

Nene LEAP Annual Review 2001

EA - ANSQUAN LEAPS - Box 4.

Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
1a Competing demands for water during periods of low flow threaten the ecological needs of dependent river and wetland systems.	Continue with and use operational experience to improve upon current procedures for allocating water.	Middle Level Commissioners IDBs; Nene Washland Commissioners; English Nature; RSPB	01/04/99	31/03/05	Underway - Started On Time	<p>The irrigation ban placed on Willow Brook by MAFF due to brown rot is still in place and has been extended to the confluence with the River Ise. A proactive campaign to eliminate Woody Nightshade, the host plant for Brown Rot, from the river banks is continuing. The irrigation ban may help reduce demand.</p> <p>Continuing high rainfall has meant no extreme low flows on the River Nene have been experienced and therefore there have been no competing pressures on demand.</p>
	Encourage the development of winter storage reservoirs in the Middle Level system to reduce summer demand through Stanground Lock.	Farmers Middle Level Commissioners	01/04/99	31/03/05	Underway - Started On Time	<p>Due to the unavailability of resources for summer abstraction, winter storage remains the only option in the catchment. The Agency is pursuing opportunities to install winter storage reservoirs through the recently introduced Rural Development Plan (Rural Enterprise Scheme).</p>

2/Incomplete

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1a (Cont.)	Consider the possibility of introducing effluent from Flag Fen STW to the non-tidal Nene.	AWS	01/04/00	31/03/05	Underway - Started On Time	<p>The Lower Nene and Nene Washes have been identified within the Agency's National Environment Programme. The intention is to scope monitoring needs this winter in time for undertaking monitoring over the summer low flow period next year.</p> <p>Flag Fen effluent is being used at Peterborough Power Station in an innovative new scheme. Mains public water was used in the gas fired power station as part of the cooling process but now effluent which has gone through a microfiltration process is used, helping to reduce the demands on the public supply.</p>
	Develop and prioritise Catchment Abstraction Management Strategies (CAMS).			31/03/05	Pending	The Nene LEAP will be the second CAM to be produced in Northern Area and work is currently programmed to commence in 2002.
	Carry out a hydro-ecological review of wetland functionality at selected European (cSAC and SPA) sites.		01/04/00	31/03/02	Underway - Started On Time	The review will increase and develop the understanding of hydrology/ecology linkages and their relationship with the consents issued by the Agency. The project started in September 2000 and is running to schedule with the expected end date of March 2002. The project is managed regionally.

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1b There is insufficient knowledge on the environmental impact of abstraction for public water supply on the Nene, Nene Washes and Nene estuary during drought periods.	Carry out an independent study in order to agree on a robust drought contingency plan in readiness for drought periods.	AWS (lead partner); English Nature RSPB	01/04/99	31/03/01	Completed	A report has been produced by WRc in May for AWS. English Nature, RSPB and the Agency were on a joint steering group for the project. The outcomes of the report will input directly into the appropriate assessment by the Agency as a requirement of the habitats directive.
	Develop reservoir control curves as part of a drought contingency plan.	AWS (lead partner)	01/04/00	31/12/00	Completed	All water companies have produced drought contingency plans as a Government requirement. These drought plans have been assessed by the Agency, and the Agency will report to government. These will be reviewed on an annual cycle.
	Consider changes to the Wansford minimum residual flow to protect conservation objectives.	English Nature RSPB; AWS	01/04/00	31/03/05	Underway - Started On Time	The abstraction licence at Wansford will be reviewed as a requirement of the Habitats Directive.

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1b (Cont.)	Develop and apply LIFE (Lotic-invertebrate Index for Flow Evaluation) methodology.		01/04/00	31/03/05	Underway - Started On Time	The scoping study has been completed and a national development project will be undertaken. This will allow better assessment of the flow needs of a watercourse. LIFE will only show flow stress where there is at least some riffle habitat. It therefore appears to work on most Main Rivers in the Nene Catchment, but not on wetlands or where the substratum is silt.
	Develop and prioritise Catchment Abstraction Management Strategies (CAMS).			31/03/05	Pending	Development of the Nene CAMS will begin in 2002.
1c There is insufficient water available in summer to meet the needs of any future growth in demand for spray irrigation from the area of the North Level IDB that is fed from the Nene via the slacker at the Dog-in-a-Doublet.	Encourage winter abstraction for storage in reservoirs.	Farmers	01/04/99	31/03/05	Underway - Started On Time	This is an ongoing policy. Opportunities are also now being promoted through the Rural Development Plan's Rural Enterprise Scheme.

