

# RIVER KENNET CATCHMENT MANAGEMENT PLAN ANNUAL REVIEW 1994/95



**NRA**

*National Rivers Authority  
Thames Region*

*June 1995*

# NATIONAL RIVERS AUTHORITY (NRA)

*'Guardians of the Water Environment'*

The NRA has defined its role in the following **'Mission Statement'**:

We will protect and improve the water environment by the effective management of water resources and by substantial reductions in pollution. We will aim to provide effective defence for people and property against flooding from rivers and the sea. In discharging our duties we will operate openly and balance the interests of all who benefit from and use rivers, groundwaters, estuaries, and coastal waters. We will be businesslike, efficient and caring towards our employees.



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### EXECUTIVE SUMMARY

This report outlines the progress made towards realising the catchment vision since the publication of the Action Plan in April 1994. It is recommended that this report is read in conjunction with the Action Plan.

A significant amount of work has been initiated during the year. Main achievements have been:

1. The determination of the Axford Licence Variation. Thames Water Utilities (TWUL) has appealed to the Secretary of State for the Environment against the NRA's decision;
2. Good working relationships established between NRA-Thames West Area Operations and British Waterways;
3. Rivers Kennet and Lambourn SSSI boundary survey and definition completed. Notification expected during September 1995.

Main disappointment has been the Moor Ditch Pollution incident. However, lessons have been learnt and NRA prosecuted Thames Water who were fined £12 000 for polluting the SSSI.

The River Kennet CMP Action Plan will be maintained annually and a progress report similar to this will be produced next year.

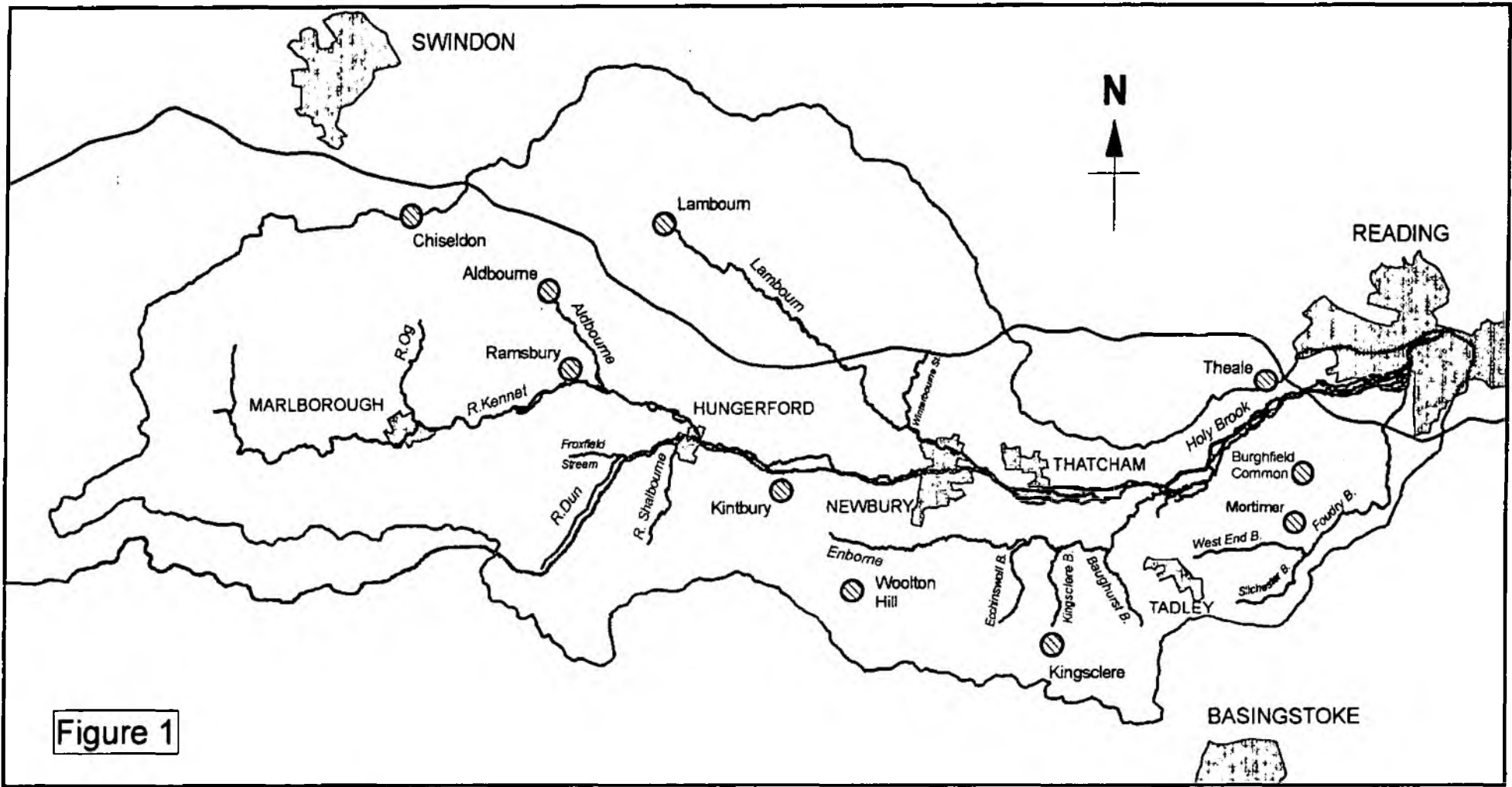



Figure 1

<p><b>KEY</b></p> <p>SCALE</p> <p>0 ————— 10 km</p>		Catchment Boundary		Urban Area
		Main River		Town / Village
		Kennet and Avon Canal		
		M4 Motorway		



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## THE VISION

- 1.0 An important part of the CMP process is to monitor the Action Plan to ensure that the targets and actions are achieved and that the plan still addresses all significant issues in the catchment in an appropriate manner. This report summarises the progress made towards realising the catchment vision since the publication of the Action Plan in April 1994. It is recommended that this report is read in conjunction with the Action Plan.

*The River Kennet is the largest tributary of the Thames contributing almost half the summer flow downstream of their confluence in Reading. The Kennet is fed by seven major tributaries.*

*The River Kennet is a river of good water quality supporting excellent coarse and game fisheries and a public water supply from Fobney in the lower catchment.*

*The still waters of the lower Kennet valley are a valuable recreational and ecological resource which, combined with the Kennet and Avon Canal, provide angling, bird watching, walking, nature conservation and picnic facilities. In the upper reaches of the catchment groundwater is abstracted and provides a source of supply for, amongst others, Swindon, Marlborough and Ogbourne St. George.*

*Development pressure will continue to be a perceived threat and conflicts between the canal's users will need to be addressed and an acceptable balance achieved.*

*The management of flood risk too, is a key objective and NRA activities in the catchment should reduce the risk of flooding in urban and semi-urban areas.*

*To achieve a sustainable policy of conservation of water resources and environmental enhancement, the NRA will work in partnership with Local Authorities and other key participants. This plan will provide an important focus for this partnership. Our aim is not only to maintain the existing values of the water environment of the Kennet catchment but also to provide improvements to flood defences and degraded habitats, to create open green spaces, and to improve public access (where appropriate). The NRA will work to ensure the Kennet and its tributaries are well-managed watercourses of natural appearance, forming attractive green corridors connecting the countryside with urban areas.*

## INTRODUCTION

- 2.0 The National Rivers Authority (NRA) is currently undertaking a programme of Catchment Management Plans (Cups). Cups allow the NRA to balance all the competing requirements and interests of the users of the water environment. The process realises the environmental potential of a catchment in terms of water quality, water quantity and physical features. The first stage is the production of a Consultation Report. This outlines the issues within the catchment and the options for their solution. Following a period of consultation, an Action Plan (*née* Final Report) is produced. This includes activity plans (*née* Action plan) for improvements to the water environment. It outlines areas of work and investment proposed by the NRA and others.

