

Annual Report & Accounts 93⁹⁴



NRA

National Rivers Authority

Guardians of
the Water Environment

THE NATIONAL RIVERS AUTHORITY

Establishment

The National Rivers Authority (NRA) came into being following Royal Assent of the Water Act 1989 on 6th July 1989, taking up its full statutory duties at vesting on 1st September 1989. Our role is to protect and improve the water environment in England and Wales.

Responsibilities

The NRA has statutory duties and powers under the 1991 Water Resources Act for water resources, pollution control, flood defences, fisheries, recreation, conservation and navigation throughout England and Wales. Our water quality and fisheries responsibilities extend into coastal waters. The NRA is also the Competent Authority for some twenty European Community Environmental Directives.

Status

The NRA is a Non-Departmental Public Body. Our sponsor in Government is the Department of the Environment (DoE). We also have important policy links with the Ministry of Agriculture, Fisheries and Food (MAFF) and the Welsh Office. The NRA is now established as the strongest Environmental Protection Agency in Europe and a very effective "Guardian of the Water Environment".

Organisation

The NRA has Head Offices located in London and Bristol and operates through 8 regions and 26 areas. Head Office is primarily concerned with policy development and performance monitoring and our regions and areas with policy implementation and day-to-day operations.

Management

The NRA has a Board of 14 members appointed by the Secretaries of State for the Environment and Wales and the Minister of Agriculture, Fisheries and Food. Each NRA region has three statutory Regional Committees and a Regional Advisory Board.

Resources

In 1993/94, the NRA spent over £440 million and employed around 7,700 staff. About 76% of our costs were recovered from charging schemes and 24% from Government grants.

FURTHER INFORMATION

For further information about the NRA's Annual Report, Corporate Strategies and Plans, please contact:

Corporate Planning Section,
National Rivers Authority,
Rivers House,
Waterside Drive,
Aztec West,
Almondsbury,
Bristol.
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Further copies of the Annual Report and Accounts and other NRA publications can also be obtained from the NRA Regional Offices listed on the inside back cover of this report. Copies of Catchment Management Plans can also be obtained from NRA regional or local area Offices.

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To report any environmental incident (e.g. flooding or pollution), please contact us on the following FREEPHONE number: **0800-80-70-60**

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mission statement

aims


- Achieve a continuing overall improvement in the quality of rivers, estuaries and coastal waters, through the control of pollution.
- Manage water resources to achieve the right balance between the needs of the environment and those of abstractors.
- Provide effective defence for people and property against flooding from rivers and the sea.
- Provide adequate arrangements for flood forecasting and warning.
- Maintain, improve and develop fisheries.
- Develop the amenity and recreational potential of inland and coastal waters and associated lands.
- Conserve and enhance wildlife, landscape, and archaeological features associated with inland and coastal waters of England and Wales.
- Improve and maintain inland waters and their facilities for use by the public where the NRA is the navigation authority.
- Ensure that dischargers pay the costs of the consequences of their discharges and, as far as possible, to recover the costs of water environment improvements from those who benefit.
- Improve public understanding of the water environment and the NRA's work.
- Improve efficiency in the exercise of the NRA's functions.
- Provide challenge and opportunity for employees and show concern for their welfare.

"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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National Rivers Authority

Crickhamsell



ENVIRONMENT AGENCY



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chairman's statement

1993/94 has been a fruitful and challenging year for the NRA. We have made considerable progress in protecting and improving the water environment and our efforts have been rewarded by significant improvements in water quality. We have implemented a range of efficiency initiatives and embarked on a programme of market testing to ensure we are providing a value for money service. It is now vital that the momentum of environmental improvement is maintained and that the resources which we need to continue the good work are not compromised.

Investment made by the Water and Sewerage Companies (WS Plcs) has significant potential to influence the quality of the water environment. During the year, the debate between OFWAT, the industry's economic regulator, and ourselves, its environmental regulator, on the costs of implementing necessary EC Directives and other measures to maintain and improve water quality - the so-called 'cost of quality' debate - has attracted much attention. In particular, it has highlighted the need for sound assessment of costs and benefits to support investment decisions and open debate on priorities.

This public debate may at times have obscured the close working relationships we have established with the WS Plcs. Our input into the second phase of their investment programmes (AMP2) has been designed to ensure that investment is prioritised and targeted to deliver maximum benefits for the environment.

Following the OFWAT review of WS Plc's capital expenditure for the period 1995 - 2000, we welcome the declaration, on the 6th July 1994, by the Secretary of State for the Environment, that expenditure of £522.3 million could go ahead on additional improvement schemes by the water companies. This will enable a good proportion of the NRA list of discretionary schemes, not covered by EC directives or domestic legislation, to be progressed. We will be continuing our close liaison with WS Plcs to take advantage of any additional opportunities to influence their investment to the mutual benefit of water consumers and the environment.

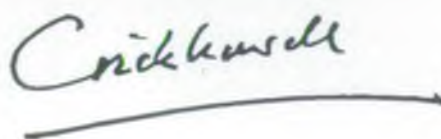
We also welcome the long-awaited agreement on procedures for introducing statutory Water Quality Objectives (WQOs). Their implementation will ensure that money is well spent in making improvements in river quality when and where they are most needed.