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1c (cont.)	Develop and prioritise Catchment Abstraction Management Strategies (CAMS).			31/03/05	Pending	The Nene CAMS will be commenced in 2002
2a There has been a significant reduction in the area of and species associated with river and wetland habitats.	i) Habitat Continue to participate in the development and implementation of local BAPs for River and Wetland species and habitats.	BAP Groups (lead partner); Land-owners	01/04/99	31/03/05	Underway - Started On Time	<p>The draft BAP for Northamptonshire has been published and the finished plan should be published very shortly. It will be available on the Internet, CD ROMS will also be produced.</p> <p>The Cambridgeshire and Peterborough BAP was published in April 2000 and the Agency played a key role in its development. The Agency is leading on many actions and is a partner organisation for several others.</p>

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
2a (Cont.)	ii) Habitat Help protect existing areas of wetland habitat.	English Nature; RSPB; Wildlife Trusts; FWAG ; Country-side Agency; Local Authorities Nene Valley Project	01/04/99	31/03/05	Underway - Started On Time	<p>An environmental appraisal of the proposed flood defence improvements for the Northampton area identifies a number of opportunities for enhancing river and wetland habitats along the Nene corridor which will be pursued.</p> <p>In a project with Oundle Town Council, landowners and NVP near North Bridge to excavate an old ditch system, sluices are being installed to raise water levels on the site through spring and summer.</p> <p>A desk-based project with the Wildlife Trust and county Flora recorders is identifying the location of rare wetland plants. This is now complete for Peterborough. (Northamptonshire was completed the previous year).</p>
2a (Cont.)	i)Habitat Where opportunities exist create new areas of wetland habitat, such as restoration of the natural floodplain.	Countrysid e Agency; English Nature; FWAG; Local Authorities RSPB; Wildlife Trusts; Nene Valley Project	01/04/99	31/03/05	Underway - Started On Time	Flood defence maintenance programmes are submitted to the Agency's Conservation Function prior to operations beginning, so that potentially sensitive operations can be identified.

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	i)Habitat Introduce habitat enhancements during both routine maintenance and capital works to deliver national and the developing local BAP targets.	Nene Valley Project (lead partner)	01/04/99	31/03/05	Underway - Started On Time	<p>This action is being progressed through the Nene Waterways Partnership, and enhancements are included in routine and capital works as opportunities arise.</p> <p>The Nene Valley Project has also introduced habitat enhancements at a number of locations, most of which are in the Northampton area.</p> <p>As well as avoiding habitat deterioration and seeking opportunities for habitat enhancement, operating authorities also now have an obligation to report all losses and gains of BAP habitats as a result of their flood and coastal defence operations.</p>
	i) Habitat Introduce habitat improvements in association with the NWP to deliver the national and local BAP targets being developed.	English Nature Local Interest Groups RSPB	01/04/99	31/03/05	Underway - Started On Time	<p>Opportunities which have arisen so far include wet grassland creation and improved bird habitat at Woodford and Eaglethorpe.</p>

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2a (Cont.)	i) Habitat Complete and agree Water Level Management Plans to ensure water levels are at a sufficient level to sustain the natural habitat.	IDBs RSPB; Wildlife Trusts; Land-owners Local Authorities	01/04/99	31/03/01	Over-running - Started On Time	WLMPs have been completed for 9 sites in the Nene catchment. The Plan for Southfield Farm & Marsh will be completed shortly and the plan for Wadenhoe Marsh & Achurch Meadow is awaiting ratification from English Nature.
	i) Habitat Implement recommendations of Water Level Management Plans.	English Nature; IDBs; Wildlife Trusts; Land-owners Local Authorities	01/04/00	31/03/05	Underway - Started On Time	The automation of Morton's Leam Sluice has not yet been completed, as the Agency is awaiting the results of the Nene Model.
	ii) Otter Carry out surveys to assess the current distribution of otters.	English Nature; Wildlife Trusts.	01/04/99	31/03/04	Underway - Started On Time	Studies into otter distribution are planned as part of the NWP. Where protected and priority species such as otter are known to be present from surveys, management programmes are reviewed and agreed or modified. The Agency's Conservation function visit sites to ensure that the agreed programme is followed.

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2a (Cont.)	ii) Otter Continue with the habitat enhancement schemes in priority areas along the Nene Valley.	English Nature; Nene Valley Project; Wildlife Trusts.	01/04/99	31/03/05	Underway - Started On Time	The recommendations of surveys such as the study described under Issue 2aii(i) are fed into habitat enhancement schemes and flood defence maintenance programmes and other works. They also form best practice guidance for the Agency.
	ii) Otter Participate in the development and implementation of local BAPs for the otter.	BAP Groups	01/04/00	31/03/05	Underway - Started On Time	This is ongoing. The draft BAP for Northamptonshire is complete and the final document is due out shortly. The Agency has had a large input in formulating Habitat and Species Action Plans. The Cambridgeshire and Peterborough BAP was published in April 2000 and the Agency had a large input to its formulation.
	iii) Breeding waders Carry out a survey to establish the location of current breeding wader sites in Northamptonshire.	Wildlife Trusts; RSPB; English Nature	01/04/99	31/03/00	Completed On Time	Following on from the survey in 1999, a further wader survey was due to take place this year; however due to foot and mouth restrictions this will now be carried out in 2002.