### 2.1 Key Catchment Statistics

Catchment Area (km <sup>2</sup> )	1164
Population within catchment (1993)	211 000
Average Annual Rainfall (mm)	764
Length of waterway maintained by NRA for flood defence purposes (km)	314
Length of waterway with River Quality Objectives (km)	315

### Catchment Overview

- 2.2 The River Kennet rises to the north west of Marlborough and generally flows eastwards to its confluence with the Thames at Reading, a distance of some 98 km, passing through towns of Marlborough, Hungerford, Newbury and Thatcham (see Figure 1).
- 2.3 The catchment is a unique habitat with EC designated Cyprinid and Salmonid fisheries. In the west and north of the catchment the watercourses are spring-fed chalk streams and the River Kennet upstream of Newbury supports native brown trout and imported rainbow trout fisheries. Recent water quality surveys (1991-93) indicate the quality in the catchment is predominantly good, with a few stretches fair and a couple of stretches of poor quality.
- 2.4 Much of the catchment falls within the North Wessex Downs Area of Outstanding Natural Beauty (AONB) - a nationally recognised designation by the Countryside

Commission. The high quality of the rural landscape and the archaeological importance of sites such as Avebury (designated World Heritage Site) ensure that the western part of the catchment is strongly protected from large scale development.

- 2.5 Further east, however, the Kennet valley has seen significant change over the last 40 years with urban development at Newbury, Thatcham, Tadley, Theale and Reading and mineral extraction at numerous sites between Newbury and Reading.
- 2.6 Pressure for urban expansion and mineral extraction is continuing and, while having a major impact on the landscape of the valley, such development can also offer opportunities for enhancement of the water environment.
- 2.7 The Kennet and Avon Canal was reopened in 1990 and forms an important environmental corridor providing a variety of benefits including recreation, fisheries and wildlife. British Waterways own and operate the canal which has historically suffered from a lack of water in its western reaches. The eastern half of this navigation falls within the boundary of the Kennet catchment, a length of 58 km incorporating 53 locks. East of Newbury the Kennet and Avon Canal is a canalised river, with alternate lengths of the navigation in the original river channel and in specially cut canal sections.

### 3.0 SUMMARY OF PROGRESS

The following describes the activities undertaken in relation to the issues identified in the Consultation Report.

#### 3.1 Upper Kennet River Levels and Flows (WR1)

(i) *Axford Licence Variation*

Thames Water Utilities' application for a variation to their abstraction licence for Axford was determined in March 1995. Increased abstraction was allowed but against a set of prescribed flow conditions which become progressively more restrictive and are always more stringent than the prescribed flow condition in the previous variation. The final step (coming into force on 1 January 2005) in the new conditions involves the radical step of restricting the base licence.

The decisions drew on the results of the PHABSIM habitat simulation model in conjunction with the NRA groundwater model of the Kennet catchment.

Thames Water has appealed to the Secretary of State for the Environment against the NRA's decision in accordance with the Water Resources Act 1991.

- (ii) River corridor surveys, fisheries, landscape and aquatic plant surveys have all been completed. Reports and recommendations for future management are awaited (see Fisheries and Conservation Management - FC1 and FC9).

### 3.2 Newbury and Thatcham

- (i) *Moor Ditch Pollution Incident*

A category one pollution incident was experienced when activated sludge was accidentally discharged from Newbury Sewage Treatment Works into the Moor Ditch near Thatcham on 24 July 1994. The incident had a major impact on the Thatcham Reed Bed SSSI and necessitated a two week clean-up effort. Monitoring of the site continues and further clean-up is deemed necessary. However, English Nature are discouraging access to the site during the wildfowl breeding season. It is hoped that the NRA can get to the Moor Ditch before flows get too high later this year. The NRA prosecuted Thames Water who were fined £12 000 for polluting the SSSI. It is understood that Thames Water have now altered their operating process at the STW which will prevent this happening again.

- (ii) *A34 Newbury By-Pass*

The NRA has consistently opposed the size of the bridge openings as currently proposed on the grounds of flooding and environmental corridor impact. The local environmental campaign against the by-pass has also been gathering momentum. An ecological study commissioned by the NRA has indicated that there is significant movement of wildlife up and down the river corridors. This could be impeded by the by-pass as it crosses the rivers, if there are restrictive bridge openings. Construction is currently on hold pending a review of the original proposals by the Highways Agency. The NRA will liaise with the Agency over the outcome of this review. In the event of the by-pass being built, the NRA intends to follow up this preliminary work with post-construction wildlife movement surveys to determine the impact of the development.

- (iii) *Flood Risk*

Surveys of river control structures are to be carried out by the NRA as part of a programme of operational investigations (starting 1995/96).

Some hydraulic model development work has been completed. The Newbury to Hambridge model has been hampered by a lack of data especially weir gate operation. It has been proposed that consultants may be deployed in collecting



data and developing the computer model. Output may include floodplain maps relevant to the Authority's Section 105 related activities. A model for the Hambridge to Tyle Mill reaches of the Kennet (including Thatcham) has been calibrated and may also be developed by consultants to simulate "out of banks" events.

### 3.3 West Berkshire Groundwater Scheme (WR2)

Initial discussions have been held with TWUL to discuss agreement of an Operating Agreement between TWUL and NRA, to guide future operation of the West Berkshire Groundwater Scheme. Alternative strategies are being developed by the NRA and further investigations are being scoped. These strategies must include consideration of natural transmission losses from the river channel, environmental benefits and risks, and development of an operating strategy to maintain the original "drought use" concept.

Removal of defunct radio masts is in hand to improve landscape value and maintenance regimes etc are being progressed.

### 3.4 Kennet and Avon Canal

Good working relationships have been established between the NRA Area operational staff and British Waterways and regular meetings are proving useful in resolving any operational difficulties.

Work was completed at County Weir during last winter due to good cooperation between British Waterways and the NRA. For safety reasons similar work is being considered for Burghfield's sluices.

A Kennet and Avon Canal fisheries survey has been completed giving recommendations for habitat enhancement. This has been sent to British Waterways for response during February 1995. The survey found that poor habitat existed in the canalised sections of the River Kennet. Habitat enhancement of these reaches would be beneficial to their fish stocks.