We have also been seeking to influence the debate on contaminated land and abandoned mines. It is our belief that the extent to which remedial action can and should be taken needs careful consideration. Our experts have provided advice to Government and we welcome the review that is now taking place. We also welcome the undertakings given by Government, during the passage of the Coal Bill, about the pumping of mine water and subsidence liabilities.

European legislation has also been a target for our input and influence. This input is designed to ensure that EC Environmental Directives are based on firm scientific evidence and are prioritised according to need. NRA support for the principle of subsidiarity will remain, as long as it is not used as a pretext for "thinning down" the valuable environmental improvements that are being introduced, for example in response to the Urban Wastewater Treatment Directive.

We welcome Government strategies on sustainable development and biodiversity and will take forward these principles in our own corporate strategy.

We have continued to provide advice and support to Government on the development of proposals for the Environment Agency. During the year we have developed close liaison with our future partners in the new organisation - Her Majesty's Inspectorate of Pollution and the Waste Regulatory Authorities - and look forward to forging even stronger links once the legislation to create the Agency is underway. Integrated environmental management - covering water, land and air - will form the cornerstone on which the new organisation will be built. This reflects the approach which we have developed in the NRA to manage the water environment in an integrated way and which we will continue to pursue with vigour for the organisation's remaining lifetime.



chief executive's review

Delivering real improvements in the rivers, estuaries and coastal waters of England and Wales is not an easy or overnight task. However, I am delighted to report that in 1993/94 the results of our efforts since 1989 are continuing to show through in tangible form.

Our monitoring has revealed a net upgrading in quality of 10.7% of river and canal water across England and Wales between 1990 and 1992. Bathing Water quality has continued to improve with 79.4% of designated waters, the highest recorded, meeting the EC Directive standard. More major sewage treatment works complied with their discharge consent conditions (93%) and the number of major pollution incidents has almost halved since 1989.

These real achievements reflect the sustained efforts that have been put into controlling pollution both through regulation and through collaboration and partnership with water and sewerage undertakers, with industry and with agriculture. Attitudes and practices are changing with consequent benefits for the water environment.

Consultation and close liaison with all interested parties in the production of our Water Resources Development Strategy - published in March 1994 - ensured that its conclusions were well received and supported. With a controlled programme of demand management, it is expected that major water resource developments - which have both significant environmental and cost implications - can be deferred well into the next century.

The heavy rainfall which occurred during the year challenged and proved the worth of our substantial investment in providing flood defences. These, together with the provision of flood warnings and the response of our emergency workforce, did much to reduce the destructive impact of flooding.

As well as being a year of environmental achievement, 1993/94 has also been a year of considerable organisational change.

We have completed our re-organisation to reduce our regions from 10 to 8 and create 26 areas. Responsibility has been delegated downwards to

provide a more effective local delivery of services, closer to the customer. Catchment Management Plans, which identify balanced solutions to local environmental problems, have continued to provide us with a powerful tool to effect integrated environmental management.

We have continued our programme of market testing and efficiency measures. During 1993/94 manpower fell by 8.5%, achieved without compulsory redundancies. Market testing produced estimated savings of £2m in 1993/94; regional mergers reduced costs by over £3m; and national procurement initiatives produced savings of £2.6m. Faced with reductions in Government funding of our work we are continuing to review all of our activities to ensure we are providing the right level of service at the right cost. Particular attention in 1993/94 was focused on fisheries and navigation.

To their credit, NRA employees have not allowed the uncertainty of change to distract them from our main task of protecting and improving the water environment. Their continued commitment to our aims has ensured that the targets set out in our Corporate Plan have been substantially achieved.

Investment in our people has been an important theme during the year. We completed our management development programme for all senior managers and started the process of extending this to middle managers. Our programme of national technical training also got underway. These initiatives are essential to ensure that we equip our staff with the skills that they need to face the challenges that lie ahead.

The transition into the Environment Agency will stretch our capacity for change. In 1993/94 we have continued to build on the foundations laid down since 1989 that will enable us to meet this challenge and apply our integrated approach, not just to water, but to the environment as a whole.



the board and regional committees

The Board

In 1993/94, the Board met on 10 occasions, and discussed a broad range of policy and operational issues. In order to guide strategic direction, we endorsed the publication of strategies covering the NRA's corporate, core function and R&D activities. Site visits within England and Wales provided us with valuable information on national and local environmental matters.

It has been of some concern to us that the setting up of the new Environment Agency is taking longer than anticipated. Nevertheless, active debate of key issues in relation to the Agency - in particular, its structure and organisation - have continued.

The programme of testing our activities for value for money has progressed apace. A review of Laboratory Services resulted in a fundamental reorganisation into a national service. We also approved the process of market testing Maintenance of Transport and Mobile Plant and Project Engineering Survey and Services. Options for these and the provision of various support services, will be presented for our decision during 1994/95. However, the process of change has not been without disruption to staff, for some of whom the past year has been extremely difficult.

