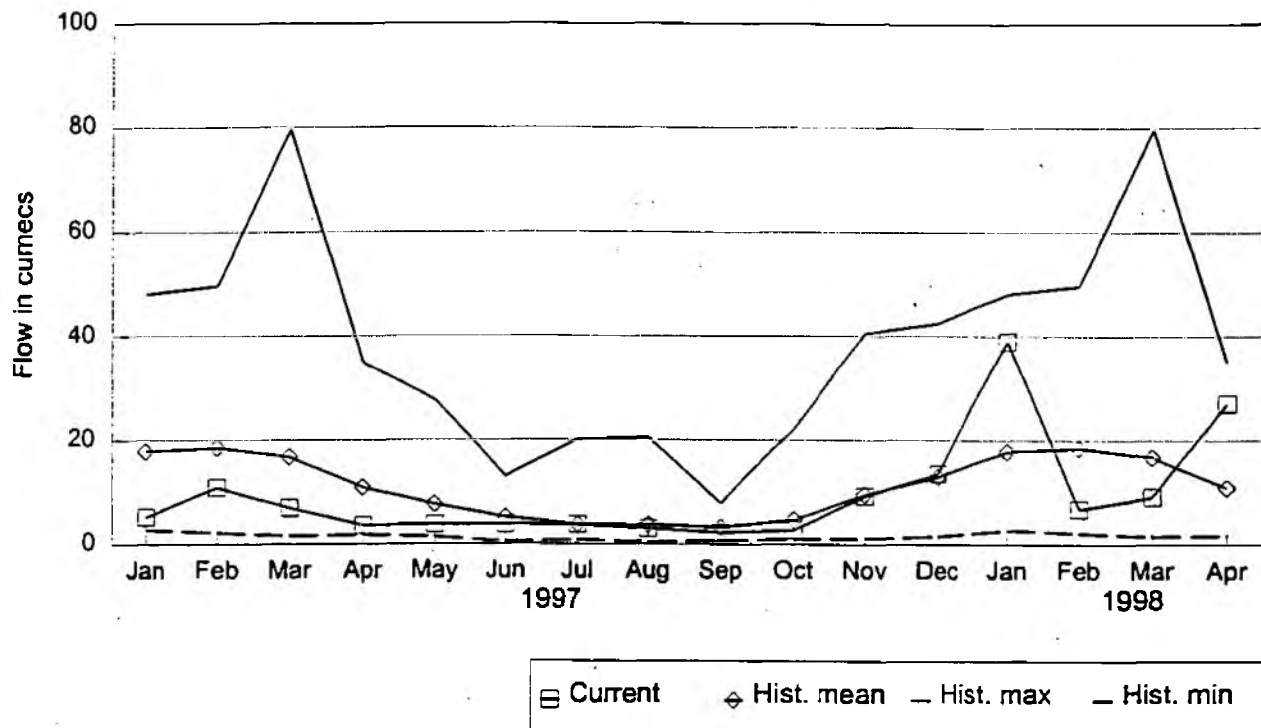
GRAPH 2

River Glen



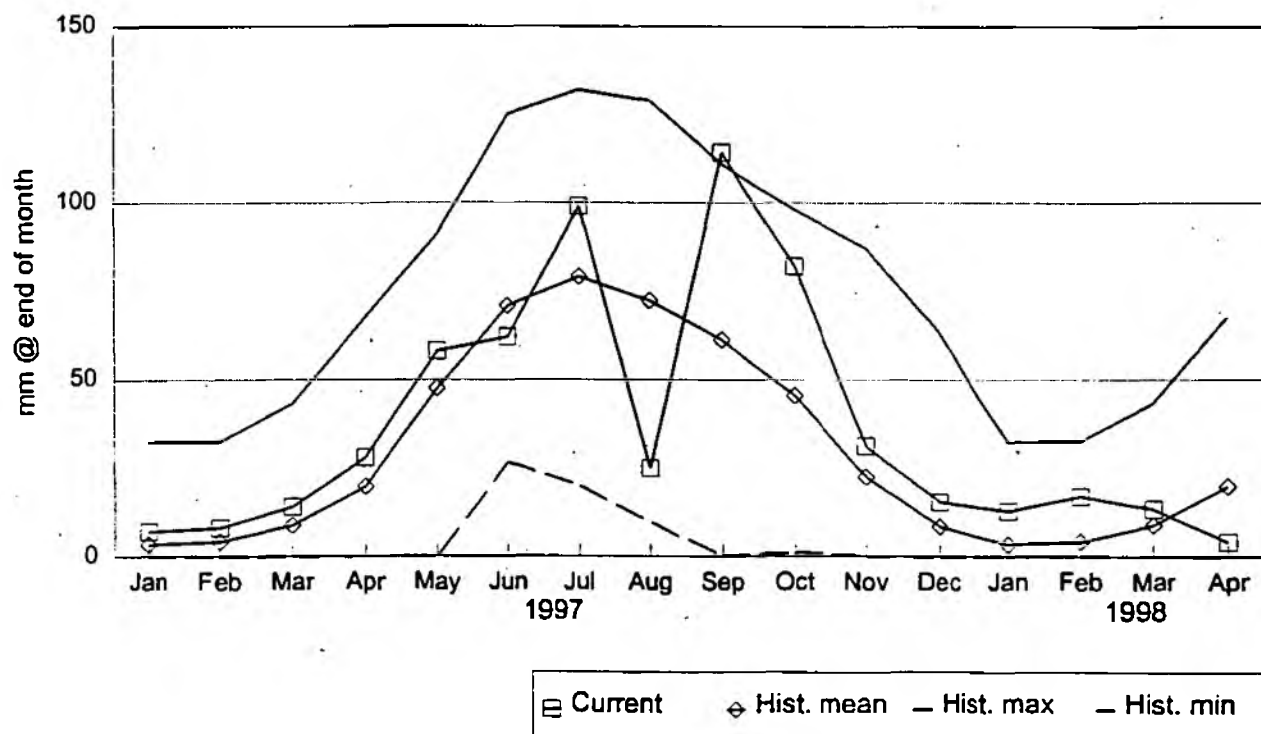
Monthly Mean River Flows ^{GRAPH 3}

River Nene



Areal Soil Moisture Deficits ^{GRAPH 4}

