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DATE OUT :

**THE BLACKWATER RIVER
CATCHMENT MANAGEMENT PLAN**

**FIRST ANNUAL REVIEW
95/96**

DRAFT DOCUMENT



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NOTE :

**THIS PAGE IS TO CONTAIN AN APPROPRIATE
STATEMENT**

**RE :THE FORMATION OF THE ENVIRONMENTAL
AGENCY**

TOGETHER WITH THE NRA 'MISSION STATEMENT'.

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1.0 EXECUTIVE SUMMARY

One of the main objectives of an Annual Review is to record the progress of Catchment actions as identified in the Blackwater River Catchment Management Plan - Final Plan (renamed the Action Plan). The progression of activities within the catchment as of November 1994 onwards has been generally very good.

In total there were... actions identified in the Blackwater Final Plan, for the period 1994 and 1999. of these actions have been successfully completed. There is one additional issue (extended from a Blackwater River issue to cover the whole catchment), five actions, and an amendment to an action.

The remaining actions either continue as part of an ongoing activity have not yet been completed but are still on target, or have been delayed. Details of Activity progress is provided later in the Action Tables.

Catchment Progress of particular note includes.....

PLEASE ADD ISSUES YOU WOULD LIKE TO HIGHLIGHT IN THE EXECUTIVE SUMMARY

Thames 21

The recent publication 'Thames 21 - A Planning Perspective and a Sustainable Strategy for the Thames Region' (NRA September 1995, sets out the NRA's sustainable strategy for the Water Environment of the Thames Region. 'Thames 21' has 3 roles :

- **a bridge between the NRA and external organisations dealing with strategic planning;**
- **an easy to use summary of current NRA policies for promotion through the statutory development plan system;**
- **a regional context for the preparation of catchment management plans with an indication of the development issues these plans need to address. This will enable them to promote suitable natural resource management.**

The NRA recognises the disadvantages of promoting the water environment through the statutory development plan system. 'Thames 21' is an important part in the ongoing dialogue with local authorities in identifying those locations where water related policies need to be actively pursued.

'Thames 21 identified the key Catchment Planning Issues for the Blackwater Catchment as :

The vulnerable groundwater chalk aquifer must be protected by following the guidelines set out in the NRA's 'Policy and Practice for the Protection of Groundwater'. Source control measures will also be required to attenuate increased water run-off from future development.

The ecology of surface waters needs to be protected to maintain the existing diversity of flora and fauna. Discharge consents for any development/activity must meet and, enhance river quality.

2.0 VISION FOR THE CATCHMENT

The 'Vision' for the Blackwater Catchment, was identified in the catchments Final Plan which was published in November 1994. The Vision is based on the concept of achieving sustainable development through partnership and community involvement

THE VISION

- **Reverse the decline of the water environment and seek to restore the river corridor to a more natural state in which it will become a valued asset for the whole of the community;**
- **Secure protection and enhancement of the water environment through its own actions, in partnership with others and, increasingly, through the process of land use planning, implement the principles of sustainable development;**
- **Facilitate activities by various water users in appropriate locations and balance them so as to avoid conflict, through strong links and involvement with local communities.**

3.0 INTRODUCTION

The National Rivers Authority (NRA) is currently undertaking a programme of Catchment Management Plans (CMPs). CMPs allow the NRA to balance 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 operations for their solution. Following a period of consultation and Action Plan (or in the case of the Blackwater Catchment the Action Plan was called the Final Plan) was produced. This includes activity plans for improvements to the water environment. It outlines areas of work and investment proposed by the NRA and others.

An important part of the CMP process is to monitor the Action Plan to ensure that targets and actions are achieved and that the plan continues to address relevant and significant issues in the catchment in an appropriate manner. This report summarises the progress made since the publication of the Blackwater Final Plan in November 1994.

The stages in the CMP process, relating to the Blackwater River Catchment are set out on the following page.

Catchment Management Plans

IDENTIFICATION

and The Blackwater River Catchment Management Plan Consultation
PLANNING Draft November 1992. Primarily launched as a Pilot Plan, the consultation draft acted as an information base for the Catchment, identifying problems, issues and strategies providing the foundations on which the following plan was to be based.

ACTIONS Two years later the **Blackwater River Catchment Management Final Plan November 1994** was produced, forming a comprehensive strategy for the Catchment. Actions promoting the protection and enhancement were formulated in response to issues raised in the Consultation Draft, thus setting the Catchment's Vision.

MONITOR i) **The Blackwater River Catchment Management Plan's First Annual Review** forms stage 1 of the monitoring process. In essence the Review sets out to fulfil 3 main objectives:

- to monitor progression of work achieved during the year in relation to initial targets stated in the Final plan,
- to address any additional issues or events previously unaccounted for, and
- finally to assess the need to review the Catchment Management Plan itself.

ii) Stage 2, review of the Catchment Management Plan
- see 'Future Review' on page 32 for further information.

4.0 CATCHMENT OVERVIEW

Key Catchment Statistics

Catchment Area :	356 sq.km	Main River Length :	87 km (maintained for flood defence purposes)
Population :	250, 000	Controlled Water Length :	125 km (monitored by NRA for water quality)
Rainfall			
Annual Rainfall : (average)	680 mm	Rainfall : <i>between 1995/6 (average)</i>	See Dave Elford
Major towns :	Aldershot, Camberley, Fleet, Farnborough, Sandhurst, Yateley, Hartley Wintney, Hook.		
Main Tributaries of the River Blackwater :	River Whitewater, River Hart, Fleet Brook, Cove Brook.		
Other waterbodies within Blackwater Catchment :	Basingstoke Canal, Fleet Pond.		

The Blackwater Catchment

The catchment is one of contrasts. On the western side the Whitewater and Hart Rivers drain a largely undeveloped area (apart from the towns of Fleet and Hook). The land on the eastern side the Blackwater River and Cove Brook drain a heavily urbanised area. The river in this area therefore provides an essential ecological corridor.

The Basingstoke Canal runs through the catchment from west to east close to the 75 metre ground contour. The canal, which has been restored and reopened, now supports a number of Sites of Scientific Interest (SSSI) and is regarded by many to be of national ecological importance. Within the catchment there are other water dependant habitats which are designated as SSSIs. These include fens, lakes, bogs and water meadows, making this a particularly diverse and are rich in ecological terms. Fleet Pond, the largest freshwater lake in Hampshire, was designated as a Site of Special Scientific Interest in 1951.