Water Quality issues have continued to feature prominently in our discussions during the year. A General Quality Assessment Scheme was approved which, together with statutory Water Quality Objectives, will enable more effective monitoring of our water environment and consequently better use of increasingly limited resources. Balancing the needs of the environment with those of industry, the Government's proposals for deregulation and the 'cost of quality' were discussed. We considered the accurate assessment of the cost and benefits of such actions to be of paramount importance, as was promotion of cooperative ventures within industry such as the Aire and Calder Project. We approved a new Charging for Discharges scheme with charges in 1994/95 held at 1993/94 levels. We considered valuable research information on contaminated land prior to its publication and the consequences of an increasing number of abandoned mines was debated.

We placed significant importance on proposals to assist in the future protection of water resources; collaborative ventures to secure the alleviation of low flows in the River Darent, and an application for a Water Protection Zone for the River Dee were approved for submission to Government.

A Water Resources Development Strategy for England and Wales stretching beyond the turn of the century was agreed, together with a capital programme for 1994/95. We were pleased to be able to reduce the Standard Unit Charge to abstractors for 1994/95 abstraction licences.

We endorsed, with some caution, Managed Retreat as an option for some flood defences in the future. An action plan to make better use of grant-aided funding for capital schemes was also agreed. We were delighted with the professional handling of severe flooding events by NRA staff (notably Chichester) and considered lessons which could be learnt for the future.

After widespread consultation and significant debate, we decided to abandon the proposal for a Section 142 scheme for fisheries funding, and a strategic review of fisheries finance was commissioned. A tiered rod licence and duty system, the administration for which it was agreed would be carried out by the Post Office, was also approved for implementation.

Following our approval of the NRA's Environmental Policy in 1992, the Board supported the implementation of the policy during 1993 and received progress reports to ensure that the Authority's activities were conducted in an environmentally friendly manner.

We endorsed a continuing effort to enhance value for money and efficiency, and thus reduce overheads, with approval subsequently given to a very ambitious corporate plan and demanding operating budget for 1994/95.

Following Government approval, a revised pay structure based on job evaluation and performance related pay, will be implemented in 1994/95. The programme of investment in training and management development has continued, with strong support for a third-tier management training programme. This followed the successful training programme for senior management held at Ashridge Management College; we attended a special one-day session at Ashridge in order to review the programme upon its completion.

Individual Board Members continued to contribute to various initiatives requiring particular expertise. These included the Review of Fisheries Activities, a Review of Contract Letting Procedures, Training and Development, R&D and technical and economic input to the development of the NRA's Corporate Strategy. Invaluable contributions have also been made by individual members to the Board's Audit,

Remuneration and Pensions sub-Committees. Regional Advisory Boards and Regional Committees have continued to benefit from the expertise and advice afforded by Members with regional responsibilities.

Regional Advisory Boards

RABs met on a monthly basis and played a valuable role in advising the Regional General Manager in each region and in providing a link between regions and the main Authority Board.

The range of issues considered included : the impact on standards of service of grant cuts and staffing reductions; organisational restructuring and the move to area – based delivery of services; the Environment Agency and the fostering of relations with our future partners; the market testing programme; the effective management of capital expenditure programmes; opportunities for increased regional cooperation; developing national centres; and management training.

Regional Committees

Regional Rivers Advisory Committees

RRACs generally met four times during the year. The Committees provided advice to the Authority and where appropriate made representations as to the manner in which the Authority carried out its functions in the regions. Committees continued to be consulted on corporate planning and provided advice on regional priorities.

All RRACs expressed concern over the delay in implementing statutory Water Quality Objectives and supported the Authority in pressing for the provision of adequate funding for long standing river quality objectives in the WS Plcs investment plans (AMP2).

Advice was provided on a wide range of subjects including catchment management plans, regional water resources development strategies, the possible impacts of mine closures in some regions, enforcement procedures, the promotion of pollution prevention and charging schemes.

Regional Fisheries Advisory Committees

Most RFACs met four times during the year to consider national and regional issues. The Committees provided important feedback in the Section 142 Charging Scheme consultation exercise (this proposed to raise financial contributions from fishery owners and occupiers). Following the decision to not proceed with a Section 142 scheme, one of the most important issues considered was the revised structure for rod licences. Additional finance for fisheries work is essential in view of the reduction of government grant in aid.

Whilst welcoming the reduction in serious pollution incidents, over-abstraction of rivers was still considered to be a problem in some areas and the RFACs stressed the need to continue to deliver improvements in both water quality and water quantity as a prerequisite for improving fisheries stocks.

RFACs endorsed the use of catchment management plans as a means of dealing with important fisheries issues and applauded the progress made in the catchment management plan programme.

The Committees supported the need for a consistent national approach to a close season for freshwater fish and, again, have contributed valuable input to the consultation exercise.

The Committees reviewed numerous byelaws and approved the introduction of new byelaws.