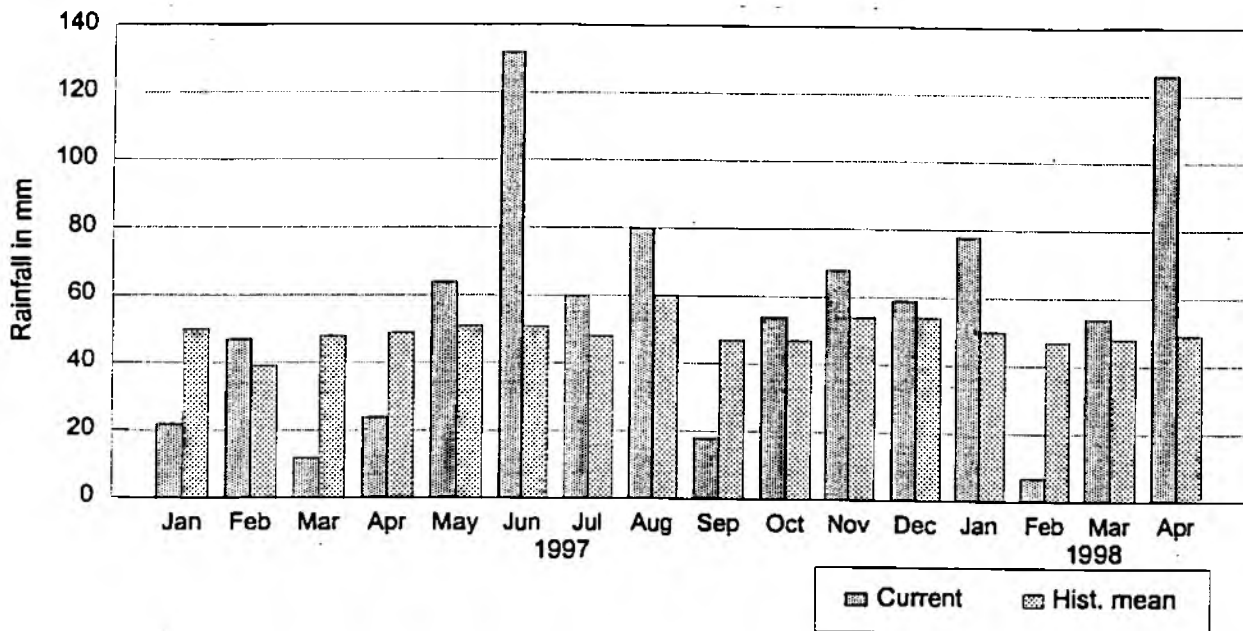
Welland & Nene Catchment



Areal Rainfall

Welland & Glen Catchment

GRAPH 5

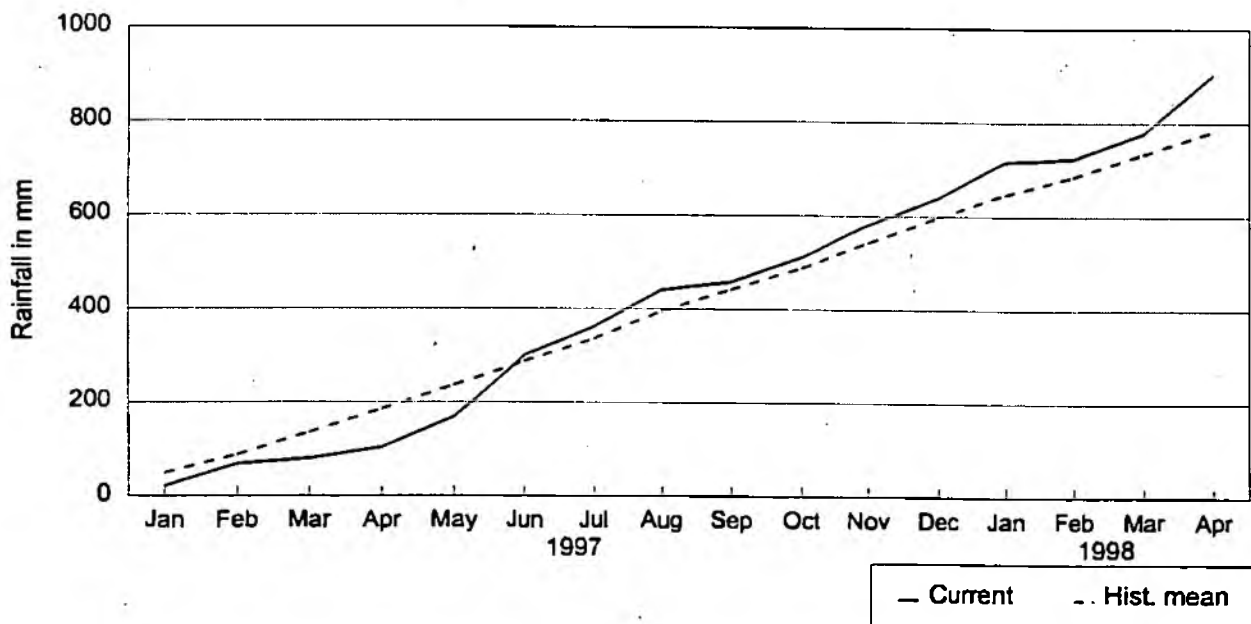


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Current	22	47	12	24	64	132	60	80	18	54	68	59	78	7	54	126
Hist. mean	50	39	48	49	51	51	48	60	47	47	54	54	50	47	48	49