The Blackwater River, is an EC designated cyprinid fishery as is the River Hart - from Elvertham Park Bridge to the River Whitewater, and the Basingstoke Canal - from Greywell Tunnel to Eelsmore Bridge.

The River Whitewater has a good fish population, and from its source to its confluence with the River Blackwater it is an EC designated salmonid fishery.

Continuous efforts are being made to improve river access in the catchment. Pedestrian access is particularly good, along the River Blackwater due to extensive upgrading parts of the existing towpath and provision of 'linking' footpaths.

There are plans to upgrade the more widely used sections of the path, to a dual use route for the benefit of cyclists. These are presently being looked into in association with the National cycle network - Sustrans.

The catchment lies within the administrative boundaries of 9 Borough District Councils, including the whole of Hart District Council.

<u>County Councils</u>	<u>District & Borough Councils</u>
Hampshire	Hart DC
	Rushmoor BC
	Basingstoke & Deane BC
	East Hampshire DC
Surrey	Surrey Heath BC
	Guildford BC
	Waverley BC
Berkshire	Wokingham DC
	Bracknell Forest BC

5.0 SUMMARY OF PROGRESS

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

5.1 Enhancement Schemes

Mitigation Enhancement Works on the Blackwater Valley Road

In (DATE) proposals to extend the Blackwater Valley Road (BVR) were finally given a full licence and consent. The path of the road had been designated to run alongside the Blackwater River; requiring the channel to be diverted.

Following negotiations with the various parties involved, a scheme of enhancements were drawn up creating a more natural channel where the course was to be re-aligned. This involved sections of an adequate low flow width and recruitment of bends and substrate.

(i) The Surrey (Centre) Section

The Centre Section of the enhancements along the Blackwater, under the jurisdiction of Surrey County Council has progressed to near completion. Since November 1994 the new canal aqueduct has been constructed. Two major river diversions have incorporated a variety of environmental enhancements including low level berms, sinuosity of the channel, and emergent and willow spiling totalling a length of 750 metres.

In addition to this, a series of gravel riffles were incorporated into the scheme to locally impound, diverge and converge the flow. This unique feature is in the process of being monitored. Potentially, there is a great deal of success to be made on the Surrey section.

(ii) The Hampshire (Northern) Section

The Northern Section of the scheme was completed two years ago. The river diversions are well established in these reaches, though the channel tends to be 'over-wide' in places and not functioning entirely as anticipated.

Both the Northern and Centre sections are currently being monitored in terms of their morphological, conservation, fisheries, biological, habitat and hydraulic impacts and adjustments.

Recent Progress

'On 11 December 1995 the officers meeting of the Inter Authority Liaison Group, which comprises basically of the Blackwater Valley local authorities, discussed the potential for a working partnership on a Transportation/Land Use Study for the Valley. Such a Study was agreed as worthwhile as a result of opening the entire BVR this year. It has been left to Hampshire County Council to draw up a proposal..'

Surrey County Council: - - - - -

The Blackwater Bat Cave is the first man-made cave of its kind in the UK. The cave, not far from the channel itself was constructed in a nearby lake to replicate the lost habitat afforded by the River Blackwater brick culvert under the railway embankment (now replaced by the aqueduct). Some of the residents have already occupied their new home !

5.2 Cove Brook Landscape Assessment

In July 1995 a report was put forward on behalf of Hampshire CC, NRA and Rushmoor BC detailing the results of a Landscape assessment carried out on the Cove Brook, including a series of recommendations proposing a range of potential improvements for the area.

As a result the two councils have formed a partnership with the NRA (the *Cove Brook Greenway Steering Group*), proposing a joint Environmental Enhancement Project, comprising of various Officers from Hampshire and Rushmoor Councils, and NRA. The steering group has set to work to design the re-alignment of a section of the Brook within the Southwood open space/golf course. This area is also a flood Storage Pond for which the NRA is responsible.

A feasibility study and resulting report for this initiative will be prepared and submitted around August / September of this year. One third of the estimated scheme costs (£300,000 over 5 years) is to be funded by the NRA.

5.3 Environmental Impact Assessment on the Blackwater River.

Since the production of the Consultation Draft several cases of development at the top end of the Blackwater Catchment have given cause for concern. This is mainly in respect to small watercourses ultimately leading to the River Blackwater. In some cases the NRA has found it difficult to obtain adequate buffer strips and the protection of wetland habitats in these areas when development is going ahead.

Examples of current development sites that have been affected by this problem include;

- **The Inner Quadrant at Lakeside Road, Ash Vale - difficulties securing buffer zones and water features.**
- **Land off Ash Lodge Drive, Manor Road, Ash - difficulties in securing buffer zones.**
- **Land to the rear of South Lane, Ash Lodge Drive - difficulties again in securing buffer zones,**

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The NRA pursues a policy of close liaison with Local Authorities particularly during the Development Plan stage to secure the inclusion of appropriate policies to protect and enhance the water environment.

****culverting** is when a watercourse is taken from its natural setting and fed through a pipe. The NRA discourages culverting where alternatives are practical, for environmental, flood defence and maintenance reasons.

5.4 Water Quality

1. SCREED RE : PROGRESS IE CW4
2. INTRO TO RQOs
SEE APPENDIX 4

Louise Wolfenden to advise

5.5 Watersports within the Catchment

The issue of poor water quality in certain areas of the catchment has lead to concern over water related activities. The quality of the rivers within the catchment is directly related to the effluent discharged into it; treated and permitted, or as pollution.

These discharges in turn dictate the type of activities appropriate for a particular watercourse. The Blackwater Catchment, is therefore under particular pressure in respect

to water quality, as it supports a larger number of Sewerage Treatment Works than many catchments of a similar size.

Although it is recognised that attempts to improve water quality should be undertaken whenever feasibility/practicality allows, it is also acknowledged that *any* inland waterway will have a certain degree of biological pollution.

At present, there are no standards set by government for water sports within the RQO system. It is anticipated however that when these standards are introduced (with the main objective of reducing the RE class number), they will be justified using cost-benefit analysis relating primarily to use.

5.6 Pollution Incidents in the Blackwater Catchment

Between 1995 - 1996, a total of 117 pollution incidents were recorded by the NRA within the Blackwater Catchment (including the Whitewater and Hart sub-catchments). Half of these were found to be unsubstantiated (Category 4).