Regional Flood Defence Committees

As in previous years, the Flood Defence budget and capital programme were major items of discussion at meetings in 1993/94. Numerous new schemes and scheme investigations were approved. Representations were made by members to resolve difficulties in obtaining Government approval of some capital schemes which were causing delays in the capital programme. Valuable input was provided to implementing a variety of solutions for dealing with cash balances under Section 47.

The market testing programme featured prominently in Committee discussions. The need to ensure adequate specifications when drawing up contracts was stressed and this in turn required sufficient client resources to prepare, manage and supervise contracts. The need to have sufficient trained staff to deal with emergencies was counselled and graphically demonstrated during the flooding which occurred over the winter.

Other important issues considered included development and flood risk; standards of service and flood plain mapping; managed retreat; flood warning systems and procedures; progress reports on maintenance and flood alleviation schemes already in hand; and flood defence contribution to catchment management plans.

The Secretary of State for Wales' Advisory Committee

The Committee, established by the Secretary of State for Wales to advise him on matters affecting the NRA in the Principality, met three times during the year and published its third annual report in June 1994.

summary of the year

1993/94 saw considerable improvements in our water environment and in the way it is managed by the NRA. Key achievements for the NRA corporately and within our individual functions are set out below.

Corporate Achievements

- Our re-organisation along natural catchment boundaries, begun in 1992/93, was completed. Our 8 regions and 26 areas are now more efficient and responsive to local needs.
- Published strategies for our seven core functions and our R&D help the many organisations we work with to understand our objectives and provide a sound basis for the continuing integration of our functions.
- Catchment management plans completed for 9 river catchments and 20 further consultation stage plans will provide balanced solutions for local needs.
- Our Customer Charter and revised complaints handling procedures mean that customers know what standards to expect from us and how to complain if we fall short of expectations.
- National guidelines for planning liaison developed with Local Authorities were well received and will help to ensure that land use planning decisions take account of the water environment.
- A single FREEPHONE number now makes it easier for the public to report environmental emergencies such as pollution and flooding.
- We have provided full support to Government in planning the Environment Agency and have built strong, co-operative links with our future partners, Her Majesty's Inspectorate of Pollution and the Waste Regulatory Authorities.
- Our internal environmental policy has gained momentum during the year, improving our use of energy and reducing the amount of waste we produce.
- Monitoring of WS Plc sewage works discharges revealed 93% overall compliance in 1993.
- Close liaison with the WS Plcs and input into the second phase of their investment programme (AMP2) will help ensure that investment is prioritised and targeted to deliver maximum benefits for the environment.
- Agreement was reached with DoE and the Welsh Office on statutory Water Quality Objective (WQO) procedures and the development of plans to implement statutory WQOs in selected river catchments.
- Published reports drew attention to bear on the threat posed to water quality by abandoned mines and contaminated land.
- The number of major pollution incidents was down by some 28% from 1992/3, reflecting our increasing emphasis on pollution prevention.
- Our emergency response to pollution incidents ensured that 92 % of major incidents were attended within our standard of service target time.
- Where prevention measures failed, we took 455 prosecutions against offenders, of which 93% were upheld by the courts. Total fines of over £1 million were imposed and total costs of £362,000 awarded.

Water Resources

- The launch of our water resources development strategy will provide a framework for ensuring that future demand for water for public supply, industry and agriculture in England and Wales may be met in an environmentally sustainable way.
- Publication of regional strategy consultation documents ensured vital local input to our national water resources strategy.
- Implementation of our new Scheme of Abstraction Charges replaced the 10 different regional schemes we inherited, improving both customer service and efficiency.
- Work begun on an efficiency review of hydrometry will produce an improved service in future years.
- Progressive implementation of our Ground Water Protection policy defined a total of 785 Nitrate

Water Quality

- We have seen a net upgrading in quality of 10.7% of the total length of rivers and canals across England and Wales between 1990 and 1992.
- 79.4% of designated bathing waters complied with the EC Directive standard in the 1993 bathing season, the highest ever recorded.

Sensitive Zones in preparation for the implementation of the EC Nitrate Directive.

Flood Defence

- We provided an effective emergency response to 110 serious flooding incidents. Without prompt and effective action many more people would have been affected by flooding.
- Over 1,900 flood warnings were issued to households and local communities, to allow time for possessions to be moved from risk areas and reducing the damage caused by flood waters.
- Maintenance of over 32,000km of flood defences and construction of 160km of new or improved defences will help to protect many communities from flooding.
- Our Standards of Service framework and Memorandum of Understanding with planning authority associations will assist data collection needed to assess the flood risks posed by proposed developments.

Fisheries

- Extensive consultation ensured that the introduction of a new two-tier national rod licence received support from the majority of anglers.
- Improved rod licence distribution means licences are now available for purchase at around 17,000 Post Office sales outlets, increasing convenience for customers and saving NRA administrative costs.
- Our review of all fisheries activities laid a solid foundation for a new financing strategy.

Conservation

- Surveys of over 8,000km of river corridor, some using aerial interpretation techniques, and work on a river habitat survey methodology provided essential information to manage and target our operations more effectively.
- 129 collaborative projects were undertaken with a wide range of conservation partners, sharing expertise and costs.