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2a (Cont.)	iii) Breeding waders Manage existing wader sites in a sympathetic manner.	Land-owners English Nature; RSPB Wildlife Trusts FRCA	01/04/99	31/03/05	Underway - Started On Time	This is ongoing and includes liaison with landowners where appropriate. Advice on Countryside Stewardship schemes is also provided.
	iii) Breeding waders Explore the possibilities of creating new wet grassland sites for breeding waders.	English Nature; RSPB; Wildlife Trusts; Nene Valley Project; FRCA; Land-owners	01/04/99	31/03/05	Underway - Started On Time	As above
	iii) Breeding waders Complete and agree Water Level Management Plans to ensure water levels are at a sufficient level to sustain the natural habitat.	English Nature; RSPB; IDBs; Wildlife Trusts; Landowners Local Authorities	01/04/99	31/03/01	Over-running - Started On Time	WLMPs have been completed for 9 sites in the Nene catchment. The Plan for Southfield Farm & Marsh will be completed shortly and the plan for Wadenhoe Marsh & Achurch Meadow is awaiting ratification from English Nature.

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2a (Cont.)	iii) Breeding waders Implement recommendations of Water Level Management Plans.	English Nature; RSPB; IDBs; Wildlife Trusts; Land owners Local Authorities	01/04/00	31/03/05	Underway - Started On Time	The automation of Morton's Leam Sluice has not yet to be completed, as the Agency is awaiting the results of the Nene Model first.
2b The introduction of invasive alien plant and animal species threatens the ecological diversity of our natural environment.	i) Alien and native flora Identify sites where invasive alien plant species have become established.	English Nature; RSPB; Land owners Wildlife Trusts	01/04/99	31/03/05	Underway - Started On Time	An informal monitoring scheme between Conservation and Flood Defence staff is now in place. The general situation remains largely unchanged, although the introduction of species such as <i>Lagarosipon</i> in the Southern Township may pose a risk to the Nene Washes.
	i) Alien and native flora Carry out appropriate measures to destroy alien plant species at identified sites, where possible.	Land owners	01/04/99	31/03/05	Underway - Started On Time	This is carried out as opportunities arise. The chosen method of control depends on site conditions and on how well established the plant has become.

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2b (Cont.)	i) Alien and native flora Provide advice on the control of alien invasive weeds.		01/04/99	31/03/05	Underway - Started On Time	Agency Biology Section staff are British Agrochemical Standards Inspection Scheme (BASIS) registered to provide advice on alien invasive plants. The Agency produces leaflets to advise the public on alien invasive weeds.
	i) Alien and native flora Publicise the risks associated with the spread of invasive alien flora and fauna.	English Nature	01/04/99	31/03/05	Underway - Started On Time	An Agency leaflet entitled "Guidance for the Control of Invasive Plants near Watercourses" is available on request.
	ii) American mink and water vole Carry out further surveys to assess the changing distribution of water voles and American Mink.	English Nature ; Wildlife Trusts	01/04/99	31/03/00	Completed On Time	Results of previous surveys have been fed into flood defence works and maintenance programmes. Where protected and priority species such as water vole are known to be present, flood defence management programmes are reviewed and modified in liaison with the Agency's Conservation Function.
	ii) American mink and water vole Promote discussions regarding the control of mink by landowners.	FRCA (lead partner); Land owners	01/04/99	31/03/05	Underway - Started On Time	The Agency itself does not have responsibility for control of mink, but provides advice on the problem. ADAS offers advice on the control of American Mink.

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2b (Cont.)	ii) American mink and water vole Set up and monitor "key" sites for water voles to alert of any population changes.	Wildlife Trusts	01/04/00	31/03/05	Underway - Started On Time	Monitoring has now been set up on three sites on the Swanspool Brook in collaboration with the Wildlife Trust and Wellingborough BC as part of a project to increase community involvement in water vole monitoring The water vole population on the Swanspool Brook in Wellingborough is now one of the most important populations in the Nene Valley. Flood defence works have been modified accordingly.
	ii) American mink and water vole Participate in the development and implementation of local BAPs for species such as water vole.	BAP Groups (lead partner)	01/04/99	31/03/05	Underway - Started On Time	The water vole population is being maintained and enhanced through liaison with landowners, local authorities, the Wildlife Trust and NVP on our bankside mowing regimes! In recent years, both the Agency and Wellingborough BC have mown the banks of the Swanspool Brook at different times of year. Through a project with the council and Northants WT to further community involvement in water vole monitoring, a joint management programme for Swanspool Brook will be agreed.
	iii) Alien and native crayfish Assess the current distribution of native and alien species.	English Nature; Wildlife Trusts.	01/04/99	31/03/00	Completed On Time	Native crayfish have now been found on the River Ise, in addition to the Welton Arm of the Nene.