Throughout the year ten Category 1/Category 2 pollution incidents were investigated (examples of which are listed in **Appendix VI**); the majority were associated with spillages of a variety of oil types, re-emphasizing the need for Action BW2 Strategy 6 in the Action Plan (see Action tables).

5.7 Oil Care Campaign

In January 1995 the NRA's 'Oil care campaign' was launched. The campaign was set up with the intention of educating users of the oil industry (at work) and the general public (at home) through NRA guidelines titled the 'Oil care code'. **WOULD ANYONE LIKE TO WRITE A FEW NOTE ON THE RECENT PROGRESS OF THIS CAMPAIGN.**

5.8 Public Involvement

This Authority relies heavily on the general public in reporting any pollution incidents that occur within the catchment, and are always delighted to hear from people who show concern and care for the conservation of the water environment. Should you wish to contact the NRA about pollution, poaching, flooding or indeed any other environmental incidents you wish to bring to our attention, please do not hesitate to call our 24 hour emergency telephone number which can be found at the end of this document.

6.0 MONITORING REPORT

Key to the Action Tables

Issues	The issues within the table have been listed above each set of strategies and actions. New Issues have been shaded and referred to separately in 'Additions to the Action tables' on pages 17/18.
Strategies	(As above).
New Actions	New Actions added since the creation of the Final Plan have been shaded to distinguish them from the established actions within the action tables. They have also been listed again under 'Additions to the Action tables' on page 19. Actions continuing from November 1994 are documented as before.
Complete	Actions that have fulfilled the requirements set at the time of the Final Plan have been marked in bold and show the date of their completion in the timing column.
Priority and Timing	Priority (P) - graded as High (H), Medium (M), or Low (L). Updated information has been given if different to previous information given.
Contacts	Contacts of organisations have been listed as before under 'Leads' and 'Others' after each action. The initials of contacts within organisations have been listed after the appropriate action and provided in full at the back of this document under 'Internal and External Contacts'.
Costs	The update of estimated costs have been marked in bold against those first anticipated in the Final Plan. They are calculated in thousands, spanning from years 1994 to 1999.

The Actions proposed in this, and indeed its predecessor document, have been incorporated out of a need highlighted in the Consultation Draft, and have been formulated only where they are realistically achievable.

6.1 Format

In order to monitor the progress of actions (as laid out in the Final Plan), the Annual Review plan has again been split up into 6 main sections (below) taking the form of several 'Action tables'.

- **Catchment Wide Action Plan I - II**
- **River Hart Action Plan**
- **Basingstoke Canal Action Plan**
- **Blackwater Rr. Action Plan I - IV**
- **River Whitewater Action Plan**
- **Fleet Pond Action Plan**

7.0 ADDITIONS TO THE ACTION TABLES

7.1 Additional Issues

One additional issue has been incorporated into the Action Plan, formerly a 'river specific' action, the new action has been extended to cover the whole catchment. The new issue, shaded grey on the action table, together with those set out in the Final Plan (November 1994), are listed in the column below :

Code **Issue**

Catchment Wide Action Plan.

- CW1 Impact of development on river corridors within the Blackwater Catchment.
- CW2 River Maintenance Standards.
- CW3 Groundwater Catchment.
- CW4 Surface Water Quality.

CW5 Develop and implement landscape enhancement programme

Blackwater River Action Plan.

- BW1 Impact of development on Blackwater River Corridor.
- BW2 Water Quality in Blackwater River.
- BW3 Excessive macrophyte growth.
- BW4 Inadequate flood defence standards.
- BW5 Recreational and Amenity usage.

Code Action

River Hart Action Plan.

- RH1 Flooding at Crondall from River Hart and minor watercourses.
- RH2 Water Quality in the River Hart and Fleet Brook.
- RH3 Effect of Itchel Abstraction on Local Springs and River Flows in Upper Hart.
- RH4 Degraded Habitats.
- RH5 Poor population of fish in upper reaches of Hart.

River Whitewater Action Plan.

- WW1 Water Quality on Whitewater.
- WW2 Degraded Habitats.
- WW3 Concern over low flows in the upper Whitewater.
- WW4 Recognition of special value of Whitewater Valley.

Basingstoke Canal Action Plan

- BC1 Balance between ecological value and recreational/amenity use.
- BC2 Dependence on ecological value and water quality.
- BC3 Proposed increased navigational use.

Fleet Pond Action Plan

- FP1 Continued long term deterioration of ecological value.

7.2 Additional Actions

There have been 5 new actions in the action tables, most created out of a concern for water quality. There has also been an amendment to an existing issue to incorporate bicycle access along the towpath.

Code

Action

CW5/1/1	<ol style="list-style-type: none">1. Commission Strategic landscape assessment, formulate enhancement programme.2. Implement enhancement works incorporating geomorphological principles.
BW2/4/1	<ol style="list-style-type: none">1. Monitor water quality downstream and review consent if necessary.
BW2/7/1	<ol style="list-style-type: none">1. Review consents at Aldershot Military STW.2. Review MoD consent for DTEO - STW in the Pyestock Tributary.
BW5/1/1	<ol style="list-style-type: none">1. Identify opportunities and implement improvements, eg. extension of the Blackwater Valley Footpath and upgrading existing sections of path for cycle use.

THE ACTION TABLES

CATCHMENT-WIDE ACTION PLAN

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(£K) 94/95	PROGRESS
CW1/1. Ensure appropriateness of development.	1. Continue promotion of appropriate land use policies and influence of development plans.	H	Ongoing	NRA		5	Councils have taken on board the objectives laid out in the Final Plan, and have re-examined policy frameworks to ensure the appropriateness of development on river corridors within the Blackwater Valley. Successful progress continues eg. Cove Brook Enhancement Study (CW1/1/3) Under Review pending circular 30/92 and Section 105 surveys. (See BW4/1/1-4).
	2. Improve appropriate policy framework in development plans and implement to resist inappropriate development. (MT)	H	Ongoing	CC, BC, DC.	NRA	50	
	3. Continue to ensure, through the consultation process, that planning decisions respect the needs of the water environment.	H	Ongoing	CC, BC, DC.	NRA		
	4. Undertake surveys to improve information on flood risk and its impact on development. (DvB)	H	98/9	NRA			
CW1/2. Manage quantity and quality of urban & road runoff	1. Produce runoff control management plan incorporating recommendations on source control and flow attenuation.	H	95/6	NRA	TWUL, BC, DC	5	The 'Source Control Working' Group have been looking into issues such as 'road drainage' to include in a 'Source Control Policy' (Regional Project). As yet, nothing has been drawn up specifically for the Blackwater Catchment. Sketches for run-off zones (good/fair/poor) have not been continued. BPEO will begin following plans to form a partnership with HMIP
	2. Advise on best practical environmental options. (DE)	H	94/5 onwards	NRA		3	

Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.