At Hungerford, turbid water has been entering the River Dun from the canal lock overflows directly or from the River Shalbourne. Through liaison with British Waterways and riparian owners, the NRA proposed a scheme to alleviate the problem and enhance the existing habitats. Agreement in principle to works within Freeman's Marsh SSSI has been reached with English Nature. However, high flows and restrictions in funding have hampered progress apart from establishing sediment monitoring stations.

The regional strategy "Future Water Resources in the Thames Region : a Strategy for Sustainable Development" was produced.

No dredging has taken place on the canal nor the river systems. No flooding was reported to have affected property during 1994/95 despite very high flows.

### 3.5 Fisheries and Conservation Management

(i) *Thatcham Reed Beds*

RSPB have produced a draft management plan for this SSSI, in conjunction with the NRA, Newbury District Council and English Nature. The final plan has not yet been produced but is intended to cover the years 1995 - 1999. The above four organisations have formed a steering group to oversee the implementation of the plan once the Water Level Management Plan for the site has been completed by NRA in 1995/96.

(ii) *Water Level Management Plan (WLMP)*

Apart from the above, six other SSSIs in the Kennet catchment will also require a WLMP, although Thatcham Reed beds is the highest priority. Work on this initiative will continue shortly.

(iii) *Groundwork Foundation: Kennet Valley*

A proposal has been completed and agreed by the DoE and the Countryside Commission. The Foundation began work in January 1995.

(iv) *Habitat Enhancement Work*

The Upper Kennet Geomorphological Evaluation has been completed and a Summary Report produced. Broad recommendations were made in the document which are being discussed with the NRA Fisheries and Conservation section and may be carried out through Flood Defence maintenance works and the River Kennet Otter habitat project.

(v) *River Kennet Fisheries Survey 1993/94* was completed in September 1994 and included electro-fishing 29 sites. The overall conclusion was that fish populations were generally good with some excellent specimens present. However, 9 out of 24 sites failed to meet the appropriate biomass target. Complaints have also been received from anglers regarding floating solid matter downstream of Newbury STW.

3.6 Water Quality Protection

(i) *AMP 2*

Eight STWs in the Kennet catchment are included in TWUL's Asset Management Plan (AMP2) for capital investment. Consent changes are proposed at Fyfield (Wilts), Hungerford, Kingsclere, Kintbury, Marlborough and Washwater STWs, in order to meet the requirements of the EC Fish Directive and to ensure RQOs are met. Improvements are proposed at Newbury and Ramsbury STWs in order to meet the requirements of the Urban Waste Water Treatment Directive. All improvements will be completed by 2005.

(ii) *Statutory Water Quality Objectives*

The NRA uses two principal schemes for the reporting and management of river water quality: the general quality assessment (GQA) scheme and the statutory water quality objectives (WQOs) scheme. These schemes have replaced the water quality classification system used previously by the NRA (the NWC classification). Further details of the new schemes may be found in Appendix B.

The River Quality Objectives (RQOs) for the Kennet will be translated from NWC classes to RE classes and target dates will be assigned as part of a programme of work linked in with the production of CMPs. It is envisaged that a full set of translated objectives for the Kennet will be available in time for the next annual review of the CMP.

The Government intends to proceed with the introduction of WQOs by setting up a pilot study in each NRA region. The River Kennet was put forward as a candidate for the pilot in the Thames Region. However, the River Loddon has now been selected.

The scheme will involve the NRA setting RQOs (River Ecosystem), their public consultation and ultimately approval by the Secretary of State (DoE).

(iii) *EC Directives*

There has been continued compliance in the Kennet catchment with the EC Fish Directive, the Dangerous Substances Directive and the Surface Water Abstraction Directive (eg, through microbiological sampling). Macrophyte monitoring in the vicinity of Newbury STW will continue in 1995. Results have shown slight increases in nutrient levels downstream of the works.

- (iv) Time of travel measurements have been carried out on the river Kennet for three flow regimes. These measurements will allow us to estimate the time required for a body of water to move down river between any two points on the Kennet, for flow rates up to bank full flow. This information will allow more accurate computer modelling of water quality in the river and could also be used for predicting the rate of spread of pollutants.

The information will be incorporated into a database, which is under development, containing time of travel data for all Thames Region catchments, to allow easy access to the data and apply it to the protection of raw water intakes.

- (v) Groundwater monitoring continues at Ogbourne St. George Nitrate Sensitive Area. The designation has been extended for a further five years (to 2000).

- (vi) *Cleaner Kennet Campaign*

Reading Borough Council and Newbury District Council held a litter pick on the lower Kennet in March 1995. Some 240 people from 27 organisations removed 21 tonnes of litter from the Kennet. The organisers hope to hold an even bigger event next year.

### 3.7 Changes in Catchment Status

- (i) *Forward Planning and Development Control.*

A number of Statutory Plans have progressed since the publication of the Final Plan. Further details in Appendix A.

- (ii) *Mineral Extraction*

See (i) above.

- (iii) *Thames 21/sustainability*

The NRA published "Thames 21 - A sustainable strategy and Planning Perspective" as a consultation draft in September 1994. A final version will be published during 1995. It will deal with "sustainable development" in terms of the effects on the water environment of development at the major development locations across the region. In the case of the Kennet catchment there are two such "Pressure Points":

- (a) South and south west Reading which is under pressure from housing development, mineral extraction, landfill and motorway widening;
- (b) Newbury/Thatcham/Greenham area which has housing development and associated water resources pressures (WR3).

Thames Water has indicated that current resources in this area will not be sufficient to sustain development beyond 2005. There are limited opportunities for further abstraction from current sources in the area. Further detailed investigation, including environmental safeguards, are being discussed with TWUL. In the longer term further development in this area is likely to depend on supplies of water being transferred westward into the area from Reading. In parallel with this, however, opportunities to manage demand for water through various water efficiency and consumption measures might be promoted through the statutory planning system. There are also a number of other environmental considerations, eg, the impact of development in the floodplain.

- (iv) *Flood Defence and Section 105 Initiative.*

Progress is being made on the modelling studies of the River Kennet between Newbury and Reading. Information from these models will be used to produce flood envelopes in 1995/96. The remainder of the tributaries and the Kennet upstream of Newbury will not be completed until 1996/97.

- (v) The condition of all river control structures in the catchment has been discussed with British Waterways. Flooding has been confined to the flood plains this year due to the nature of the flood, little vegetative growth and river management by NRA Flood Defence staff (in particular exceptional weed growth).