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2b (Cont.)	iii) Alien and native crayfish Establish closer links with conservation organisations to monitor the spread of non-native species.	English Nature; Wildlife Trusts	01/04/99	31/03/00	Completed On Time	A joint project between the Wildlife Trust and Agency has been carried out to survey the area and make recommendations. All known data has now been collated. Further surveys will be carried out this year.
	iii) Alien and native crayfish Participate in the development and implementation of local BAPs for species such as the native crayfish.	BAP Groups (lead partner)	01/04/99	31/03/05	Underway - Started On Time	This is ongoing. The draft BAP for Northamptonshire is complete and the final document is due out shortly and the Agency has had a large input in formulating Habitat and Species Action Plans.
	iii) Alien and native crayfish Carry out a survey/report to help conserve and enhance the native crayfish and their habitat.	Wildlife Trusts	01/04/99	31/03/05	Underway - Started on Time	A walkover survey is planned on the Whilton Arm of the Nene as a follow up to the discovery of a native crayfish on the Welton Arm at Geddington last year. This will determine the likely source area for the individual native crayfish. A survey will be carried out this Summer.

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2b(cont.)	iii) Alien and native crayfish Implement the recommendations of the report.			31/03/05	Overdue	Recommendations are forthcoming.
	iii) Alien and native crayfish Produce information sheets for members of the public, specifically farmers and anglers, on the alien crayfish problem.	Wildlife Trusts	01/04/99	31/03/00	Completed On Time	Information sheets have been produced and their distribution has been targeted in the Welton Arm area.
3a The upstream and downstream free passage of fish is restricted on the Nene.	Install fish passes at structures in order of priority.		01/04/99	31/03/05	Underway - Started On Time	A pass has been installed on the River Ise at Burton Latimer.
	Include fish passes at any new structure or reconstructed structure.		01/04/99	31/03/05	Underway - Started On Time	A pass may be installed at Geddington as part of a flood defence scheme. The Fisheries function is routinely consulted whenever it is planned to build or reconstruct any weir or sluice. A decision is then made as to whether a fish pass would be beneficial at that location.

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3a (Cont.)	Remove structures that are no longer required.		01/04/99	31/03/05	Underway - Started On Time	This will be carried out as suitable opportunities arise.
	Carry out habitat enhancements as recommended in the 1996 report.	English Nature; Land-owners	01/04/00	31/03/01	Over-running - Started On Time	We are also hoping to provide fish refuges on the River Nene by opening up old back channels and providing deeper water areas when the river is in flood.
3b There has been an apparent decline in the grayling population on the River Ise.	Increase our detail of monitoring in order to acquire more knowledge about the grayling population.		01/04/99	31/03/02	Underway - Started On Time	Survey work has shown that grayling are now spawning on the Ise, and that numbers downstream of Geddington have increased.
3c There is insufficient data to allow the effective management of the River Nene eel fishery.	Assess the current status of the eel stock in the Nene catchment.		01/04/99	31/03/05	Underway - Started On Time	A report has now been produced reviewing the data on the River Nene eel fishery. This confirms the decline in numbers but recommends that additional monitoring is carried out in order to quantify the decline. We are currently awaiting guidelines on how we should be implementing the recommendations of the national R&D into eel stocks.

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3c (Cont.)	Review existing enforcement activity with the aim of increasing the effectiveness against unlicensed eel fishing.			31/03/01	Overdue	Illegal poaching of eels further reduces the limited revenue the Agency receives to fund this fisheries work.
3d The condition of the fishery on the tidal Nene is unknown.	Plan the fishery monitoring programme to increase our knowledge of the tidal fishery.		01/04/00	31/12/00	Over-running	Planned changes to the monitoring of freshwater fisheries have meant that we have been unable to allocate resources to this problem as readily as we would have wished. It is expected that staff time will be allocated to this issue in spring 2002.
	Implement the monitoring programme.		01/04/00	31/12/00	Cancelled	The tidal survey will no longer take place due to changing priorities.
4a The condition of river control structures on the Nene threatens the integrity of the Nene navigation.	Pursue project opportunities identified in the NWP to fund structural repairs.	Local Authorities English Nature; Wildlife Trusts; Nene Valley Project	01/04/99	31/03/05	Underway – Started On Time	Capital works have been carried out over the past year at Elton and Perio, and more are planned for the year ahead. New bridges are now in place at Elton, and the weir has been rebuilt, whilst several surveys of the structures have been carried out.
	Seek alternative funding.		01/04/99	31/03/05	Underway – Started On Time	This is ongoing and opportunities for funding are also being pursued through the NWP.