CATCHMENT WIDE ACTIONS II

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(£K) 94/99	PROGRESS
CW2/1. Produce integrated river management plan.	1. Produce methodology for maintenance standard (NRA R&D Project).	H	Completed	NRA			<p>(see notes on p... BVR)</p> <p>'Real Specification' has been put back and will be added to a national initiative to supplant the next phase of the Flood Defence Management Framework. Focus on the River Thames has centred on updating existing standards of service for flood defence.</p> <p>Target standards will be reviewed in April/May for the Blackwater and all its tributaries. The FMDF methodologies will be implemented in full for prioritisation/justification of maintenance works. Pilot will therefore be available by June 1996.</p> <p>Included in above exercise.</p>
	2. Pilot test R&D methodology on Blackwater River(CC)	H	96/7/8	NRA		25	
	3. Produce agreed Reach Sketch Maps for River Maintenance Management after disciplinary consultation.	H	96/7	NRA	CWTs, EN	20	
	4. Publish standards, targets and maintain Blackwater to the agreed methodology.	H	96 onwards	NRA	CWTs, EN	125	
	5. Carry out similar action for the Hart. (DvB)	H	96 onwards	NRA		100	
CW3/1. Implement NRA Groundwater Protection Policy.	1. Promote Groundwater Protection Policy to Local Planning Authorities. (JG/PG)	H	94/5 onwards	NRA	CC, BC, DC		Comments added to Development Plans -through policy. Vulnerability maps have also been produced through HMSO.
CW4/1. Implement Statutory Water Quality Objectives.	1. Submit proposals to DoE and conduct informal consultation. 2. Implement. (JG/PG)	H	ongoing	NRA	TWUL, MoD HCC		(see Appendix IV)
CW5/1. Develop and implement landscape enhancement programme.	1. Commission strategic (landscape assessment, formulate enhancement programme.	H	97/8 or 98/9	NRA	CoCo, CC, B E, DC	20 - 25	New Action, once specific to the Blackwater, now extended to the entire catchment.
	2. Implement enhancement works incorporating geomorphological principles.	H	99/2000	NRA	CC, BC, DC, Developer		

Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.

BW1/4. Maintain, develop and improve fish populations.	1. Continue programme of fishery assessments.	H	96/7	NRA		10	Successful progress being made.
	2. Implement habitat improvements.	M	94/5 onwards	NRA	CC, BC, DC, Developers	50	
	3. Protect and improve isolated brown trout populations.	H	Ongoing	NRA	Landowners		

Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.

** This action has been extended to cover the whole Catchment and will hereafter be removed. Lack of funding in 95/6 has led to the works being referred to 96/7 or 97/8.

BLACKWATER RIVER ACTION PLAN (II)

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(£K) 94/9 9	PROGRESS
BM2/1. Improve water quality downstream of Camberley STW (3.3km reach failed RQD in 1990).	1. Improve Camberley STW. (JG/PG)	H	Completed	TMUL	NRA		Being progressed as part of their new obligations under AMP(II).
BM2/2. Maintain quality improvement downstream of Aldershot Military STW to Cove Brook.	1. Review consent at Ash Vale STW. 2. Improve Ash Vale STW. shade (JG/PG)	M H	complete 94/5 98/99	NRA TMUL	TMUL	1	Presently under appeal, although figures are not yet available. If approved, is hoped to be completed by 1998.
BM2/3. Improve water quality d/s of Cove Brook to R.Loddon.	1. Review consent at Sandhurst STW. 2. Improve Sandhurst STW. (JG/PG)	M H	complete 94/95 98/99	NRA TMUL	TMUL	1	
BM2/4. Manage impact of potential changes to trade effluent treatment at Camberley STW.	1. Monitor water quality downstream and review consent if necessary. (PI)	H	ongoing (as part of GQA)	NRA	TMUL	15	Progress continues as part of GQA, although has not yet been implemented. 1st phase nearly phase nearly complete except for waste oils. (see New Action 216).

Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.

BLACKWATER RIVER ACTION PLAN (III)

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(£K) 94/99	PROGRESS
BW2/5. Review suitability of river for appropriate water contact sports.	1. Continue to collect data on bacteriological water quality. (MY)	H	95/6 onwards	NRA		10	Intensive survey completed approx 5 years ago downstream of Aldershot. 1992 20 sites sampled. 1995 3/4 sites sampled. Sampling complete as of 1995/6 but is unlikely to be continued. This action is still of a high priority. See D Leeming.
	2. Prepare action plan based on forthcoming Government proposals on SWQOs for Water Sport Activity. (JG/PG)	H	Dependent upon DOE	NRA	BC,DC, BVRMS	5 2	
BW2/6. Reduce number excessive number of oil pollution incidents.	1. Implement Pollution Prevention Initiative.	H	Complete 94/5	NRA	Industry	5	Action completed successfully in 94/5. The decision has been to continue this initiative. Oil sampling continues though not as part of a strict programme (see 'Pollution Incidents' on p...)
	2. Monitor surface water outfalls.	H		NRA	TWUL, BC, DC	25	
	3. Investigate pollution incidents: prosecute if appropriate. (JG/PG)	H	93/4 onwards 93/4 onwards	NRA	TWUL, BC, DC	100	
<u>BW2/7. Improve water quality in Blackwater d/s of Aldershot to meet long-term ROOs.</u>	<u>1. Review consents at Aldershot Town STW and Aldershot Military STW.</u>	H	<u>2006</u>	<u>NRA</u>	<u>TWUL, MoD</u>		<u>New Action</u>
	<u>2. Review MoD consent for DTEO STW in the Prestock Trib. (JG/PG)</u>	H	<u>1997</u>	<u>NRA</u>	<u>TWUL, MoD</u>		