### 3.8 Communications

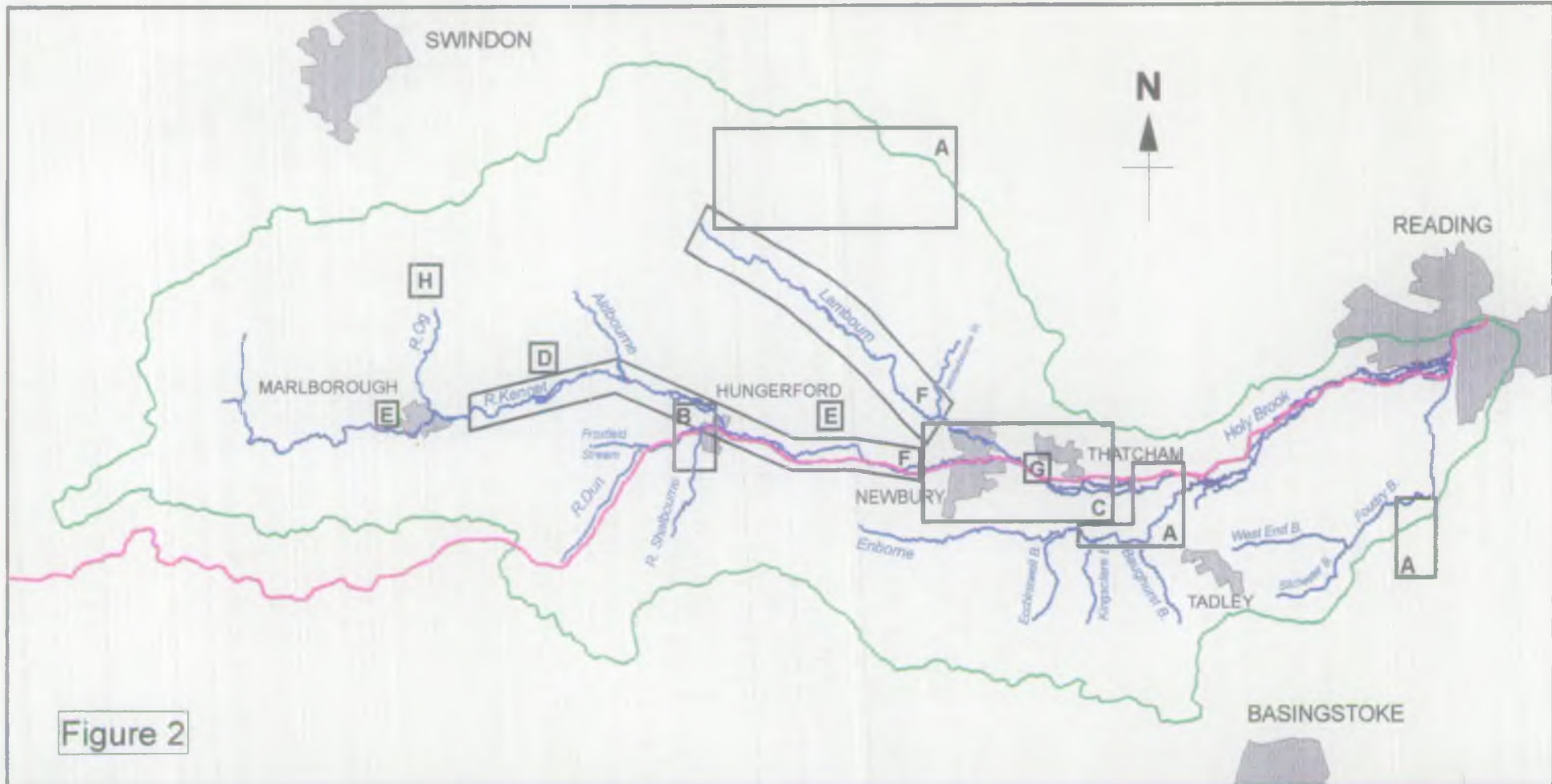
The six monthly newsletter was produced in November 1994 and was widely welcomed. Customer contact initiatives have included a NRA stand at Newbury Show (see Table 3.24).

This annual review will also succeed in furthering effective communication with key external participants. The development of working groups or holding a forum has not been progressed due to the time and resources needed for the exercise. There has not been much external interest in this to date. However, we would welcome further comment on this opportunity.


**3.9 Summary of Issues**

Figure 2 displays the site specific catchment issues A - H where;

- A West Berkshire Groundwater Scheme
- B Kennet & Avon Canal: Shalbourne-Dun issue
- C Newbury and Thatcham: Flood risk and development proposals
- D Upper Kennet levels and flows: Axford Licence
- E Fisheries and Conservation Management: River Corridor Surveys
- F Kennet and Lambourn proposed Riverine SSSI
- G Thatcham Reed Beds
- H Ogbourne St. George Nitrate Sensitive Area.



<p><b>KEY</b></p> <p>SCALE</p> <p>0 ————— 10 km</p>	Catchment Boundary	Urban Area
	Main River	
	Kennet and Avon Canal	



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## MONITORING REPORT

- 4.0 As most general activities of the NRA relate to sustaining and enhancing conservation and the water environment as a resource, the working definitions of the activities in the Monitoring Report have been grouped to reflect this resource element in four different tables.

**Table 1**      **MONITORING** (describe resource)

Includes: Sampling/survey programmes and any other data collection action, modelling, analysis of data, compiling inventories.

**Table 2**      **REGULATION & ENFORCEMENT** (safeguard resource)

Includes: Indirect regulation, ie planning consultation.

**Table 3**      **OPERATIONS** (maintain resource)

Includes: Emergencies, promotion and advisory services.

**Table 4**      **IMPROVEMENT** (enhance resource)

Includes: Pure enhancement schemes, righting past wrongs.

- 4.1 The text of the tables has been developed from the River Kennet CMP Final Report of April 1994. Those issue-related actions which were programmed for 1994/95 or 95/96 and those which have been commissioned or implemented are included in the following tables. Progress for each action (issue-related or routine) is summarised and where appropriate, the "Nature of Activity/Issue" column also identifies the Final Report's Action Plan Issue Code, eg WR3, WR7, WQ6.
- 4.2 The modification of the Action Plan tables has been done mainly to facilitate monitoring of progress associated with ALL FUNCTIONS across the Kennet catchment. It also identifies the potential for harmonised phasing of work and shared resources and the tables also follow the Cross Functional Plans format. These latter documents focus annual commitments for action and planned outputs on individual river catchments.



TABLE 1: MONITORING

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
1. Water (including groundwater) quality sampling, manual and automatic.	Routine activity in line with National sampling policy for controlled waters & effluents.	NRA TWUL HMIP, HSE, ADAS, Borough & District Councils	1993/4 - 1998/9	On-going activity
2. Biological sampling: invertebrate/ bacteriological, algal, macrophyte sampling.	Routine activity.	NRA	1993/4 - 1998/9	Sampling in 1994 showed that the Kennet catchment continues to be of a high biological quality with a number of sites in the top 10% of scores nationally. During 1995, the rivers will be biologically sampled as part of the quinquennial GQA survey.
3. Measurement of rainfall, groundwater levels & river flow, (manually & telemetry).	Routine activity - data collection	NRA	1993/4 -1998/9	On-going.  Additional telemetered rain gauge in Hampstead Marshall to be installed 1995/-97.  Feasibility studies for a gauging station on the Shalbourne at Hungerford and the Kingsclere Brook at Kingsclere have been completed. Schemes have been included in the Capital Programme for 1996/97 and 1997/98 respectively.