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4b Amenity services for navigation users on the Nene are below the standard expected for the current level of use.	Improve navigation facilities as specified in the navigation strategy.		01/04/99	31/03/05	Underway – Started On Time	Work is progressing on improving facilities for navigation users on the Nene. The following projects are currently underway – conversion of more locks from manual to electric operation (including a solar powered gate at Titchmarsh), improved emergency moorings and better signage at locks. Work has also commenced to improve canoe portage facilities around the locks.
	Improve canoe access along the Nene, such as around locks.	Nene Valley Project; Canoe Clubs	01/04/99	31/03/05	Underway – Started On Time	Canoe access along the Nene has been improved significantly over the past year through the NWP, especially around locks e.g. at Cogenhoe and Whiston. A number of canoe portage points were also built last year, and more works are planned.
4c Members of the public place themselves in danger by swimming in the catchment's watercourses.	Identify areas where the problem is most severe and carry out increased enforcement activity.		01/04/99	31/03/05	Underway – Started On Time	To reduce the risks from children climbing on the lock guillotine gates and using them to dive into the river, work is underway to remove the gates at some of the locks, replacing them with a conventional pointing door. It is planned for site work to commence in October. This will result in the river being closed until the following April.
	Carry out an education campaign at schools, clubs and libraries.	Local Authorities	01/04/99	31/03/05	Underway - Started On Time	This action is currently being planned by Agency staff and the local authorities, and publicity materials are being developed.

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4c (Cont.)	Erect warning signs on Agency structures along the Nene and its tributaries.	Local Authorities	01/04/99	31/03/05	Underway - Started On Time	This action is currently being planned by Agency staff and the local authorities.
4d Routine biological and chemical monitoring indicates poor water quality at a number of sites/stretches in the Plan area.	i) Raunds Hog Dyke Seek additional funding to improve effluent quality.	AWS	01/04/99	31/03/01	Completed Early	The treatment plant has now been installed and is fully operational.

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4d (Cont.)	i) trace sources of polluting discharges ii) carry out a proactive pollution prevention campaign iii) Assess the need for further action	AWS	01/04/99	31/03/01	Completed Early	<p><i>Willow Brook - Northern Stream</i> Due to the tracing of an intermittent discharge and the identification of several misconnections from a local housing estate, GQA has improved dramatically and there has been no failures on the latest 3 year amount of data. A contributory factor has been the diversion of dry weather flows from industrial estates to foul sewers.</p> <p><i>Willow Brook - Northern Stream to Deene Lake</i> This stretch only fails on BOD and it is anticipated that total compliance will be achieved in the near future. Routine monitoring will identify any changes in the watercourse and further action will be undertaken if necessary.</p>
	iv) Counter Drain-Headwaters to Dog-in-a-Doublet Carry out the capital works at Flag Fen STW to improve effluent quality.	AWS	01/04/99	31/03/00	Completed On Time	Improved effluent quality as a result of the capital works has meant a reduction in BOD and NH3 to RE4 standards from July 1999. Currently it is still classed as failing due to the three year rolling programme

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4d (Cont.)	v) Tidal Nene-Dog-in-a-Doublet to the Wash Carry out the capital works at Flag Fen STW, thus improving the water quality of the Counter Drain and Tidal Nene.	AWS	01/04/99	31/03/00	Completed On Time	The watercourse has now improved sufficiently to meet RE2 standard.
	vi) Grand Union Canal- Gayton to Crick Continue routine monitoring to confirm the effectiveness of action to date.		01/04/99	31/03/04	Underway - Started On Time	BOD continues to reduce, though oxygen levels are still supersaturated at times. Nutrient stripping has now been installed at Whilton STW- a legal requirement under the Urban Wastewater Treatment Directive.
	vii) Failures due to drought periods. Monitor water quality during periods of normal rainfall.		01/04/99	31/03/04	Underway - Started On Time	The following had recorded significant RE failures for dissolved oxygen due to reduced flows: River Nene (headwaters to Whilton branch) – this is now passing. River Nene (Whilton branch to Bugbrooke) – this is now a marginal failure River Ise (SP974730 to Nene confluence) – still failing but is no longer a concern due to lack of low flows.

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4d (Cont.)	vii) Failures due to drought periods Carefully consider the impact of any additional abstraction proposals from these stretches.		01/04/99	31/03/04	Underway - Started On Time	The Agency considers implications for water quality in abstraction licence procedures. These matters will also be considered in the formulation of Catchment Abstraction Management Strategies (see Issue 1a).
4e Nutrient enrichment of watercourses in the Plan area impacts on water quality and affects flora and fauna and other uses of water such as navigation, amenity and fishing. River ecosystem targets can be compromised.	Gather/review data from waters which show symptoms of eutrophication.		01/04/99	31/03/04	Underway - Started On Time	All major STWs are now covered by UWWTD requirements for nutrient stripping. In addition to chemical phosphate stripping at Great Billing, Anglian Water Services have recently commissioned a biological phosphate removal plant.
	a) River Nene and Grand Union Canal Monitor the effect of phosphate removal at qualifying discharges.		01/04/99	31/03/04	Underway - Started On Time	This is ongoing and the results of monitoring will be used to assess the effectiveness of the phosphate removal measures.