B&B/1. Formulate management strategy.	1. Carry out DO survey programme.	H	Complete: 2yr	NRA		5	To be reviewed again in 1997.
	2. Propose designation of Blackwater as a 'Sensitive Area (Eutrophic)' under EC Directive on Wastewater Treatment leading to phosphate removal at STW.	H	Complete	NRA			
	3. Baseline study monitoring of impact of phosphate removal.	H	94/5 onwards	NRA	Landowner	50	Ongoing as part of GQAs
	4. Investigate improved habitat management technique.	M		NRA			
	5. Improve Aldershot Town, Aldershot Military and Ash Vale STW to reduce phosphate load. (JG/PG)	H	94/5 onwards				
			98/99	TWULMo D			

BLACKWATER RIVER ACTION PLAN (IV)

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(£K) 94/99	PROGRESS
BW4/1. Improve standards to appropriate level.	1. Carry out multifunctional feasibility study.	H	Complete 94/5	NRA	EM, CoCo	10	<p>Review of hydrological and hydraulic models have shown the need for further calibration. Loggers have been installed. Awaiting a flood event on a scale that will enable further progress of the model, and results taken from photogrammetry.</p> <p>It is uncertain as to whether this scheme will be implemented.</p>
	2. Design environmentally sympathetic and economically justifiable scheme.	H	95/6	NRA	CMTs, CC, BC, DC	15	
	3. Implement scheme.	H	96/7	NRA		300	
	4. Monitor. (DvB)	M	97/8 onwards	NRA		2	
<u>BW5/1. Protect and promote appropriate recreational uses and facilities.</u>	<u>1. Identify opportunities, promote and implement improvements, eg. extension of Blackwater Valley Footpath; and upgrading existing sections of path for cycle use.</u>	H	<u>Ongoing</u>	<u>BVRCHS</u>	<u>NRA</u> <u>CC, DC,</u> <u>So Co,</u> <u>CoCo</u>		

Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.

RIVER HART ACTION PLAN

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(EX) 94/9 9	PROGRESS
RH1/1. Improve flood defence standards.	1. Implement scheme on main river. 2. Implement scheme on minor watercourses. 3. Identify other areas at risk, investigate and alleviate. (DvB)	H H H	Completed 93/4 95/6 93/4 to 96/7	NRA HCC, HDC HCC, HDC	NRA NRA	90 25 50?	Intend to undertake Flood relief work in Well Rd. HCC are negotiating minor improvements with a Landowner in Heath Lane Crondall with contributions from HDC. Limited work has been completed on a watercourse feeding the River Hart. Much more work is necessary between the river confluence at Ewshot. At present Hart DC has no works or investigation programmed for any particular scheme.
RH2/1. Improve water quality downstream of Fleet STW.	1. Review consent conditions. 2. Improve Fleet STW to meet tightened consent conditions. (DE)	H	Completed 94/95 97/8	NRA TWUL		5	Water abstraction continues apparently at the same rate at the Itchel Pumping Station.
RH3/1. Evaluate situation as part of regional review.	1. Assess priority for detailed study. 2. Review situation.	M L- M	Completed 93/4 94/5 onwards	NRA NRA		1 2	Except in the wettest conditions, the Mill Pond and nearby Itchel Mill springs remain dry, which has posed problems in Wildlife habitats.
RH4/1. Formulate and implement enhancement programme.	1. Undertake River Corridor Habitat Survey. 2. Undertake fishery survey. 3. Prepare management and enhancement strategy. 4. Undertake habitat enhancement works. (DW/SS/AT)	H H H H	Complete Complete 94/5 95/6, 96/7 95/6 onwards	NRA NRA NRA NRA	CC, BC, DC Landowner	2 20	Initial survey complete. Report due Fisheries Action Plan completed.... Initial survey complete. One enhancement scheme complete as of 95/6, estimated cost £30,000.
RH5/1. Investigate situation and formulate appropriate solutions.	1. Undertake targeted fishery surveys. 2. Formulate recommendations. 3. Implement recommendations. (SS/AT)	M M M	94/5 ongoing 94/5 94/95 onwards	NRA NRA NRA		3 1	Targeted surveys ongoing Fisheries Action Plan complete. (See RH4/1/3) One enhancement Plan complete

<u>W16/1. Improve Water Quality of Minley Brook.</u>	<u>1. Removal of the polluting materials from landfill sites. (JG/PG)</u>	H	2001	NCC			New Action
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Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.
RIVER WHITEWATER ACTION PLAN

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(EX) 94/9 9	PROGRESS
W1/1. Investigate cause of apparent low dissolved oxygen.	1. Undertake studies.	M	96/7 ongoing	NRA		2	Work reprioritised due to other resource demands. Much of the work is ongoing through GQAs.
	2. Implement recommendations.	M	96/7 - 97/8	NRA			
W2/1. Formulate and implement enhancement programme.	1. Undertake River Corridor Habitat Survey.	H	Completed 94/5	NRA		2	Initial survey complete. Next survey 97/8. Some site evaluated, but much of the work has had to be re-prioritised due to budget cuts and other resource demands. Will continue when time and finance allows. Completed through the planning process.
	2. Undertake Fisheries Survey.	H		NRA			
	3. Prepare management and enhancement strategy incorporating geomorphological survey information.	H	Complete, 97/8	NRA	CC, BC, DC	10	
	4. Undertake habitat enhancement works.	M	95/6 94/5 onwards	NRA	Landowner	20	
W3/1. Investigate, monitor and review situation.	1. Assess river using NRA standardised methodology.	M	Complete 94/5	NRA	MSWC	3	Results of assessment (W3/1/1) currently under review. Continuing to monitor flows. WLMP for Greywell Fen complete 95/6. ongoing progress
	2. Monitor flows and review situation. (DE)	M	94/5 onwards	NRA	MSWC	5	
	3. Produce WLMP for Greywell Fen.	H		?	?		
	4. Implement and monitor WLMP actions (investigate into nitrate levels in GW).	M	95/6 96/7				

WV/1. Consider designation of Whitewater Valley Countryside Heritage Area.	1. Promote consideration of benefits, implications and cost of such designation.	M	93/4	NRA	HCC, HDC, BDBC	1	Unfortunately this action did not make it into the Structure Plan, but the potential for the designation of the Whitewater Valley heritage area are still being investigated. Alternately HCC are presently preparing an application to the Millenium Commission including proposals to incorporate the Valley into part of the Millenium Forest of Eversley.
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Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.