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
4. Computer modelling of flows and groundwater levels increase understanding of hydrological & hydrogeological relationships to enhance assessment of environmental consequences of development proposals.	Routine activity - data collection	NRA	1993/4 - 1998/9	On-going.
5. Area specific studies to provide further information for catchment planning purposes.	Routine activity on needs basis.	NRA	1993/4 - 1998/9	Greenham Common/Beech Hill completed.  Project on pavement removal, lead by NRA, continuing.
6. Continue compiling a comprehensive groundwater quality sampling network by the location of survey points and continuation of sampling programme at identified sites in the catchment.	CMP issue related action (groundwater quality sampling)  WQ1	NRA	1993/4 - 1998/9	On-going
7. River corridor surveys of the Kennet Catchment.	CMP issue related action (Fisheries and Conservation Management - data collection).  FC1	NRA	1993/4 - 1998/9	RCS of the middle Kennet was completed in January 1995. The lower Kennet will be completed in October 1995 as the third and final phase of the strategic project.

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
8. Fisheries survey of the Kennet system incorporating use of new technology (eg hydroacoustics) where appropriate.	CMP issue related action (Fisheries and Conservation Management - fisheries surveys). FC1	NRA	1993/4 - 1998/9	Completed
9. 60 km of Strategic Landscape Assessment of the River Kennet.  Identify landscape issues related to the catchment planning process, develop policies for dealing with them and identifying enhancement opportunities. Share landscape assessment data with NDC and potentially define collaborative projects.	CMP issue related action (Fisheries and Conservation Management - Landscape Assessments). FC1	NRA	1994/5	Final report completed February 1995. More detailed assessment work is yet to be finalised. BW has approached NRA on working with the document
10. Geomorphological survey of the River Kennet. Through consultation, identify the most appropriate mitigation and enhancement measures for selected reaches. Complete during 1994/95 ie by Quarter 4.	CMP issue related action (Fisheries and Conservation Management - Geomorphological survey). FC1	NRA	1994/5	Survey of the Upper Kennet has been completed (summary report available June 1995)
11. Survey and map the whole system detailing control structures by type, size and reaches controlled.	CMP issue related action (Flood Defence - Control structures). FD2	NRA BW, Riparian Owners	1994/5	Control structures are being surveyed and recorded (1995/96)

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
12. Review condition of all control structures and prioritise work on them to produce a rolling programme of refurbishment. (Need for Flood Defence data).	CMP issue related action (Flood Defence - refurbishments). FD2	NRA BW, Riparian Owners	1994/5	Depending on 11 above.
13. WQ planning & modelling.	Routine activity, to assess conditions on consent applications.	NRA DOE, Industry, District & County Councils	1993-1998	New classifications GQA and RQOs. (SWQOs by DOE) introduced (see Appendix B)
14. Water resources planning: assess current & future demands.	Routine activity - Water Resources Planning	NRA Water Companies, Industry	1993/4-1998/9	Production and promotion of strategy document undertaken. Specific investigations continuing.

TABLE 2: REGULATION &amp; ENFORCEMENT

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participants)	PROGRAMME	PROGRESS/COMMENTS
1. Discharge consenting & charging for discharges.	Routine activity.	NRA (applicant)	1993/4 - 1998/9	On-going activity.
2. Enforcement of pollution control legislation: collection of evidence, follow up legal action, prosecution.	Routine activity.	NRA	1993/4 - 1998/9	Successful conviction for agricultural pollution (Fine £500).
3. Compliance of experimental Nitrate Sensitive Areas, (eg, Ogbourne St George), establishment of Nitrate Vulnerable Zones.	Routine activity, to protect public water supply boreholes from diffuse pollution (by nitrate).	Landowner NRA TWUL MAFF, ADAS	1993/4 - 2000/1	Monitoring continues. Ogbourne St George scheme extended to the Year 2000. Public consultation on the Ogbourne NVZ boundary will be completed by end 1995.
4. Enforcement of NRA's policy & practice for the protection of groundwater.	Routine activity.	NRA	1993/4 - 1998/9	On-going activity.
5. Abstraction licensing in order to protect both water quantity & quality.	Routine activity - abstraction licensing	NRA		In the year 1/4/94 - 31/3/95: 9 new licences granted; 4 revoked; overall reduction in licensed quantity of 744750 m <sup>3</sup> /yr
6. Abstraction licence enforcement to ensure compliance with licence conditions.	Routine activity - abstraction licence enforcement	NRA		166 visits
7. Development planning: to achieve sustainable use of water resources, safeguard NRA interests & identify opportunities for environmental enhancement.	Routine activity.	NRA		Continuing to promote NRA policies on sustainable use of water resources into Local Authority Development Plans

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participants)	PROGRAMME	PROGRESS/COMMENTS
8. Regulation of Fisheries through the issuing of consents. Enforcement of Rod licences, and fisheries byelaws & consents.	Routine activity. Bailiffing patrols.	NRA UTFC R&DAA	1993/4 - 1998/9	On-going. Good progress made with KVFA on fish removal policy.
9. Regulation of navigation through issuing of craft registrations.	Routine activity, (agency basis for BW).	NRA/BW	1994/95	258 by NRA 104 by BW
10. Enforcement of craft registration, navigation byelaws & launch safety specifications.	Routine activity.	BW NRA (at Blake's Lock and downstream to Thames)	1993/4 - 1998/9	On-going activity. Blake's Lock is now manned in a joint agreement between NRA and BW and both sets of byelaws and responsibilities are enforced.
11. Land Drainage consents to primarily prevent flooding.	Routine activity.			Discussions continuing with BW re: Newbury Lock works.
12. Ensure new abstractions are not detrimental to environmental needs: Produce abstraction policy for Kennet Catchment.	CMP issue related action (Water Resources - abstraction policy).  WR4	NRA TWUL	1994/5 - 1995/6	Draft produced; to be finalised during 1995/96 subject to the impact of national policy development
13. A34 Newbury By-pass poses a threat of increased flood risk and possible adverse ecological impact: Continue to oppose present form of A34 Newbury By-pass as proposed. Investigate the possibility of incorporating mitigation proposals into a strategic flood alleviation scheme.	CMP issue related action (Flood Defence - A34 Newbury By-pass).  FD5	NRA NDC, HA	1994/5 - 1995/6	Scheme under review by HA. NRA opposition maintained. Environmental studies on the river corridor are being completed by NRA. For example, further studies are being undertaken this year into the aerial stages of aquatic invertebrates.

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participants)	PROGRAMME	PROGRESS/COMMENTS
14. Determination of Axford Licence variation and establishment of flow constraint on River Kennet.	CMP issue related action (Water Resources - Upper Kennet River Levels). WR1b	NRA TWUL	1994/5 - 1995/6	see 3.1
15. Increase uptake (by local authorities) of model land use statements to enhance the water environment.	Routine activity	NRA County and local councils	1993/4 - 1998/9	NRA representations well received by BCC, WCC, RBC, NDC and KDC. Good liaison maintained.