Cumulative Areal Rainfall

Welland & Glen Catchment

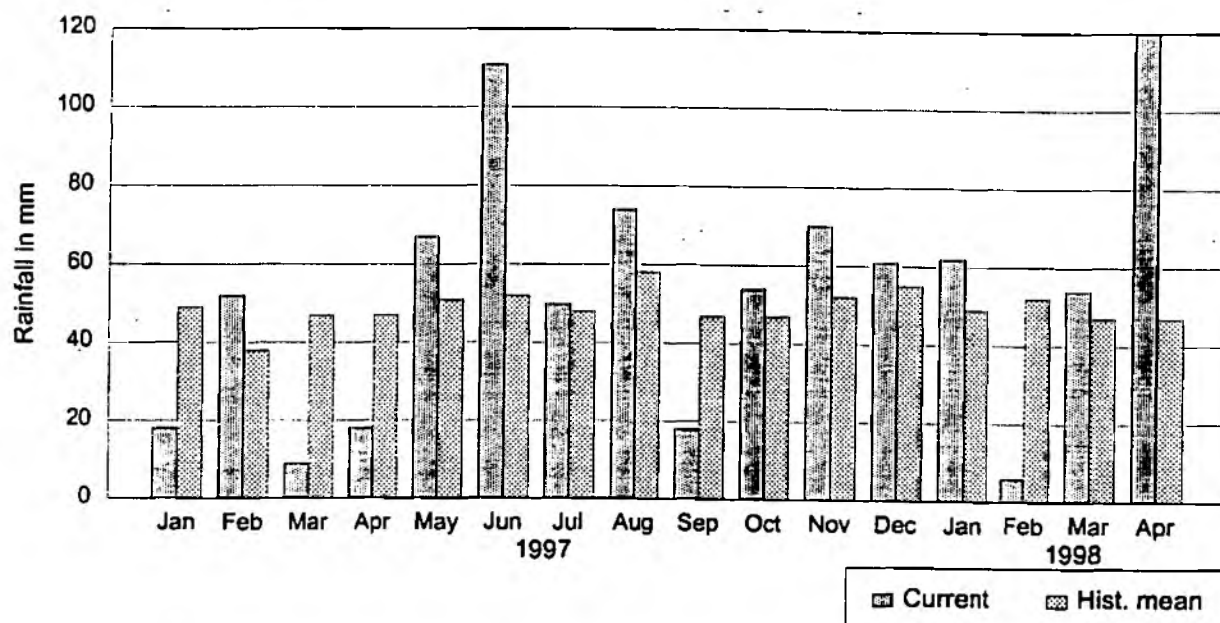
GRAPH 6



Areal Rainfall

GRAPH 7

Nene Catchment

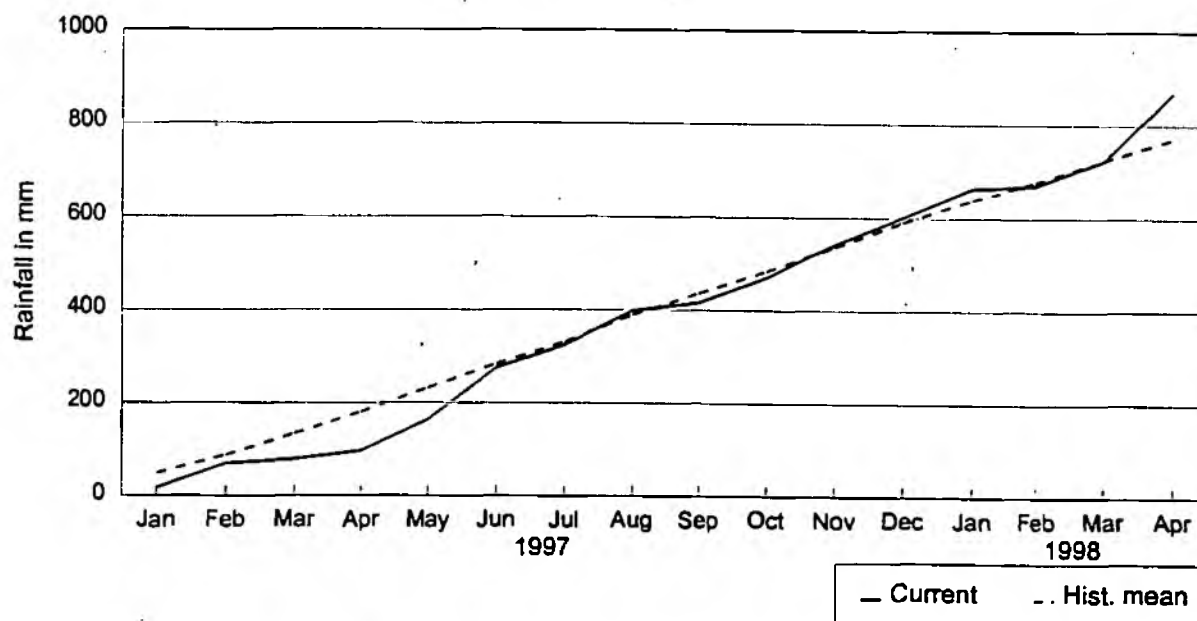


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Current	18	52	9	18	67	111	50	74	18	54	70	61	62	6	54	146
Hist. mean	49	38	47	47	51	52	48	58	47	47	52	55	49	52	47	47

Cumulative Areal Rainfall

GRAPH 8

Nene Catchment



FLOOD DEFENCE AND CONSERVATION REPORT

The Environment Agency has a duty to ensure that environmental issues are taken into account in all of its operational and regulatory activities. In 1997/98, Conservation staff continued to work with, and support all Agency functions to achieve this goal.

Regional Conservation staff are involved in the project appraisal process for Capital Flood Defence Schemes including guidance on environmental assessment requirements.

Area Conservation staff are responsible for an input into Flood Defence Maintenance works. Following an annual meeting to review the years works programme with the Catchment Engineer and his staff, a number of potentially sensitive sites were visited and proposed works discussed in detail. Wherever possible opportunities to enhance riparian habitats within the existing maintenance programme were identified.

Site visits, including walking of 106 km. of watercourse, were greatly assisted by the River Corridor Survey Database (RCS) which helps identify sensitive areas and sites most suitable for enhancement.

The continuing development of enhancement works as part of the maintenance programme includes not only site specific enhancements, but also best practice procedures for all types of maintenance works which enables the Agency to address many of the issues which may arise in the Local Environment Agency Plans.

Enhancement works are typically collaborative projects involving riparian landowners as, in most cases, some land is taken to achieve these objectives. Some notable examples are described in more detail below.