BASINGSTOKE CANAL ACTION PLAN

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(EX) 94/9 9	PROGRESS
BC1/1. Formulate multi-disciplinary management strategy.	1. Increase participation by NRA in Basingstoke Canal Authority Liaison Group. 2. Continue fisheries survey programme. (SS/AT)	H	Completed and ongoing	BCA, EN	NRA	1	Management have taken on board commendations through NRA participation. Fisheries survey report completed 94/5.
		H	93/4, 98/9	NRA		10	Extensive culverting on the River Lyde opposed by NRA. In put in proposals for partial restoration has been made in an enhancement capacity and will be looked into during the completion of the CMP for the Loddon catchment 97/8.
BC2/1. Maintain water quality.	1. Monitor water quality. 2. Investigate silt load in runoff into canal.	H	complete and ongoing	NRA	BCA, EN	5	1. CPET Study 1993, Report Due. This involves looking at pupil skins in order to monitor eutrophication to see the effects of algae growth in relation to monitoring STWs. As yet this is only being completed on the Wey Navigation and Basingst. Canals.
		M	95/6	NRA	BCA		2. Preliminary investigations have revealed the load to be sporadic.
BC3/1. Assessment of implications for water demand.	1. Consider conditions for abstraction licence. (DE)	M	Dependent upon BCA	NRA	BCA	1	No license applications received. Priority will increase if one is received. Results set within the EN Management Plan

<p>BC3/2. Assessment of proposals to increase navigable length.</p>	<p>1. Safeguard Greywell tunnel as a nationally important habitat for bats.</p>	<p>H</p>	<p>Ongoing</p>	<p>EN</p>	<p>NRA</p>	<p>There are no attending proposals to increase the navigable length of the existing restored canal. Jan 1995 HCC agreed that there was no compelling case to restore the Greywell Tunnel to allow through traffic by boats. Basingst. & Deane BC had submitted proposals to restore the Basingst. Canal from Greywell westwards to Basingst. eastwards only as far as Old Basing. A firm decision has now been made by HCC against future opening of the Greywell Tunnel for Navigation purposes.</p> <p>The debate over proposals for the Greywell Tunnel Bat Habitat continue following the successful precedence set by the construction of a similar scheme at Ash. (see p 13 for more details)</p>
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Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.

FLEET POND ACTION PLAN

STRATEGY	ACTION	P	TIMING	LEAD	OTHERS	(£K) 96/99	PROGRESS
FP1/1. Ensure appropriate management of pond and MoD land upstream on Gelvert Stream.	1. Evaluate MoD silt traps.	H	Ongoing	NRA	MoD, HDC, FPS	2	Problems have found to be not as bad as originally suggested. Present methods used for testing are not considered to be adequate. Objectives are to reclaim as much land as possible and replant it, and to intercept all clean water, perhaps diverting it to another catchment (expensive) in an aim to get as much vegetation back as we can. The Fleet Pond Society's Management Plan has been accepted by HDC (the owner of the Nature Reserve). English Nature continue the production of a WLMP for the Fleet Pond in partnership with HDC and FPS. Fishery survey programmed 96/7
	2. Investigate further options to prevent silt pollution.	M	Ongoing	MOD	NRA, HDC FPS		
	3. Finalise Draft Management Plan.	N	Complete 96/5	FPS	HDC, EN HWT, NRA		
	4. Prepare Fishery Management Strategy.	M	96 onwards	NRA	HDC, FPS NRA, FPS, HDC	1	
	5. Monitor the status of Macrophyte Communities.	M	Ongoing	NRA			
	6. Set SWQO for Pond.	L	Dependent upon DoE	NRA	HDC, FPS, MoD	1	

Note: Costs shown are those incurred by the NRA and are indicative and subject to detailed project justification.

9.0 FUTURE REVIEWS

Catchment Management Plans are dynamic documents. Because of the continuing movement of factors regulating the catchment's character, whether geographical or political, there may be a degree of deviation in an action's original aim. This generates the need for frequent monitoring and revision regarding the Actions and Strategies, and issues from which they originated. Each Annual Review must therefore assess the need for a full revision of the Consultation Draft.

This particular Annual Review would normally be followed by similar reviews of its kind, but instead is to be integrated into the River Loddon Catchment Management Plan which is to be prepared in 1997/98.

APPENDICES

APPENDIX I - CONTACTS

NATIONAL RIVERS AUTHORITY CONTACTS

LAYOUT NEEDS AMENDING

NAME	TEL NO.	TITLE	OFFICE BASE
DvB	Dave van Beesten	- Operations Manager Tribs.	Sunbury
	01932-789833		
CC	Colin Candish	- Flood Def. & Eng. Mgr	Sunbury
	01932-789833		
RC	Richard Copas	- Reg. Landscape Architect	Reading
	01734-535565		
DE	Dave Elford	- Sen Water Res Officer	Reading
	01734-535322		
JG	John Goddard	-Pollution Control	
		Guilford 01483-577655	
PG	Paul Greeves	- Senior Pollution Offr	Guilford
	0	1	4
	577655		8
			3
PL	Paul Logan	- Regional Scientist	Reading 01734-535405
DR	Dave Rylands	- Senr Flood Hydrol	Reading 01734-535788
SS	Steve Sheridan	- Fisheries Officer	Guilford 01483-577655
PS	Phil Stephens - Project Mgr SE Area	London	0171-7359993
AT	Andy Thomas	- Area Fisheries Officer	Guilford 01483-577655
MT	Martin Townsend	- Forward Plang Offr	Sunbury 01932-789833
DW	Dave Webb	- Area Conservation Offr	Guilford 01483-577655
WY	Willie Yeomans	- Biologist	Fobney 01734-535942