Navigation

- Completion of the River Thames Hambleden Lock and River Nene navigation improvements means boaters on those navigations now enjoy a better service.

Recreation

- We made the most of our limited budget capacity by carrying out over 80% of 167 completed recreation projects in collaboration with other bodies.

- A review of our recreation policy, carried out during the year, will ensure we target available resource to priority areas.

R&D

- Continuing emphasis on innovative projects ensured key outputs such as CYCLOPS (an automated water quality monitoring device) were brought into operational use.
- Liaison with our future Environment Agency partners resulted in harmonisation of our respective R&D programmes.
- More partnerships with other research-commissioning organisations will provide us with cost-effective outputs for the future.

Staffing, Resources and Efficiency

- Progress in our five-year programme of market testing and competitive tendering continued to ensure we provide an efficient, value for money service. Market testing produced estimated savings of £2m in 1993/94.
- Mergers of Northumbria with Yorkshire and South West with Wessex regions led to reductions in the workforce in these regions of 369 posts through rationalisation and other efficiencies and produced annual savings of £3.8m.
- The need to contain costs and deliver efficiencies resulted in a reduction of a further 367 posts through tight management of vacancies and voluntary severance. Taken together, these measures equate to an 8.5% reduction in the size of the total workforce, achieved without any compulsory redundancy.
- National procurement initiatives saved £2.6m and will continue to save money in future years.
- Implementation of a national laboratory service has removed duplication and will lead to annual savings of £3m per annum.
- Training and development of our employees continued to be of high priority. During the year we invested in almost 30,000 days of training - equivalent to about 4 days of formal training per person.
- Our excellent record of Health and Safety at work was endorsed by the award of the British Safety Council (BSC) award for the third time.

Financial Summary 1993/94

Receipts: where the money came from

	Operational Receipts*	Grants and Contributions	Total	% of Total Receipts
	£m	£m	£m	
Water Quality	45.4	36.1	81.5	18.6
Water Resources	79.8	0.0	79.8	18.2
Flood Defence	190.6	36.3	226.9	51.8
Fisheries	11.3	13.6	24.9	5.7
Recreation & Conservation	0.4	5.4	5.8	1.3
Navigation	3.3	4.4	7.7	1.7
Sub-Total	330.8	95.8	426.6	97.3
Unfunded Pensions	-	11.7	11.7	2.7
Total	330.8	107.5	438.3	100.0

*Operational receipts represent cash generated from business activities and raised through charging schemes, licence fees, precepts, levies and interest receivable.

Government Grants and Contributions by Source

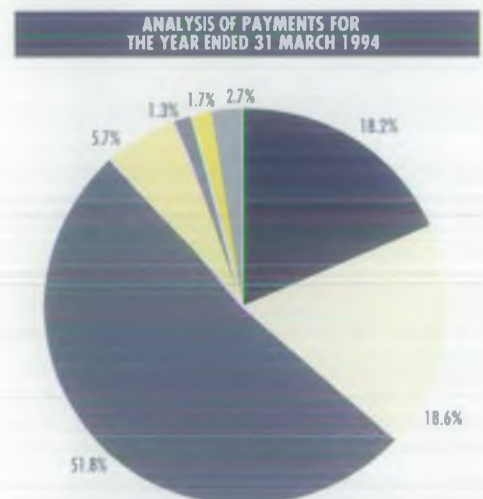
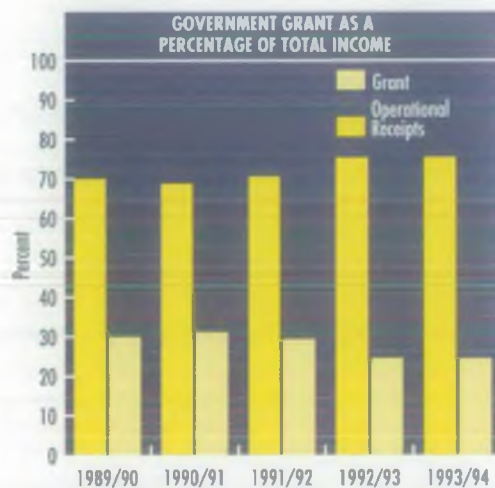
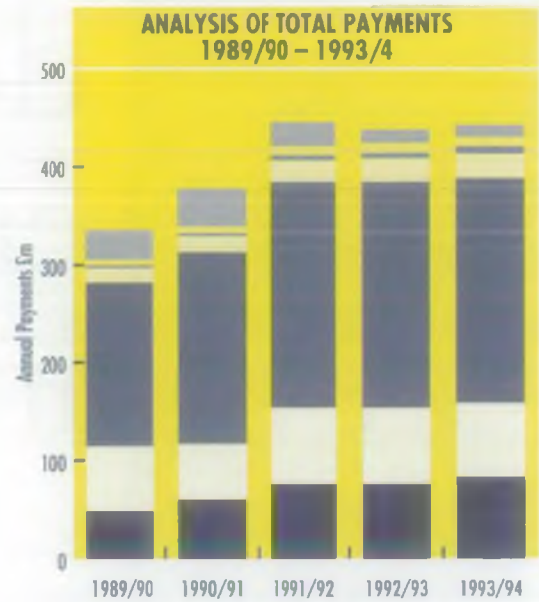
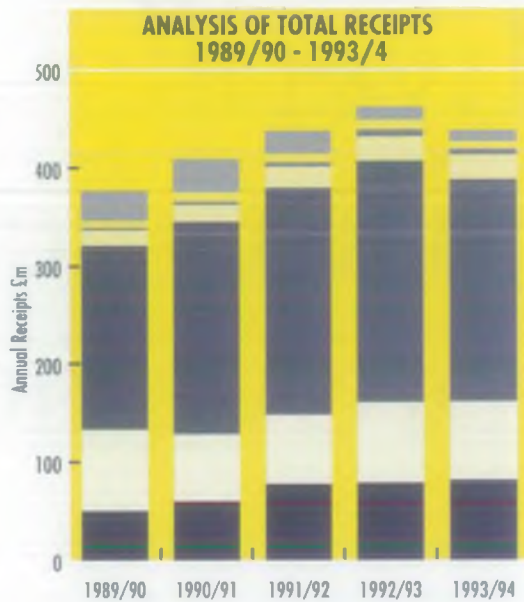
	£m
DoE Grant-in-aid	71.2
MAFF Grant	33.9
Welsh Office	0.6
Other	1.8
Total	107.5