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4e (Cont.)	b) Pitsford Reservoir Develop a reservoir action plan to help manage the problem of eutrophication at Pitsford.	AWS; English Nature	01/04/99	31/03/01	Completed	This Plan has been developed.
	b) Pitsford Reservoir Implement the action plan.	AWS ; English Nature		31/03/04	Overdue	This is awaiting action.
4f Chemical monitoring has revealed failures against the EC Dangerous Substances Directive at two sites within the Nene catchment.	1) Willow Brook (Central Stream) at Weldon Monitor the stream quality.		01/04/99	31/03/01	Completed Early	There have been no failures since British Steel (Corus) has improved the buffering of the waste through the effluent treatment plant.

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4g The possible presence and effect of persistent substances in waters discharging from the Nene to the Wash is of concern (see also Wash 11).	Assess the quantities and effects of persistent substances in Nene sediments.		01/04/99	31/03/01	Over-running - Started On Time	Pesticide residues and sprouting inhibitors from food processing effluents were identified as the possible sources of pollution. Improved effluent treatment processes have been installed to ensure removal. Discharge consents have also been reviewed. Sediment analysis has now confirmed improvements. The Agency is now working with the relevant authorities to achieve further improvements with a view to eliminating contamination through setting tighter consent limits.
	Liaise with industry and agriculture with a view to minimising or eliminating inputs.	Industries; Farmers MAFF	01/04/99	30/03/05	Underway - Started On Time	Ongoing. Liaison continues with several dischargers regarding improved effluent treatment, and the matter is considered as consents are issued.
4h Salinity in the South Holland Main Drain adversely affects fisheries.	i Review maintenance of the tidal sluice. ii operate the bubble curtain to reduce salinity. iii Continue chemical and biological monitoring and surveys	South Holland IDB (lead partner)	01/04/99	31/03/05	Underway	Recent high flows mean that salinity levels are no longer a pressing concern. Responsibility for the operation of the bubble curtain now resides with South Holland IDB. It has not been operated so far this year due to high flows

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4i Opportunities exist to enhance recreation in the Nene Valley.	Promote spatial and temporal zoning for different recreational activities.	Local Authorities	01/04/99	31/03/05	Underway - Started On Time	We have recently begun to target specific areas on the river to produce a portfolio of locally specific recreation and conservation projects that could be implemented if funding becomes available. Two sections at Thrapston and Earls Barton have been covered so far. This is in addition to the ongoing work with Fens Tourism and Nene Valley project.
	Enhance recreation by implementation of the recommendations in the "Recreation and Conservation" report and opportunities identified in the NWP.	Local Authorities	01/04/99	31/03/05	Underway - Started On Time	The Agency is continuing to work in partnership in order to fulfil the aims and objectives of the NWP.
4j Water quality in the Nene is being impacted upon by oestrogenic compounds.	Continue with survey programme to determine the extent and severity of reproductive abnormalities in fish arising from oestrogenic compounds.		01/04/99	31/03/03	Underway - Started On Time	Research is still ongoing. One of a suite of reports has been completed. Samples have been taken elsewhere on the Nene to check whether the problem relates specifically to Billing Sewage Treatment works.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
4j (Cont.)	Define environmental quality objective for substances that have an oestrogenic effect.		01/04/00	31/03/05	Underway - Started Early	Surveys are underway, however, research and development is ongoing and no firm conclusions are expected for some time.
	Regulate discharges of these substances.			31/03/05	Pending	
4k Surface water run-off from urban/ industrial areas causes localised biological deterioration, particularly in smaller streams and brooks downstream of Corby, Northampton and Peterborough.	Monitor the impact of urban run-off.		01/04/99	31/03/04	Underway - Started On Time	No reports of pollution have been received since installation of reed beds downstream of industrial estates in Kettering and Daventry. A large reed bed for a Combined Sewerage Outfall in Northampton (Weston Favell) is also under discussion subject to a feasibility study between AWS and Northamptonshire County Council.
	Carry out targeted pollution prevention inspections.		01/04/99	31/03/02	Underway - Started On Time	Inspections are carried out as priorities permit.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
4k (Cont.)	Raise public awareness of surface water pollution risk.		01/04/99	31/03/05	Underway - Started On Time	A prioritised programme of visits to petrol filling stations is underway
	Use works notices.		01/04/99	31/03/05	Underway - Started On Time	These are issued as and when necessary. They require the site operator/owner, by law, to undertake specific pollution prevention work. None have been issued in the past year.
4l The conservation value of the Northampton Washland is threatened by unregulated recreational use.	Collaborate with landowners and users to develop a management plan for the site.	Nene Valley Project (lead partner); Anglers	01/04/99	31/03/01	Over-running - Started On Time	A mathematical model should be issued in early 2002 and works on site should commence 2002/3.
	Investigate the feasibility of providing the site with formal recognition of its importance for wildlife (Local Nature Reserve).	English Nature Wildlife Trusts Land-owners		31/03/03	Overdue	The NVP is investigating this through ongoing work with the RSPB and Wildlife Trust.
	Enhance existing areas within the site.	Nene Valley Project Land-owners		31/03/05	Pending	This action can be progressed once site landowner agreement is secured.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
5a There are concerns that we are not meeting the MAFF indicative flood defence standards for urban areas at certain locations in the catchment.	Promote a scheme to improve flood defences in Northampton.		01/04/00	31/03/04	Underway - Started Late	<p>The works on the Brampton Branch side of Victoria Park are near completion. The works at Airflow Streamline have been completed. The Dallington and Westbridge works are ongoing and the Tanner Street works are due to start shortly.</p> <p>The Northampton River Valley Master Plan is also exploiting opportunities to enhance the river corridor through Northampton, e.g. at Barnes Meadow.</p>
5a	Promote flood defence improvements in other areas where it is economic to do so: Geddington Weedon Kislingbury		01/04/00	31/03/03		<p>After extensive public consultation, the Geddington scheme was completed in June 2001. The scheme reduces the risk of flooding for Geddington residents from 20% to 1%.</p> <p>Building of a flood storage reservoir for Weedon is due to begin in August 2001.</p> <p>Works to create a flood wall in Kislingbury are due to start in 2002</p>
	Exercise supervisory duty over flood defence matters and seek, with others, to resolve non-Main River drainage problems.	Land-owners IDBs Local Authorities	01/04/99	31/03/05	Underway - Started On Time	<p>Operating authorities are being encouraged to inspect their assets and report to the Agency on an annual basis.</p> <p>Operational plans are also being produced for each local authority, setting out responsibilities for flood defence systems within their areas. Key stakeholders will be consulted prior to plan implementation.</p>

