

Nene Valley Water Level Management Strategy

**POSITION STATEMENT
SEPTEMBER 1996**



**ENVIRONMENT
AGENCY**

THE RISK TO RIVER STRUCTURES



IRTHLINGBOROUGH BYPASS WEIR FAILURE 1984

This structure failed in January 1984 following a period of sustained high water levels and flows. Its condition was not considered to be as dangerous as some other structures. Failure can occur totally without warning.

The incident resulted in localised fish mortalities. An industrial Abstractor's production process was disrupted for some time and a boat suffered damage. The consequences could have been significantly more severe if failure had occurred in summer.

Emergency works to reinstate the structure were completed within four weeks.

1. SUMMARY

The River Nene between Northampton and the Dog-in-a-Doublet Sluice, 7km east of Peterborough, is a major feature of the local landscape providing social, economic and environmental benefits.

The watercourse, as we know it today, is artificially controlled by a cascade of locks and other structures, (Plan 1). These retain a depth of water in summer and permit the passage of flood flows in winter. A number of structures are now reaching the end of their useful life. Without such structures, summer water depths would fall significantly - as low as 0.3m (1ft) or so in places - thereby affecting the whole water environment and the usage it supports. There is an opportunity to review current practices and to identify areas for improvements.

The Environment Agency wishes to develop a future management strategy compatible with its statutory duties and permissive responsibilities, which will optimise the potential of the River Nene. In order to do so, all parties with an interest in the river regime are being consulted. The opportunities for a Partnership approach to secure mutual benefits are being investigated. All sources of possible funding are also being considered.

2. INTRODUCTION

The Nene valley from Northampton to the lowest control structure at Dog-in-a-Doublet sluice lies within the boundaries of Northamptonshire and Cambridgeshire. The principal urban areas are at Northampton, Wellingborough, Oundle and Peterborough, interspersed with the many rural communities along the river length.

The landscape is dominated by the valley of the Nene itself with its wide flood plain - subject to regular flooding - and the meandering course of the river and its backwaters. For the majority of this length, the catchment is predominantly agricultural receiving water from the surrounding hills which are characteristic of the area. However, there is also ongoing development in the previously named towns which particularly impacts upon the catchment in terms of flood protection, water quality and conservation.

3. VALUE AND USE OF THE RIVER VALLEY

The river is a major asset to the community and currently satisfies many and various uses:-

- Navigation** The Nene is navigable between Northampton and the Wash and gives access to the Grand Union Canal and Middle Level systems. The system is mainly used by pleasure craft for which there is scope for growth.
- Flood Defence** The river provides the principal means to discharge floodwater. Inundation of the flood plains - twice per year is not uncommon - is characteristic of the valley and helps to protect residential and industrial properties elsewhere from flooding.
- Water Abstraction** The river provides a strategically important source for public water supply - a major abstraction is at Wansford - and private authorised abstractions.
- Effluent Discharge** The river receives discharges from major Sewage Treatment Works and industrial effluents from various sources.
- Mill Agreements** These assure the maintenance of certain weirs, sluices and embankments as well as water levels above the mills at certain localities.
- Fisheries** The river supports a good fish population, typical of lowland rivers in eastern England. Consequently, it is a valuable pleasure and match fishing venue.
- Conservation** There are diverse habitats within the river itself and the many feeder streams. The flood plain maintains many valuable wet meadows. The associated landscapes, some of which are protected; support a rich variety of flora and fauna.
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Tourism/Recreation The sheer beauty of the valley and its associated facilities attract many visitors for walking, sightseeing and other outdoor pursuits. This has a valuable impact on the economy of the area.

4. CURRENT ISSUES

Successful management of the water environment includes consideration of a wide range of interests and requirements which may sometimes be in conflict.

Public consultation via the Environment Agency (previously NRA) driven Catchment Management Plans (CMP's) has permitted a full range of water management issues to be identified for consideration. Extracts from the Upper and Lower Nene CMP's are given in Appendix 1.

5. IMPORTANCE OF RIVER CONTROL STRUCTURES

The river is artificially controlled between Northampton and Dog-in-a-Doublet by a series of lock structures and associated bypass channels, weirs and sluices. These occur at 39 different sites along the river length and provide the key to the operation of the river as we know it today.

Some of the structures date back to the 17th and 18th Century when the river was first controlled for milling purposes and later for navigation. The river was opened for navigation in 1761.

At each site the channel is generally split into a navigation channel and a flood discharge (bypass) channel. A typical arrangement is shown in Plan 2. At many locations there is also a mill stream and additional weirs/sluices.