Note: MAFF, Welsh Office and 'other' grants and contributions apply exclusively to Flood Defence activities (£36.3m in total).

Payments: where the money was spent

	£m	Net cash surplus/(deficit) - £m
Water Quality	83.4	(1.9)
Water Resources	75.1	4.7
Flood Defence	229.7	(2.8)
Fisheries	25.1	(0.2)
Recreation & Conservation	7.4	(1.6)
Navigation	9.8	(2.1)
Sub-Total	430.5	(3.9)
Unfunded Pensions	11.7	0.0
Total	442.2	(3.9)**

**The 3.9m cash deficit was covered by the surplus brought forward from the previous year.



*NRA vision and
philosophy*

**Complex interactions
in our environment
require a holistic
approach – treating
the environment as an
integrated whole – to
ensure the balance of
natural systems is not
upset. The NRA vision
is of a healthy and
diverse water
environment, managed
in an environmentally
sustainable way,
balancing the needs of
all users.**

**During the year we
have continued to
develop our integrated
approach to managing
the water
environment, together
with the management
systems and structures
to support it, taking us
further forward in the
realisation of our
vision.**

delivering environmental improvement

*Real improvement
1993/94 has seen real
improvements in the
water environment.
River and bathing water
quality is improving, the
number of major
pollution incidents is
decreasing and we are
seeing the return of
species to some
re-habilitated rivers.*

Sound planning

Integrated environmental management is vital to ensure continued improvement. It requires a cross-functional approach and often involves several organisations, working to shared objectives. The NRA's principal tool to achieve this is catchment management planning. This treats a river, together with the land, tributaries and underground water connected with it, as a discrete unit or catchment. The catchment management plan sets out a common vision for a river catchment, reached through consultation. It identifies objectives for catchment water quality, water quantity and physical features, and actions for the NRA and others to achieve them.

Last year we produced a further 20 consultation reports and 9 final plans. We aim to produce catchment management plans for all 164 catchments in England and Wales by 1998.

Effective and proactive planning is essential to prevent environmental damage and to provide balanced and sustainable solutions to environmental problems. NRA input to Structure and Local Development Plans prepared by Local Authorities is a vital means of protection. Publication and promotion of our Guidance Notes for Local Authorities on *Ways to Protect the Water Environment Through Development Plans* in December 1993 was a significant step forward in improving our influence. In addition, we dealt with over 84,000 individual planning applications in our role as statutory consultee in the planning process.

Strong influencing

Much of what we do relies on close liaison and partnership with other organisations and individuals. During the year we have completed almost 300 collaborative schemes to enhance the conservation and recreation potential of our water environment. Working to shared objectives also requires the flexibility to modify our own approach where necessary. We have continued to demonstrate our commitment to openness in our policy-making process through consultation with our Regional Committees and other users. In addition to extensive consultation on catchment management plans, 1993/94 saw a particular emphasis on consultation with the angling community on the structure of rod licences and duties and on a review of the Close Season for coarse fishing.

We also seek to influence by providing advice and education on pollution prevention. 1993/94 has seen continued NRA input to the preparation of WS Plc investment plans and expenditure by industry and agriculture. Our primary schools education pack, designed to fit in with the National Curriculum and made available free of charge to all primary schools in England and Wales, will help the next generation appreciate and care for our water environment.

Our expertise puts us in a strong position to influence others. During the year we have built up effective links with the European Commission that have allowed us to input to draft policy programmes and provide advice on a wide variety of issues in support of the UK Government.