APPENDIX II -**ABBREVIATIONS :**

AMP	Asset Management Plan
BBONT	Berkshire, Buckinghamshire and Oxfordshire Naturalists Trusts
BC	Borough Council
BCA	Basingstoke Canal Authority
BDB	Basingstoke & Deane Borough Council
BVRCMS	Blackwater Valley Recreation and Countryside Management Service
CC	County Council
CoCo	Countryside Commission
CPET	Chiomid Pupal Exuvial Techniques
CWT	County Wildlife Trust
DC	District Council
DO	Dissolved Oxygen
DoE	Department of the Environment
d/s	downstream
EC	European Community
EN	English Nature
FPS	Fleet Pond Society
HCC	Hampshire County Council
HDC	Hart District Council
HMSO	Her Majesty's Stationary Office
HWT	Hampshire Wildlife Trust
MoD	Ministry of Defence
MSC	Mid-Southern Water Company
NRA	National Rivers Authority
R&D	Research and Development
SCC	Surrey County Council
STW	Sewage Treatment Works
SWQO	Statutory Water Quality Objectives
SWT	Surrey Wildlife Trust
Sp Co	Sports Council
TWU	Thames Water Utilities
WLMP	Water Level Management Plan

APPENDIX III - DEVELOPMENT PLAN PROGRESS

The current status of the Local Authority Plans are as follows :

<u>County Councils</u>	<u>District & Borough Councils</u>	<u>Current Status</u>
Hampshire	Hart DC	Consultation released - deposit expected later this year
	Rushmoor BC	?
	Basingstoke & Deane BC	Enquiry 1996 depending on modifications
	East Hampshire DC	Deposit released 1995 - public enquiry expected later this year
Surrey	Surrey Heath BC	Deposit expected this year
	Guildford BC	Deposit adopted last year - to be reviewed this year or early next year
	Waverley BC	Consultation document released this year
Berkshire	Wokingham DC	Consultation document released 1995 - deposit expected this year
	Bracknell Forest BC	Consultation document published June 1994, Plan to go on deposit June 1996. (Policies for development control accepted as of 19 November 1995).

CHECK WITH MARTIN TOWNSEND

APPENDIX IV - WATER QUALITY

Regional Water Quality Objectives

Louise Wolfenden to advise

Old and New RQOs
Introduction

River Quality Objectives (RQOs) are water quality targets set by the NRA. These targets are being developed for all the recognised uses to which stretches of river may be put. There are 5 proposed uses: River Ecosystem, Special Ecosystem, Abstraction for Potable Water Supply, Agricultural Abstraction and Water Sports. To date, standards have only been developed for the River Ecosystem (RE) use, whilst the remaining four are still under development.

The RE classification has 5 classes :

- RE1: Water of very good quality suitable for all fish species.**
- RE2: Water of good quality suitable for all fish species.**
- RE3: Water of fair quality for high class coarse fish populations.**
- RE4: Water of fair quality suitable for coarse fish populations.**
- RE5: Water of poor quality which is likely to limit fish populations.**

These RQOs consist of "short-term" and "long-term" targets. The short-term targets indicate the quality that is achievable within a 10 year horizon of planned investment and or action. Long-term targets indicate a quality that may be achievable at some point beyond a 10 year horizon if future improvements can be funded.

The tables on the following two pages indicate targets that have been set. Thirteen of the reaches meet their short-term objectives. The compliance of the remaining nine reaches is either marginal or the reaches fail to meet their objectives. Investment is planned at STWs in the catchment which will ensure all the reaches with the exception of the upper White, Minley Brook and upper Fleet Brook pass their short-term RQOs.

The sampling point on the Whitewater was sited in a slow weir pool, the point was moved downstream of the weir in 1992. The new sampling point is thought to be more representative of the true water quality in the river and the proposed RQO should be consistently achieved in future. The Minley Brook failed to meet its objective due to the polluting affects of an adjacent landfill site, work will be undertaken to ensure compliance by 2001. The compliance of the upper Fleet Brook was marginal possibly as a result of the poor water quality of the Minley Brook.

Longer-term improvements on the Blackwater would require future investment at Aldershot Town STW and at Aldershot Military STW. To meet the long-term RQO proposed for the Pyestock Tributary would require improvements to a Government STW.

It is thought that the RQOs will be made statutory by the Government. These objectives will then become Statutory Water Quality Objectives (SWQOs). The government has decided in consultation with the NRA, to treat the operation of SWQOs in a series of "pilot catchments". The Loddon catchment (which includes the Blackwater sub-catchment) has been selected as a pilot for the Thames Region. The NRA is currently preparing proposals for consultation.

General Quality Assessment

The NRA also makes periodic assessments of the quality of rivers in order to report trends over time and across England and Wales. The Classification Scheme used to report these assessments is known as General Quality Assessment (GQA).

LAYOUT NEEDS AMENDING

PROPOSED RQOs FOR THE CATCHMENT I

NAME OF WATERCOURSE	START OF STRETCH	END OF STRETCH	LENGTH OF STRETCH (km)	WFD SITE TERM RQO
Basingstoke Canal	Greywell	Winchfield	7.6	RE2 (1995)
Basingstoke Canal	Winchfield	Edmore Br. Aldershot	12.3	RE4 (1995)
Blackwater	Aldershot	Aldershot STW	4.5	RE4 (1995)
Blackwater	Aldershot STW	Aldershot Military STW	3.2	RE4 (1995)
Blackwater	Aldershot Military STW	Ash Vale STW	1.7	RE3 (1995)
Blackwater	Ash Vale STW	Cove Brook	6.9	RE3 (1995)
Blackwater	Cove Brook	Camberley	6.8	RE3 (1995)
Blackwater	Camberley STW	Sandhurst STW	3.3	RE3 (1995)
Blackwater	Sandhurst STW	Eversley	8.2	RE3 (1995)
Blackwater	Eversley	River Whitewater	4.3	RE3 (1995)
Blackwater	River Whitewater	River Loddon	2.9	RE3 (1995)
Cove Brook	Source	Hawley Lake Stream	3.8	RE4 (1995)
Cove Brook	Hawley Lake Stream	River Blackwater	2.7	RE4 (1995)
Fleet Brook	Church Cookham	Fleet STW	5.8	RE4 (1995)
Fleet Brook	Fleet STW	River Hart	2.7	RE4 (1995)

PROPOSED RQOs FOR THE CATCHMENT

NAME OF WATERCOURSE	START OF STRETCH	END OF STRETCH	LENGTH OF STRETCH (km)	PROPOSED SHORT-TERM RQO	COMPLIANCE WITH S-T RQO 1992-94	PROPOSED LONG-TERM RQO
Hart	Crondall	Fleet Brook	11.0	RE3 (1995)	Pass	
Hart	Fleet Brook	Hartley Wintney STM	2.4	RE3 (1998)	Fail	
Hart	Hartley Wintney STM	River Whitewater	5.1	RE3 (1998)	Marginal	
Rinley Brook	Source	Fleet Brook	3.6	RE4 (2001)	Fail	
Pyestock Tributary	Source	Cove Brook	1.6	RE3 (1995)	Pass	RE4 (2005)
Whitewater	Source	River Hart	15.6	RE1 (1995)	Marginal	
Whitewater	River Hart	River Blackwater	3.5	RE2 (1998)	Fail	