The lock and mill structures are generally in a serviceable condition due to the continued high level of maintenance necessary for navigation and riparian mill rights.

However, many of the "river control" structures comprising 54 by-pass weirs and 42 sluices are reaching the end of their useful life. Some may be in imminent danger of collapse or failure.

The existing structures provide the means to retain a depth of water for navigation, and other uses in the summer months whilst permitting the passage of flood flows particularly in winter. Should any of these control structures be lost, water would no longer be artificially retained such that summer depths of water would fall from current minimum levels of approximately 1.2m (4ft), to only 0.3m (1ft) or so. Not only would this prevent navigation, but all other uses identified above would be affected. Other issues "identified" from the CMP's would also be significantly affected.

The strategic importance of the river control structures was recognised by the Environment Agency's predecessors, NRA. A mathematical model of the hydrology and hydraulics of the River Nene for flood defence purposes, has already been undertaken. A study also included a provisional assessment of benefits occurring from the structures which were insufficient to justify the costs of necessary works, in terms of flood defence, to sustain conditions in the valley, (approximately £10m over a period of 15 years).

In summary, the loss of the bypass and sluice structures would not be detrimental in flood defence terms, but would significantly affect navigation and other uses. Such issues and associated funding requirements therefore, have to be addressed.

6. PROJECT OBJECTIVES OF THE NENE VALLEY WATER LEVEL MANAGEMENT STRATEGY

Given the high level of investment involved and the far reaching implications of the way the river is managed, the Environment Agency set up a Project Team in early 1996 including representatives from Northamptonshire County Council, Northamptonshire Wildlife Trust and the Ministry of Agriculture, Fisheries and Food. The Team is to identify a management strategy for the Nene valley. This shall include the following:

- Liaise with external bodies to achieve a "partnership approach" to the strategy having regard to Local Authority Plans, Local Agenda 21, sustainable development and other organisational plans and strategies.
- Identification of legal obligations and responsibilities on the Environment Agency and other organisations.
- Undertake a strategic environmental assessment to satisfy the Environment Agency's statutory duties, The Habitats Directive and the UK's commitment to bio diversity.
- Consider various options for the future water level management of the river to satisfy the above and to satisfy issues in the CMP's.
- Consider opportunities for enhancements.
- Undertake a full appraisal of options and opportunities.
- Produce a management plan, identifying any works to be implemented in the short, medium and long terms.
- Consider potential sources of funding, both within the Environment Agency and from external bodies.

7. PARTNERSHIP APPROACH

As identified above, the Environment Agency is keen to ensure that all opportunities to manage the river valley to optimum effect are actively considered. In view of the current condition of some of the river structures now is the time to involve all interested parties such that benefits may be secured for the future.

The potential for enhancements is great and to further this review a partnership approach is proposed. Local communities, local authorities, utility groups, wildlife trusts, developers, angling clubs, river user groups and other interested parties are invited to participate. It is important that opportunities for improvements are not missed.

8. THE WAY FORWARD

Consultation with all affected parties and co-operation within a partnership framework are key to the success of the management strategy.

This 'Position Statement' is being circulated to various interested bodies and potential partners as a first consultation document. A list of consultees is given in Appendix 2.

This will be supported by a "Conference" in October 1996 to review the current status of the river valley system and to identify preliminary interests and objectives of the various identified parties.