Effective regulation

Regulation is an essential tool to protect the environment from damage and over-use. In the last year we have seen continually high compliance figures for WS Plc discharges from sewage treatment works - a clear demonstration of the combined power of both influencing investment and enforcing regulations.

We issued in excess of 6500 flood defence consents during the year, showing a 12% increase in works in and around rivers over 1992/93. Our inspection programmes for water resources, fishing and navigation licences continued to achieve high compliance levels and our prosecution of 455 polluters and over 5,000 rod licence evaders should provide clear incentives for persistent offenders to change their behaviour.

Our application to the Secretary of State to designate the River Dee as a water protection zone, if successful, will add strength to our existing efforts to prevent pollution in this sensitive catchment.

Comprehensive monitoring

Our combination of point-source sampling and environmental monitoring provides us with a clear picture of the state of the water environment. In 1993/94 we took 444,000 samples and carried out over 5 million determinations in our laboratories. R&D projects to develop innovative monitoring techniques are aimed at improving our efficiency. Examples of new technology introduced in 1993/94 include aerial survey techniques to survey coastal pollution and river corridor habitats, and automatic pollution detector and sampling units such as CYCLOPS.

Efficient operations

Our skilled, committed staff provide a round the clock emergency service. Last year we dealt with 32,000 reported pollution incidents and saved well over a million fish by reacting quickly to reported fish kills. Our response to 110 major flooding incidents - a five-fold increase over 1992/93 - involved the issue of 1,914 flood warnings to the police.

1993/94 finally saw an end to the legacy of the drought, with total annual rainfall reaching 127% of the long-term average and zero drought orders for the first year in the NRA's history.

Close co-operation between our engineering and conservation experts ensured that our maintenance of 32,000km of river and estuarial and sea defences and

the building of 163km of new or improved defences will reduce the risk of flooding in many areas in a way that is sensitive to the local environment.

Customer focus

To be successful and responsive to the needs of our customers and the environment, our operations must be local and accessible. A major development in 1993/94 was our re-organisation to transform 10 regions into 8 regions and 26 areas, based on natural catchment boundaries. This means our operations now centre around natural, environmental boundaries, large enough for strategic environmental principles to be applied, small enough for local accountability and ownership.

Our emergency response service was made much more accessible by the introduction of a national FREEFONE number - 0800 80 70 60 - for the reporting of environmental emergencies such as pollution, flooding or fish kills.

Interest in environmental issues continued to rise during the year. Our Customer Charter, published in January 1994, provided a user-friendly summary of our services and standards, and was well received by customer groups. The number of enquiries about data held on our public registers increased again during the year to over 6,700 compared to 4,300 in 1992/93.

Value for money services

We are subject to the same pressures and influences as any private sector organisation and need to respond to the imperatives for increased efficiency and

competition. Our efficiency programme made good progress last year, generating substantial savings from regional mergers, market testing and national procurement initiatives.

NRA into the Environment Agency

The Government's plans to establish an integrated Environment Agency, combining the functions of the NRA, Her Majesty's Inspectorate of Pollution (HMIP) and local authority Waste Regulation Authorities, present a logical step in support of sustainable development. The Agency will combine the management of water and waste with the control of emissions to water, land and air from industrial processes with the biggest potential to pollute. During the year we have provided full support to Government in planning the Agency through the Government's Advisory Group and its Sub-Groups. The publication in 1993 of national strategies for each of our seven core functions and our research and development work provide a firm foundation for all our functions to take forward into the new organisation.

Accountability

In general, our income must be spent on those activities for which it has been collected. Our individual functions work closely together to provide a seamless service and to get maximum value from the available resource. To ensure accountability to Parliament and the general public for the money spent on their behalf, we have set out our report of functional achievements, chapter by chapter, in the pages that follow.

water quality

The NRA is responsible for water quality in all controlled waters in England and Wales.

These comprise surface freshwaters, underground waters, estuaries and coastal waters to the 3 mile limit.

Our aims are to achieve a continuing overall improvement in the quality of these waters through the control of pollution; and to ensure that dischargers and polluters pay the costs of the consequences of their discharges.

Since 1990, there has been an overall net upgrading in quality of 10.7% of the total length of rivers and canals across England and Wales.

The NRA is responsible for enforcing pollution control legislation and has the power to prosecute for pollution offences. Obviously, however, we prefer and strive to prevent pollution from occurring in the first place - both through the controlled regulation of discharges and by actively working with industry, agriculture and other risk areas to change the attitudes and practices that contribute to pollution.

In 1993/94 we published our *Water Quality Strategy* articulating our aims and objectives for water quality and the means by which these will be delivered.

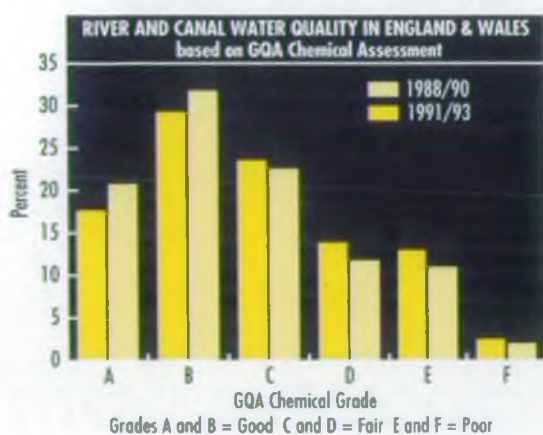
The current state of water quality

In January 1994, the NRA replaced the long-standing National Water Council (NWC) classification system used for periodically assessing river and canal water quality with a new system known as the General Quality Assessment (GQA) scheme.