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
5a (Cont.)	Develop and implement Fluvial Flood Defence Strategy for the River Nene.		01/04/00	31/03/05	Underway - Started On Time	Strategic studies into flood defence standards and development and flood risk have been undertaken for the Upper Nene catchment. All key elements have been completed. This strategic approach will now be extended to the whole of the Nene catchment.
	Carry out hydraulic and hydrological modelling of the river.		01/04/00	31/03/01	Over-running - Started On Time	As above.
	Undertake asset inspections to identify sites with deficiencies in the standard of defence.		01/04/99	31/03/05	Underway - Started On Time	The second year of flood defence surveys has now been completed however, it has been effected by foot and mouth. The third year of surveys is underway.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
5b There is concern that development within the catchment has contributed to increasing flood risk.	Northampton and areas upstream: a) Complete strategic reassessment of flood risk and development for the Upper Nene catchment. b) Agree a long-term development strategy with planning authorities.	District Councils Nene Valley Project	01/04/99	31/03/00	Completed On Time	<p>The Agency has been tasked by Government to produce Catchment Flood Defence Management Plans, to cover all flood defence issues with in an area (catchments remain to be defined), these will be completed by 2004.</p> <p>Local authorities in Northamptonshire are in the process of reviewing their development plans. The Agency has started to seek the inclusion of the appropriate policies for development and flood risk in their plans.</p>
	Review development proposals and agree a short-term strategy.	District Councils Nene Valley Project	01/04/99	31/03/00	Completed On Time	A review of existing land allocations and of proposed developments has been completed with the local authorities. Existing development proposals are being guided towards the requirements of the strategic review.
	Develop supplementary planning guidance.	Northampton Borough Council	01/04/99	31/03/00	Completed On Time	Northampton Borough Council and the Agency have collaborated in the production of Supplementary Planning Guidance (SPG) to provide more detailed advice on development and flood risk. The SPG was published and adopted in February 2000.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
5b (Cont.)	General: Consider a review of development strategies with all planning authorities.	Local Authorities	01/04/00	31/03/05	Underway - Started On Time	Some developments in Northampton are also now building defences to Agency standards, saving the Agency in the order of £1 million. The Agency is discussing flood risk alleviation strategies with Local Planning Authorities as part of their Local Plan Reviews.
	Complete delivery of interim and final Section 105 flood risk maps.		01/04/99	31/03/01	Completed Early	The Section 105 flood risk maps were published in September 2000 (released as Circular 30/92 maps) and will be further reviewed following the completion of the hydrological modelling in 2001.
	Carry out a review of relevant local plans.	Local Authorities (lead partner)	01/04/99	31/03/05	Underway - Started On Time	Local authorities in Northamptonshire are in the process of reviewing their development plans. The Agency has started to seek the inclusion of appropriate policies for development and flood risk in these plans.
	Input to Regional Planning Guidance and Northamptonshire Examination in Public.		01/04/00	31/12/00	Completed On Time	The Agency has actively sought the inclusion of planning policies to address development and flood risk in Regional Planning Guidance for the East Midlands and the Northamptonshire County Structure Plan. Negotiations are ongoing.
	Carry out reviews of the relevant structure plans.	County Council (lead partner)	01/04/99	31/03/05	Underway - Started On Time	This is carried out as and when the local plans are produced.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
5c At certain locations in the Plan area our flood warning target of two hours is not being met.	Adjust/improve flood forecasting through ARTS 2.		01/04/99	31/03/02	Underway - Started On Time	A flow forecasting model for the Nene is to be developed as part of the Nene Modelling Strategy which has now started. Completion of the forecasting model is expected in 2003.
	Complete planned improvements to ARTS through ARTS 3 and 4.		01/04/99	31/03/01	Underway	ARTS 3 sites include Weetabix, Weedon and the catchments flood storage reservoirs. All ARTS 3 sites are now installed and operational. ARTS 4 sites at Northampton South Bridge, Harpers Brook and Geldharts Mill are installed and operational. The site at Willow Brook is installed but not yet commissioned.
	Review and implement telemetry monitoring facilities.		01/04/99	31/03/01	Over-running - Started On Time	The network is being further expanded through EFAG.