TABLE 3: OPERATIONS

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
1. Provide access to Public Register.	Routine activity. Stat. duty, WR Act 91.	NRA	1993/4 - 1998/9	New leaflet produced.
2. Pollution prevention visits: identify & educate potential polluters.	Routine activity.	NRA Industry, Farmers		Bennet Road industrial area complete Worton Grange (Reading) to be completed by 30/7/95.
3. Continue programme of pollution prevention campaigns and complete Foudry Brook farming and industrial areas and Enbourne and Tributaries farming areas.	CMP Issue related action (Water Quality - pollution prevention) WQ7	NRA District & County Councils, TWUL, Industry, Farmers, MAFF/ADAS	1993/4 - 1998/9	Foudry Brook farms complete. Enborne 50% complete. Kennet & Avon marinas complete.
4. Emergency response service (24hr) to reported incidents of pollution to minimise impact of pollution on the environment.	Routine activity. Published standards of service.	NRA Emergency services	1993/4 - 1998/9	On-going activity.
5. Provide data & advice to further education & understanding of the water environment, eg water companies, public.	Routine activity. Includes site visits.	NRA		Wide range of activities including pollution prevention inspections. On-going activity.
6. Emergency response service (24hr) for fish rescues to prevent or limit losses of fish.	Routine activity. Published standards of service.	NRA Local & County Councils	1993/4 - 1998/9	On-going.



SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
7. Provide appropriate land drainage, prevent flooding, whilst ensuring full protection or mitigation of damage to fisheries and other wildlife habitats.	Routine activity: watercourse maintenance programme, including aquatic plant management & dredging & bank trimming.	NRA Riparian Owners	1993/4 - 1998/9	A continuing need to control weeds using hand cutting environmentally sensitive methods.
8. Emergency response service (24hr) to reported incidents of flooding to protect people & property, including flood warning.	Routine activity.	NRA	1993/4 - 1998/9	This winter included removal of obstructions, flood patrols and the issue of Yellow and Amber flood warnings in the catchment.
9. River Control: identify responsibility for operation & maintenance of control structures.	Routine activity. NRA has powers to supervise riparian owners.	NRA Riparian Owners	1993/4 - 1998/9	Depends on the outcome of Table 1 11. Design work on four fish passes on Kennet in progress. Two may be constructed 1995/96.
10. Maintain facilities for Navigation & general public, eg locks, moorings, footbridges, stiles etc.	Routine activity.	NRA/BW Riparian Owners District & County Councils	1993/4 - 1998/9	Positive steps have been made and a good understanding of work and cooperation is being achieved eg County weir which was jointly funded between NRA and BW (as specific benefit to Flood Defence operations were identified).

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
<p>11. Assess the feasibility of combining the hazardous chemical lists of HMIP, COSHH, HSE, County Councils, CIMAH, BASIS and the fire brigade into a single database and collation of local data on hazardous sites.</p>	<p>CMP issue related action (water quality - use and storage of chemicals). WQ4</p>	<p>NRA HMIP, County Councils, HSE</p>	<p>1993/4 - 1998/9</p>	<p>Some information obtained but further progress has been delayed pending the development of a Pollution Prevention database.</p>
<p>12. Investigate the extent of the problem of turbid water entering R. Dun by inspection, sampling and analysis, etc at the Shalbourne/canal confluence and downstream of lock.</p> <p>Investigate cause of the problems of turbid water entering R Dun from canal and identify solutions.</p> <p>Ecological effects may also need to be considered: produce report and make recommendations, considering effect on Fisheries and Conservation including geomorphology.</p>	<p>CMP issue related action (Water Quality - River Dun/Shalbourne/canal confluence area). WQ8</p>	<p>NRA EN, BW, Riparian Owners</p>	<p>1994/5 - 1995/6</p>	<p>Through liaison with BW and riparian owners, the NRA has proposed a scheme to alleviate the problem which will also improve the existing habitat. This involves a silt settlement area in form of a reed bed and settling pool.</p> <p>High flows have hampered progress. However, sediment monitoring stations have been established and sampling has commenced.</p>
<p>13. The support of designation of part of the Rivers Kennet and Lambourn as a SSSI. Ensure all internal operations are in sympathy with the high nature conservation value of the catchment and advise and promote the sensitive management of this valuable resource.</p>	<p>CMP issue related action (Fisheries and Conservation Management - maintaining the high ecological value of the catchment). FC2</p>	<p>EN NRA, Riparian Owners, BW, KVFA, Wildlife trusts</p>	<p>1994/5 - 1995/6</p>	<p>SSSI boundary survey and definition completed. Approval of EN Council for notification of Kennet and Lambourn secured. Pre-notification consultation complete and notification expected September 1995.</p>

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
14. Thatcham Reed Beds SSSI: Instigate an investigation into the problem and recommend actions, ie, habitat management programme, repair and refurbishment of control structures, etc.	CMP issue related action (Fisheries and Conservation - Habitat management at Thatcham Reed Beds SSSI). FC3	RSPB, EN NRA, NDC	1994/5 - 1995/6	RSPB completed draft Management Plan. Steering group formed (NRA, EN, NDC). Recommendations due to be implemented 1995/9.
15. Continue (and improve as necessary) sympathetic and sensitive canal and river maintenance for navigation and flood defence purposes. Enhance existing consultation procedures before and during such works. Procedures currently work well and should be continued.	CMP issue related action (Flood Defence - maintenance and conservation conflict). FD4	BW, NRA EN	1994/5 - 1998/9	Some positive steps have been made. Satisfactory liaison between EN, NRA and BW is ongoing.
16. Assess PHABSIM as a means to set prescribed flow (for Axford licence) to protect environmental needs.	CMP issue related action (Water Resources - Upper Kennet River Levels and Flows). WR1a	NRA	1993/4 - 1994/5	Completed. Output data used to help determine licence

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
<p>17. Assess need and potential to develop new groundwater resources in the Middle and Lower Kennet.</p> <p>Use of NRA in-house groundwater and habitat models to assess effects of abstraction and the potential for further development.</p>	<p>CMP issue related action (Water Resources - increases in demand due to Structure Plan proposals). WR3a</p>	<p>NRA TWUL</p>	<p>1993/4 - 1996/7</p>	<p>Investigations into new resources are ongoing. Modelling work has been started. Discussion to be held with TWUL on requirement, timescales and further investigations to be programmed for 1995/97. Activity reprogrammed to 1996/7.</p> <p>Preliminary modelling work in the Newbury area has been carried out. Further work will be incorporated into a more wide-ranging project.</p>
<p>18. Investigation by TWUL of emergency support for Reading Water Supply; from chalk aquifer at Fobney, Thames-side groundwater or river.</p> <p>Test pumping and other work is ongoing</p>	<p>CMP issue related action (Water Resources - increases in demand on water resources). WR3c</p>	<p>TWUL NRA</p>	<p>1995/6 - 1996/7</p>	<p>TWUL have test pumped four boreholes and plan to continue the investigations</p>
<p>19. Evaluate water supply needs of the canal (for navigation), resources availability, distribution and limits of operation. Investigate ways of optimising water usage. Continue liaison with relevant parties.</p>	<p>CMP issue related action (Water Resources - Kennet &amp; Avon Canal). WR7</p>	<p>BW, NRA, Kennet &amp; Avon Canal Trust, Riparian Owners</p>	<p>1993/4 - 1998/9</p>	<p>BW and NRA Operational staff have discussed sharing electronically gathered river information which should help in identifying problems and targeting manpower in the medium to long term.</p>