GQA MAP

APPENDIX V - POLLUTION INCIDENTS

Annually the NRA are frequently responsible for the 'cleaning-up operations' following the pollution of a watercourse. When a pollution incident is recorded it is separated into one of four categories:

CATEGORY 1	CATEGORY 2
<ul style="list-style-type: none">● persistent effect > = one week● Close off abstraction (pollutant reached or near)● Fish Kill: > 100 of notable species● Excessive consent breach plus environmental impact● Extensive remedial measures● Effect on amenity value● Effect on Conservation value	<ul style="list-style-type: none">● Notification of abstractors (Precautionary closure)● Fish Kill: 10-100 of 'Notable species' Limit can be reduced if species of importance (eg migratory salmonids)● Readily observable effect on invertebrate life● Water judged unfit stock watering● Stream bed heavily contaminated● Reduction in amenity Value
CATEGORY 3	CATEGORY 4
<ul style="list-style-type: none">● Notification of Abstractors not necessary● Fish Kill < 10● No observable effects on invertebrates● Suitable for stock watering● Stream bed locally contaminated (at discharge point)● Minimum environmental impact.	<ul style="list-style-type: none">● Unsubstantiated ie. no evidence of a pollution incident.

Major Pollution Incidents

Oil pollution on the Cove Brook and the River Blackwater

CATEGORY 2

On March 21st 1995, a report of oil on the Cove Brook and the River Blackwater was traced back to a public surface water system outfalling the Cove Brook. From there the surface water system was traced back to the entrance to Fernhill School. Following an inspection it emerged that there had been a gas oil spill from a delivery the day before. The delivery had been unsupervised and oil from the overfilled tank had spilled onto the yard area and down a surface water gully. In total it was estimated that 30 gallons of gas oil were spilled, covering a huge area of the River Blackwater (cont'd).

Unfortunately, in trying to alleviate the problem, the caretaker on site had worsened matters in treating the gas oil with detergent and mopping it down the surface water system. This had emulsified the pollution, thus making the spill harder to contain.

In addition to this, a second problem had been discovered. The vent pipes to the oil were found to be situated outside the oil-tank bund wall; had they not been the pollution would not have occurred. The area was cleared using a combination of booms and absorbent material. No (known) fish kill was recorded.

Oil pollution on the Blackwater River at Lynchford Bridge

CATEGORY 2

On March 3rd 1995, significant quantities of oil were found along the Blackwater River. Three booms were installed at Lynchford Bridge and absorbent applied behind the booms. These proved to be less than a hundred percent effective due to the flow in the river.

Oil was eventually traced back to a discharge through an earth bund in continuity with the river bank at the rear

of McAllisters Vehicle Recovery Ltd Yard in Holybush Lane. Following a site inspection the discharge was plugged with a boom.

Oil pollution in a ditch tributary of the Blackwater, Yately

CATEGORY 2

On April 25th 1995, a film of black waste oil was found along a stretch of ditch adjoining a tributary of the Blackwater. Having been boomed off and applied with absorbent, the oil was traced back to Circuit Cars Limited premises off Reading Road in Yately. After examination it was discovered an oil tank had leaked, spilling 600 gallons of waste oil. Booms were also installed where the ditch entered the Trilakes System, the tank was emptied and all contaminated soil was removed.

The exact route of the oil between the spillage and the stream was uncertain, but assumed to have come from a land drain at Kevins Drive about 70 yards from the spillage as no surface water connection or man-holes were present. No (known) fish kill was recorded.

Oil pollution in a tributary of the Whitewater at Holt Way, Hook

CATEGORY 2

On May 1st 1995, a large quantity of gas oil was traced back to a 12 inch surface water outfall at Hook Industrial Estate. The oil, had built up behind existing boom that has been installed earlier down stream of the surface water outfall. These booms were reinforced and extra absorbent was added. In addition to this, two booms were installed further downstream at 'Wild Herons' and 'Holt Way' and a tanker was called in to remove the oil.

The pollution was later traced back to Skyline Office Systems Limited on Hook Industrial Estate, originating from a 500g tank of heating oil at the rear of the premises via cracked pipework. No (known) fish kill was recorded.

Chemical pollution at Cove Brook at Cove, Farnborough

CATEGORY 1

On June 3rd 1995, a fish kill was reported in the Cove Brook at Cove, Farnborough. On investigation, tests showed high concentrations of Ammonia to be present. The source of the alkali was traced back to an outfall serving the premises of the Defence Test and Evaluation Organisation (DTEO), a division of the Defence Evaluation and Research Agency (DERA), which is an agency governed by the Ministry of Defence. The extent of the pollution was immediately recognised to be on a very large scale, and consequently an immediate course of action was taken.

The first step of the clean-up operation was to prevent further pollution, thought to originate from a faulty heat exchanger, from spreading. Grant Ammonia values were found to be very high at both the main balancing tank (the "brake" tank) and site interceptor and were subsequently isolated using valves and penstocks. A major fish kill was confirmed by NRA fisheries staff.

Mid Southern Water Company were contacted to open a water main downstream, and at the site later agreed to use storage water in an effort to further dilute the effluent

The following week, on inspection, the brake tank was discovered to be discharging, so the valve had to be sealed and staff instructed to pump the contents of the interceptor back into the Brake Tank. The Brake tank had not been isolated as instructed the previous week, instead it had been allowed to fill completely with the aim of dilution. As Ammonium Nitrate and pH levels were still high, the polluter was instructed to dose the effluent with acid and aerate, before discharging it onto his land once pH level had settled. Permission to do so was given a couple of days later.

The NRA compiled a case of prosecution against the alleged polluter, but were forced to withdraw it shortly before the case was to be heard, when the DTEO claimed Crown Immunity*.

*Crown Immunity is an absolute defence mechanism which means that any emanation of the crown, for example a government department is not bound by the provisions of the Water Resources Act 1991 relating to pollution offenses.

phone numbers envage & emergancy