Wet grassland enhancement, River Glen, Nr. Pinchbeck West

This project involved the creation of 2 areas of wide berm within the River Glen embankments. The land is owned by the Agency although the Welland & Deepings IDB have the herbage rights. The tenancy had recently been acquired by the Lincolnshire Trust for Nature Conservation and following liaison with them, the Agency was able to carry out the enhancement work. This involved lowering the areas by up to 400 mm. and installing pipes fitted with non - return flaps which allowed more water onto the berms. The excavated material was then used to construct an access ramp over the bank.

This has resulted in an improved wetland habitat for wading birds such as snipe as well as a marginal increase in flood storage capacity. The soak dyke was also dredged in places to retain an open water habitat.

The project was jointly funded between Fisheries, Ecology & Recreation and Flood Defence.

Cont/d

Cont/d 1

Otter habitat enhancement, River Welland, Duddington

A group of three otters was introduced into the River Welland in 1994 and since then there have been several reports of breeding and numerous sightings including one at Duddington. In early January some large trees fell across the river at Duddington which provided ideal material for the construction of an otter holt. The trees were on an island thereby minimizing the chance of disturbance to the otters.

This project was funded by Flood Defence.

Tree planting, Welland and Nene Catchments

Significant areas of tree planting have been carried out throughout the catchment some of which include:

Southwick Brook/Stonepit Dyke, Perio

The planting of 3070 trees along approximately 0.5 km. of watercourse, resulting in the creation of some 400 m. of new hedge and the in-filling of gaps in existing hedges.