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
20. Ingress of groundwater to sewers reduces their capacity to carry sewage and is the direct cause of flooding in some areas: Undertake liaison to identify critical problem areas and repair programme. West Kennet and Aldbourne areas are being worked on currently. Where sewer surcharging results in water quality problems the issue shall be addressed by the NRA.	CMP issue related action (Water Quality - ingress of groundwater to sewers).  WQ6	TWUL Borough & District Councils, NRA	1993/4 - 1998/9	Some discussions between NRA and Thames Water. STW improvements are preferred to sewer repair.
21. Development control in the floodplain by Local Authorities. Continue mathematical modelling of the floodplain of the Rivers Kennet and Lambourn in the Newbury and Thatcham area to ascertain if standards of service are being achieved. Continue monitoring of water levels, flow and gate operation to assist with calibration of hydraulic model.	CMP issue related action (Flood Defence - increased risk of flooding in Newbury and Thatcham).  FD1	NRA District & County Councils, Riparian Owners	1994/5 - 1998/9	Suitable policy statements for floodplain protection have been included in most statutory development plans
22. Management of complex control structures in the Newbury area in order to reduce potential risk of flooding. Continue mathematical modelling to investigate Standards of Service and need for flood defence capital works.	CMP issue related action (Flood Defence - management of river structures).  FD3	NRA District & County Councils, Riparian Owners	1994/5 - 1998/9	Depends on the outcome of table 1.11 and 21 above.
23. Litter on the Kennet and Avon Canal especially on the bank: Improve public awareness and education.	CMP issue related action (Water Quality - Litter). WQ9	NDC, RBC, KDC, BW, NRA, CKC, Riparian Owners	1993/4 - 1998/9	Visual inspection planned for Autumn 1995.

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
<p>24. Make positive use of existing groups and fora to:</p> <ul style="list-style-type: none"> <li>- help the NRA achieve its coordinating role,</li> <li>- report incidents promptly,</li> <li>- promote monitor, audit and review actions.</li> </ul> <p>Raise awareness and communicate the importance of implementing the Action Plans by key participants.</p>	<p>CMP issue related action (Communications - effective coordination of debating local concerns and issues).</p> <p style="text-align: right;">CO1</p>	<p>NRA County &amp; Local Councils, Riparian Owners, Interest groups</p>	<p>1994/5 - 1998/9</p>	<p>Invitations to give talks and attend meetings of external organisations have been accepted. The fisheries section is represented at the KVFA. Staff also attend Reading Waterways Forum, CKC etc.</p> <p>Discussions continued with key participants through the NRA CMP monitoring and review process and aided by the distribution of the Cross-functional plans etc.</p>
<p>25. Commission and distribute six monthly newsletter to key participants of the Action Plan.</p>	<p>CMP issue related action (Communications).</p> <p style="text-align: right;">CO1</p>	<p>NRA County &amp; District Councils, Riparian Owners, Interest groups</p>	<p>1994/5 - 1998/9</p>	<p>Six monthly newsletter produced November 1994, distributed widely and generally well received.</p>
<p>26. Form working groups of key participants to monitor and review the implementation of Action Plans. Through a forum, disseminate progress on Action plans annually to an invited audience.</p>	<p>CMP issue related action (Communications).</p> <p style="text-align: right;">CO1</p>	<p>NRA County &amp; District Councils, Riparian Owners, Interest groups</p>		<p>No Forum or working groups planned due to lack of resources but this Annual Review will communicate progress.</p>

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
27 Investigate ways of improving awareness of NRA and its duties through effective communication to external interested parties, ie, "the public".	CMP issue related action (Communications).  C02			Analysis of questionnaires. Various Customer Care Initiatives within West Area eg leaflet, displays, Newbury County show, West Area Open day, etc.

TABLE 4: IMPROVEMENT

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
1. Planned enhancement projects as identified in the Flood Defence Habitat Enhancement Programme (chosen by Fisheries/Conservation) are R. Dun at N. Standen and R. Kennet at Wasing.	Routine activity.	NRA Riparian Owners, EN, County & District Councils	1993/4 - 1998/9	Enhancements on River Kennet at Newbury held pending By-pass Inquiry.  Much enhancement achieved through Flood Defence funding and during routine river maintenance works.
2. Promote the recreational use of water and associated land & encourage public access, primarily through joint ventures.	Routine activity to enhance amenity value of water environment. Benefits local community.	NRA CoCo, Riparian Owners, District & County Councils	1993/4 - 1998/9	No opportunity has presented itself for joint ventures. However, a recreation information strategy has been developed for Thames Region as a whole.
3. Promote improvements in water environment in minerals plans: encourage wetland habitat & landscape enhancements as part of "after use plans".	Routine activity.	NRA County and Local Councils	1993/4 - 1998/9	Suitable policy statements are being included in relevant development plans eg Hampshire Minerals and Waste Plan, Berkshire Minerals Plan, Oxfordshire Minerals and Waste Plan.



SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
4. Look to promote and initiate an otter habitat project. Aim to assess its suitability for otters by investigating habitat, prey populations and the levels of toxic pollutants ie through fish tissue analysis.	CMP issue related action (Fisheries and Conservation - recovery of an Otter population).  FC5	NRA WWT, BBONT, KVFA, EN, Riparian Owners, County Council	1994/5 - 1998/9	Survey work ongoing through the Project Officer employed by Wiltshire Wildlife Trust who undertake the day-to-day running of the project. Opportunities for enhancement identified through liaison with land owners. A number of artificial otter holts have already been built. Natural recolonisation will be encouraged. Otters have been reported but since there have been no definite signs, otters are presumed absent on the catchment.
5. Re-establish a substantially self-sustaining run of salmon. Programmed stocking of juvenile salmon into the Rivers Kennet and Lambourn.	CMP issue related action (Fisheries and Conservation - Salmon rehabilitation).  FC10	NRA TST, KVFA, Riparian Owners	1994/5 - 1998/9	1,000 parr and 8,000 fry stocked into the Kennet system.
6. West Berkshire Groundwater Scheme Sites: Removal of unsightly disused radio masts. Commission grass cutting regimes. General site clearance and tidying up.	Routine activity	NRA TWUL	1994/5 - 1995/6	Existing redundant masts have been removed and others are to be taken down as telemetry systems are changed to land lines.