	Improve/adjust flood warning dissemination plans.	County Council; Local Authorities	01/04/99	31/03/05	Underway - Started On Time	Liaison with partners continues in developing and ensuring robust plans are in place for flooding. Exercises to test plans are being progressed with partners. A public awareness leaflet on the Northampton Flood Warning System has been produced. Recruitment of people in high and medium flood risk areas on to the Automatic Voice Messaging System is continuing. A review of the existing flood warning service in Wisbech and Sutton Bridge is being undertaken.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
5d Siltation along the tidal length of the River Nene has restricted the capability of the channel to discharge fluvial floods. (see also Wash 1).	Undertake a feasibility study to establish costs and benefits of a scheme to remove siltation.		01/04/99	31/03/01	Completed	The study concluded that due to the cost :benefit ratio, any scheme would not be eligible for grant aid. Siltation removal will be considered as part of the revenue budget
	Implement recommendations of the study.			31/03/05	Pending	This is dependent on the recommendations of the feasibility study.
6a Gas migration at the Princewood Road landfill site, Corby, poses a potential risk to adjacent development.	Complete the improvement works on the gas management system.	Site Operators (lead partner)	01/04/99	31/03/01	Completed Early	The leachate plant is now fully operational. Gas extraction is taking place along with continual gas flaring.
	Monitor gas and leachate emanating from Princewood Road landfill site.	Site Operators	01/04/00	31/03/05	Underway - Started On Time	Gas appears to still be migrating off site and further evaluation needs to take place including the flare stack in line with Agency policy.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
6b The illegal disposal of waste poses a risk to health and safety.	Increase monitoring, particularly in "hot spots" (e.g. CCTV, increased number of visits).		01/04/99	31/03/01	Over-running - Started On Time	Surveillance cameras have been purchased and various methods of disguise have been investigated. The Agency is working with the local authority to identify a site to install the camera.
	Improve waste disposal facilities (e.g. longer hours).	Local Authorities (lead partner); Site Operators	01/04/99	31/03/01	Over-running - Started On Time	Northamptonshire sites are open 7 days a week, 70 hours a week during the summer.
	Limit opportunities for flytipping (e.g. blocking access).	Farmers Site Operators County Council Land-owners	01/04/99	31/03/05	Underway - Started On Time	A Fly tipping Action Group has been set up by Peterborough City Council, along with AWS, NFU and other partners. Landfill Tax Grant money is being sought to carry out preventative works.
	Provide additional waste collection facilities near to hotspots.	Local Authorities	01/04/00	31/03/05	Underway - Started On Time	No new facilities have been provided as such, but local authorities frequently clear rubbish around hot-spots.
	Work to the Memorandum of Understanding with the local authorities.	Local Authorities	01/04/99	31/03/05	Underway - Started On Time	This identifies the removal of fly-tipped waste from public land and watercourses as the responsibility of the local authority. Overall there is a very good working relationship between the Agency and local authorities.

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Issue	Action	Partners	Actual Start Date	Planned Finish Date	Lifecycle	Progress Before This Year
6b The illegal disposal of waste poses a risk to health and safety.	Prosecute offenders wherever possible.	Local Authorities	01/04/99	31/03/05	Underway - Started on Time	This is always done where possible, but lack of witnesses continues to be a problem.
7 There is a need to avoid, in Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites, deterioration of natural habitats and the habitats of species.	Carry out a comprehensive review of Agency permissions.		01/04/00	31/03/05	Underway - Started On Time	The Area, as part of a national process, has been prioritising European sites, in order to establish a work programme for the Review of Consents. Taking into account the issues affecting each site (using Site Issues Briefings), the Nene SAC/SPA has been given a high priority. This is because there are indications of a decline in aquatic plants on the sites. Sign off of the prioritisation decision is expected shortly.
	Ensure compliance of Agency permissions with the Conservation (Natural Habitats & c.) Regulations 1994.		01/04/00	31/03/05	Underway - Started On Time	Some conservation objectives have now been received and the Agency and English Nature are working on these. Agency functions are also developing technical guidance on how to apply the requirements of the Habitats Directive to their permissions