Lilford Lock, River Nene

The planting of 75 m. of hedge and 10 trees following the completion of lock refurbishment the previous year.

Weedon Bec, River Nene

As part of the enhanced maintenance scheme, a variety of tree species requested by the Parish Council, were planted including, Buckthorn, Rowan, Guelder Rose, Dogwood, Dogrose and Walnut.

All of the above were funded by Flood Defence.

FLOOD DEFENCE & OPERATIONS REVENUE ACCOUNT 1997/98

The Final Accounts are presented on the following page.

Variance Analysis

Notes explaining these variances are as follows:

Expenditure

Line No's 8-9 Overall maintenance expenditure, at £2,079k, was within 4 % of the revised budget, although there was some variation between fluvial and tidal elements.

Line 10 Other operational costs were below the budget. Main items of expenditure during the year were:

- a) Contribution to Internal Drainage Boards relating to highland water - £15k.
- b) Flood warning (excluding salaries) - £39k.
- c) Section 105 Surveys - £50k.
- d) River corridor surveys - £21k.

Line 11 - 13 Operational Support costs, at £1,289k, were within 1 % of the budget.

Line 14 The net cost of capital expenditure was £1,471k, some £216k or 12.8 % less than budget. A further £300k of Grant Earning Ceiling was allocated to the Committee late in the year, bringing the total to £700k compared to a grant eligible programme of £725k.

Reserves

Line 20 Income for 1997/98 totalled £4.86m, and expenditure £5.162m, resulting in a reduction to the Committee's balances of £302k, and a final balance of £734k carried forward into 1998/99.

This is £166k above the budget and represents approximately 14 % of gross expenditure.

WELLAND AND NENE LOCAL FLOOD DEFENCE COMMITTEE

FINAL ACCOUNTS 1997/98

(£000's)

LINE NO.		ACTUAL 1996/97	APPROVED BUDGET 1997/98	REVISED BUDGET 1997/98	ACTUAL 1997/98	VARIANCE
1	County Council Levies	3,783	3,821	3,821	3,821	---
2	Int. Drainage Board Precepts	705	532	532	532	---
3	General Drainage Charges	260	264	264	260	4
4	Other	180	60	60	64	(4)
5	Interest - Section 47 balances	126	120	145	147	(2)
6	- on Cash flow	38	29	34	36	(2)
7	TOTAL INCOME	5,092	4,826	4,856	4,860	(4)
8	Maintenance - Fluvial Main River	1,508	1,670	1,870	1,685	(185)
9	- Tidal/Sea Defences	193	125	126	394	268
10	Other Operational Costs	275	284	284	249	(35)
11	Operational Support: - Regional	1,011	1,026	1,026	1,031	5
12	- National	95	96	96	97	1
13	- NIS	153	155	155	161	6
14	Revenue Contribution to Capital	1,374	1,702	1,687	1,471	(216)
15	Working Capital	30	50	80	74	(6)
16	TOTAL EXPENDITURE	4,639	5,109	5,324	5,162	(162)
17	SURPLUS/(DEFICIT)	453	(283)	(468)	(302)	(166)

	RESERVE					
18	Section 47 Balances b/fwd	583	771	1,036	1,036	---
19	Surplus/(Deficit)	453	(283)	(468)	(302)	(166)
20	Section 47 Balances c/fwd	1,036	488	568	734	(166)

21	Grant Aided Works - Fluvial Main River	248	742	342	324	(18)
22	- Tidal/Sea Defences	1,285	358	358	401	43
23	Non Grant Aided Works	63	368	618	470	(148)
24	Design/Supervision	346	320	470	447	(23)
25	TOTAL EXPENDITURE	1,942	1,788	1,788	1,642	(146)
26	MAFF Grant	568	86	101	171	(70)
27	Deferred Payment	---	---	---	---	---
28	REVENUE CONTRIBUTION TO CAPITAL	1,374	1,702	1,687	1,471	(216)
29	Grant Earning Ceiling	1,100	400	400	700	(300)