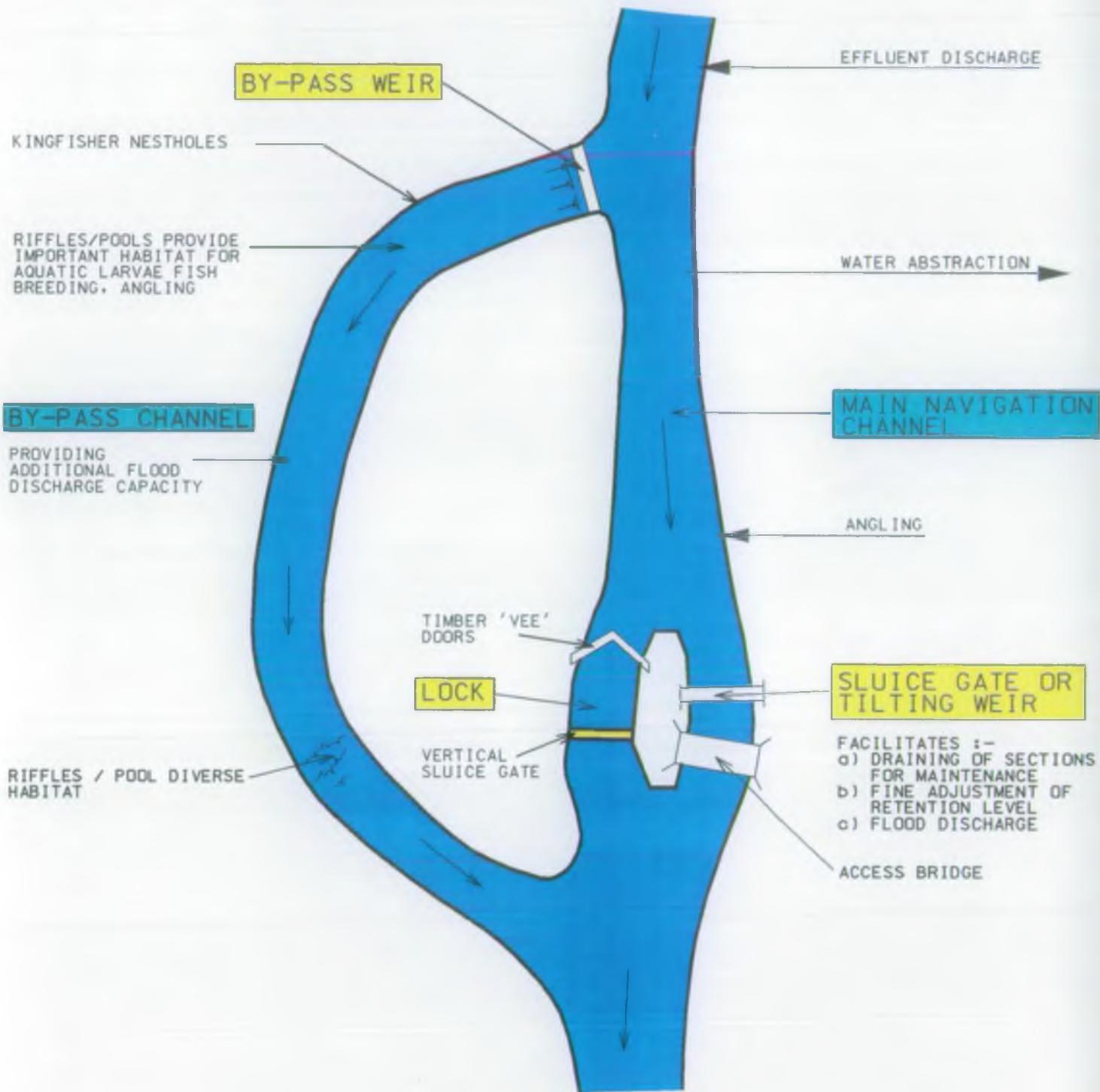
Close liaison will then follow to ensure that statutory obligations are fulfilled and that all reasonable opportunities to enhance the future of the valley are secured.

Timescale for the production of the strategy will be dependent on the extent of interest from consultees and partners alike. It is anticipated that this could be within the next 2 years.

Plan 1:
Control Structure Sites



Plan 2:
Typical Layout at Each Set of Control Structures



**APPENDIX 1
RELEVANT
CURRENT ISSUES
IDENTIFIED IN
CATCHMENT
MANAGEMENT
PLANS**

UPPER NENE CMP

- Many river control structures on the Nene are reaching the end of their useful life and require either a high level of maintenance or completely rebuilding.
- The level of protection to properties against flooding is inadequate in certain locations, (mill properties).
- There has been a significant decline in the area of wet/flood grassland in the catchment.
- The free passage of fish upstream and downstream is restricted by physical barriers.
- The River Nene fails to meet water quality objectives as a consequence of nutrient enrichment, ie eutrophication.
- Areas of river channel and river corridor have been identified as having low plant species diversity.
- Areas of river bed in rapid and fast flowing stretches have been identified as having low habitat diversity.
- The following watercourses fail to comply with proposed River (formerly Fishery) Ecosystem objectives: River Nene (Ecton to Wollaston Lock); River Ise; Raunds Hog Dyke; Grand Union Canal.
- The following watercourses are NWC Class 3 or 4 (poor quality); River Nene (Ditchford to Denford).