SPECIFIC ACTIVITY	NATURE OF ACTIVITY/ISSUE	LEAD RESPONSIBILITY (and participant)	PROGRAMME	PROGRESS/COMMENTS
<p>7. Environmental impact of increased boat traffic on physical habitat of Kennet &amp; Avon Canal: Take appropriate opportunities for enhancement when doing maintenance works eg soft bank revetment, off channel refuges for invertebrates and fry, planting etc.</p>	<p>CMP issue related action (Fisheries and Conservation - Kennet &amp; Avon canal, impact of increased boat traffic). FC8</p>	<p>BW NRA</p>	<p>1993/4 - 1998/9</p>	<p>Recommendations incorporated into the Hungerford Marina planning application.</p>

### **FUTURE REVIEWS**

- 5.0 The Action Plan will be monitored annually and a report (such as this one), the CMP Annual Review, will be issued outlining progress. The need to update the CMP will be assessed at the next CMP annual review. The period between major revisions to the CMP will normally be five years.
- 5.1 The Annual Reviews can only be as good and comprehensive as the information and contributions received. In particular local authorities, EN, BW, TWUL, ARK, HMIP, industry, K&ACT, KVFA, Riparian owners and readers are asked to send in any noteworthy information on activities which would be of interest to others in the catchment. This will keep the NRA informed and ensure that all the news on progress and activities are disseminated properly and widely through the River Kennet CMP Annual Review.

### **CONCLUDING REMARKS**

- 6.0 ENVAGE - The Environment Bill received its second reading in the House of Commons on 18 April 1995 and has been fully debated. The Bill will bring together the NRA, HMIP and the local Waste Regulation Authorities into one single Environment Agency in April 1996. Advisory Committees were formed in April to facilitate the move. The Committee stage will continue until June and their duties will include a critical examination of and suggested amendment to the Bill.
- 6.1 It is expected that the next Annual Review of the CMP Action Plans will be published by the NRA as an integral part of this new agency in May 1996.

**Thank you for your interest in the River Kennet catchment. As this Review shows, the NRA and others have made considerable progress towards addressing the activities stated in action plans. The NRA hopes that this work can continue in the future.**

**PLEASE LET US KNOW YOUR VIEWS AND YOUR ACTIVITIES.**

*Please note: This is not a legally or scientifically binding document since it is written for both wide public appreciation and information.*

## APPENDICES

### APPENDIX A - Progress of Statutory Plans

#### *Structure Plans*

Berkshire Structure Plan 1991 - 2006. Modifications December 1994. (Pending Adoption - awaiting DoE's decision on housing figures).

Hampshire Structure Plan Approved January 1994. (Structure Plan currently being reviewed - "Hampshire 2011")

Oxfordshire (4th Alteration 1993). Structure Plan Review due to take place this year.

North East Wiltshire Structure Plan (incorporating Alterations No.1&2) approved April 1993. Replacement Structure Plan for the whole of Wiltshire currently being prepared.

#### *District Plans*

Basingstoke & Deane District Local Plan. Deposit Draft July 1992 (Changes document published May 1994). Public Inquiry started January 1994 and expected to finish July 1995.

Kennet District Plan - Deposit Draft March 1994 (Public Inquiry started March 1995).

Newbury District Local Plan: Adopted December 1993 (Local Plan Review Draft for Public Consultation December 1995).

North Wiltshire District Local Plan: Adopted August 1993. Deposit Draft of Local Plan Review April 1995.

Reading Borough Plan Deposit Draft 1992. (Inquiry held Oct 1993 - Jan 1994). Inspectors Report received August 1994.

Thamesdown Borough Local Plan - Deposit Draft May 1994. (Public Inquiry - current).

Vale of White Horse Public District Plan Consultation Draft November 93. (Deposit expected Autumn 1995).

#### *Minerals Plans*

Hampshire Minerals and Waste Plan Deposit Draft November 1993. Public Inquiry to begin June 1995

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Berkshire Replacement Minerals Local Plan - Draft January 1993. (Adoption likely after May).

Oxfordshire Minerals and Waste Plan Deposit Draft 1993. (Public Inquiry held Summer 1994).

Wiltshire Minerals Plan Public Consultation Draft September 1994

### *Waste Plans*

Berkshire Waste Local Plan Deposit Draft December 1994.

## APPENDIX B

### **General Quality Assessment Scheme**

The GQA scheme is used to make periodic assessment of the quality of river water in order to monitor geographical and temporal trends. The scheme comprises four components - general chemistry, nutrients, aesthetics and biology - each providing a discrete "window" upon the quality of river stretches. The general chemistry component of the GQA is in current use, and comprises six tiered grades defined by standards for Dissolved Oxygen, BOD and Total Ammonia. The remaining three windows are still under development and will be applied when available.

### **Water Quality Objective Scheme**

The WQO scheme establishes clear quality targets to provide a commonly-agreed planning framework for regulatory bodies and dischargers alike. The proposed WQO scheme is based upon the recognised uses to which a river stretch may be put. These uses include: River Ecosystem, Special Ecosystem; Abstraction for Potable Supply; Agricultural/Industrial Abstraction; and Watersports. The standards defining the five tiered River Ecosystem (RE) use classes, which address the chemical quality requirements of different types of aquatic ecosystems, were introduced by *The Surface Waters (River Ecosystem) (Classification) Regulations 1994*. Standards for further uses are still under development.

For each stretch of river, a target RE class will be assigned, including a date by which this standard of water quality should be achieved. Until WQOs are formally established by legal Notice served by the Secretary of State, and therefore exist on a statutory basis, they will be applied on a non-statutory basis through a translation of River Quality Objectives (RQOs) from NWC classes to appropriate RE classes and target dates.

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These new RQOs will consist of "short-term" and some "long-term" targets. The short-term targets indicate the quality that is achievable within a five to ten year horizon of planned investment and/or actions by dischargers and the NRA. The long-term targets will indicate a quality that is achievable at some point beyond a 10 year horizon if future improvement actions can be funded. As a result, these long-term targets will show the target class but no target date.

In Thames Region, the RQOs (NWC-based) are now in the process of translation into River Ecosystem classes on a catchment by catchment basis following the introduction of the Regulations last year. The detailed translation for the Kennet catchment is expected to be completed in time for the next Annual Review (June 1996).

# RIVER KENNET CATCHMENT MANAGEMENT PLAN

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### ABBREVIATIONS

AONB	Area of Outstanding Natural Beauty
ARK	Action for the River Kennet
BCC	Berkshire County Council
BW	British Waterways
CKC	Cleaner Kennet Campaign
DoE	Department of the Environment
EC	European Commission
EN	English Nature
ENVAGE	The Environment Agency
HA	The Highways Agency
HMIP	Her Majesty's Inspectorate of Pollution
HSE	Health & Safety Executive
K & ACT	Kennet & Avon Canal Trust
KDC	Kennet District Council
KVFA	Kennet Valley Fisheries Association
MAFF	Ministry of Agriculture, Fisheries & Food
NDC	Newbury District Council
NWC	National Water Council
PHABSIM	Physical Habitat Simulation System - a suite of computer programmes used for the specification of ecologically acceptable flows
RBC	Reading Borough Council
R&DAA	Reading & District Anglers Association
RSPB	Royal Society for the Protection of Birds
SSSI	Site of Special Scientific Interest
TWUL	Thames Water Utilities Limited
WCC	Wiltshire County Council

### Documents also in this series:

*River Kennet Catchment Management Plan Consultation Report (March 1993)*

*River Kennet Catchment Management Plan Final Report (April 1994) - price £10*

*River Kennet Catchment Management Plan Newsletter (November 1994)*

*River Kennet Cross-functional plan (October 1994)*

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