LOWER NENE CMP

- Current and future water demands cannot be met to target standards of reliability ie (i) from the River Nene for spray irrigation, industry and navigation purposes (ii) from IDB areas for spray irrigation (iii) in winter and summer to meet internationally important conservation purposes on the Nene Washes.
- The Agency does not have effective regulatory control over water abstractions from the River Nene.
- Free passage of migratory fish is prevented by Dog-in-a Doublet Sluice (already resolved by construction of Fish Pass).
- Habitat diversity downstream of Peterborough is low.

**APPENDIX 2
LIST OF CONSULTEES**

The following is a list of consultees who have been sent a copy of the Nene Valley Water Level Management Strategy Position Statement and an invitation to the forthcoming Conference. The list is not necessarily exhaustive and the Agency would welcome any comments on the comprehensiveness of the list and any suggestions for additional consultees.

**County and Local
Councils**

Cambridgeshire County Council
Daventry District Council
Kettering Borough Council
Peterborough City Council
Wellingborough Borough Council

Northamptonshire County Council
East Northamptonshire District Council
Northampton Borough Council
South Northamptonshire District Council

**Angling
Organisations/
Clubs**

Alumasc
Brickworth Angling Club
Cotterstock Angling Association
Deeping St James Angling Club
East Midland Federation of Anglers
Irthlingborough and Raunds Angling Club
Leicester and District Angling Club
Long Buckby Angling Club
National Federation of Anglers
Northampton Nene Angling Club
Oundle Angling Association
Peterborough and District Angling Association
Salmon and Trout Association
Sibson Fisheries
Thrapston Sailing Club Fishery
Wadenhoe Trout Fishery
Warminton Angling Club
Wellingborough and District Angling Club
Welland and Nene Anglers' Consultative Association

Asfordby Society of Anglers
Broughton Lake Fly Fishers
Coventry and District Angling Association
Earls Barton Angling Club
Far Cotton Angling Club
Kettering and Thrapston and District Angling Association
March and District Angling Association
Northampton Castle Angling Association
Orton Tackle Angling Club
Perro Mill Trout Fishery
Ringstead Angling Club
Sheffield Piscatorial Society
Spratts Angling Club
Towcester Angling Club
Wansford, Yarwell and Wassington Angling Club
Willow Brook Flyfishers

**Sports and
Recreation
Associations and
Clubs**

Association of Nene River Clubs
Byways and Bridleways Trust
British Association for Shooting and Conservation
Long Distance Walkers Association
Middle Nene Cruising Club
Mill Marina Cruising Club
Northampton Canoe Club
Peterborough Cruising Club
Proteus Canoe Club
Sports Council

Association of Waterways Cruising Clubs
British Sports Association for the Disabled
British Canoe Union
Elton Boat Club
Middle Level Watermans Club
Middle Nene Sailing Club
Northampton Boat Club
Northampton Rowing Club
Peterborough Yacht Club
Ramblers Association

**Landowners,
Marinas and
Boatyards**

Beesley, J.E
Billing Aquadrome Ltd.
Branson Boats
Carress, D
Cottersbrooke Estates
Elderton, C
Howard Farms
Jacksons Boatyard
Matts, T.C and Sons
Oundle Marina
Peterborough Boating Centre
Princess Yachts
Short, R

Bierton, A.S
Booker, T
Brightwell, P
Chudly, D
Davidge, C.
Gent, R.L
Inglis, P.W
Marks, Mr
Moody, D.W
Padbury, C.J
Pioneer Aggregates Ltd.
Reeden, J
Skewbridge Ski Club Ltd.

Smith E.J
Sumner, C.W
Willmott, G
Wilson (Connelly) Properties
York, K

Stibbington Boatyard
Whitworths Mill
Willy Watts Marina
Yarwell Mill

**Other Organisations
and Interest Groups**

ADAS
British Waterways
Cambridgeshire Wildlife Trust
Council for the Protection of Rural England
(CPRE)
English Nature
Farming and Wildlife Advisory Group (FWAG)
Forest Enterprise
Middle Level Commissioners
National Farmers Union
Northamptonshire Wildlife Trust
Royal Society for the Protection of Birds (RSPB)
Members of the Environment Agency
Area Environment Group (AEG)

Anglian Water
Cambridgeshire County Archaeologist
Commissioners for New Towns
Countryside Commission
Country Landowners Association (CLA)
English Heritage
Forestry Authority
Inland Waterways Association
Millenium Trust
Northamptonshire County Archaeologist
The Otter Trust

MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including government.

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ENVIRONMENT AGENCY



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For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

0645 333 111

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

ENVIRONMENT AGENCY EMERGENCY HOTLINE

0800 80 70 60



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