The GQA overcomes a number of inherent deficiencies in the old system and provides a more comprehensive, objective and nationally consistent mechanism for assessing the overall state of the water environment over time.

The GQA will consist of a number of separate water quality assessments. The first of these to be developed is the chemical component and the results of applying the new chemical GQA scheme to data collected since 1988 are shown below. In the future it is intended that further elements will be added covering biology, nutrients and aesthetic quality dependent upon successful development of suitable methods and classification systems.

Since 1990 there has been an increase in river length in the best quality grades (A and B) and a reduction in



length of the poorest (E and F). Indeed, there has been an overall net upgrading of 10.7% of the total length of rivers and canals across England and Wales.

The reasons for this marked improvement over a relatively short period are twofold. Firstly, the improvement reflects the sustained efforts that have

been put into controlling polluting discharges, underpinned by the substantial capital investment programme of the water utilities and other industries. Pollution prevention measures to control pollution from agriculture and other land uses are also beginning to make a real and positive difference to the water environment. Secondly, the position reported for 1990 was affected by lower than average rainfall which had an adverse effect on river quality. Weather conditions since then have been more typical.

Provisional sampling results for the year ending 1993 indicate that the upward improvement in water quality registered at the end of 1992 has continued.

Future Water Quality Objectives

Discharges of effluent by the water utility companies have a considerable impact on the quality of controlled waters. To compensate for years of under-investment and to comply with European environmental directives, the water utilities have embarked on a huge investment programme.

Over the past year the NRA has been playing a very important role in establishing a framework for the prioritisation of future investment by the water utility companies over the 10 year period between 1995 and 2005 (as provided for in the AMP2 programme). Our aim in this has been to ensure that the investment programme results in maximum benefit to the water environment.

Whilst improvements in water quality required by various EC directives - particularly for Urban Waste Water Treatment and Bathing Waters - have statutory backing and feature prominently in the water companies' investment programme, the NRA has made strong representation to Government that other investments in sewerage and sewage treatment not covered by the directives, but needed to achieve long-standing River Quality Objectives (RQOs) for eliminating pollution blackspots and upgrading other watercourses, are not pushed to one side.

The Government had previously made clear its intention to develop the existing system of RQOs into an enforceable, statutory system providing a firm policy framework for the protection of all controlled waters. The Water Act 1989 made specific provision for this.

In 1991, the NRA consulted widely on a proposed scheme for introducing statutory Water Quality Objectives (WQOs) and, in 1992, made recommendations to Government along the lines that statutory WQOs should be set for individual stretches of water according to the intended use of those waters.

For individual stretches of water the objectives should specify the water quality standards it is intended to achieve, the EC Directives which apply and a date by which improvements must be met.

We advocated that catchment management plans, which take into account a wide range of local views as to what the use of any stretch of water should be, might be used as an effective vehicle for implementing statutory WQOs.

The NRA was hoping to commence implementation of statutory WQOs in at least two pilot catchments in each of the NRA regions during 1993/1994 using the River Ecosystem Classification (this classifies inland freshwaters into 5 quality classes based on core chemical properties which determine a river's ability to support a diversity of aquatic life). Unfortunately, implementation was not possible owing, in part, to the extensive consultations needed before making the relevant statutory regulations.

Just after the end of our reporting year, however, *The Surface Waters (River Ecosystem) (Classification) Regulations 1994* were laid before Parliament. Implementation will commence during 1994/95 in several selected pilot river catchments agreed with Government and the NRA will further develop its WQO proposals.

Discharge consents and compliance

The key means by which the NRA regulates water quality is via the issue of discharge consents. Under the Water Resources Act 1991, it is an offence, in most cases, to discharge sewage or trade effluent to a controlled water without the NRA's consent; and the discharger must comply with any conditions attached to the consent.

Quality objectives relating to environmental need and end uses of a receiving water are a cornerstone of discharge control policy. Once the desired quality of the receiving water has been identified, the necessary consent conditions to ensure achievement of the water quality objective can be determined.

The NRA currently manages over 100,000 consented discharges for a variety of effluents ranging from septic tank discharges to major industrial wastes.

In the calendar year 1993, 13,852 discharges had numeric consent conditions attached to them (generally speaking these are discharges with the greatest potential for polluting). The NRA sampled 10,320 of these and 74% were found to comply with their consent conditions.

The compliance rate of water company sewage treatment works is generally good and has been improving over recent years. Of the numeric consents referred to above, 4,398 applied to water company sewage treatment discharges: 3,761 of these were sampled by the NRA and 93% were confirmed compliant (compared to 90% in 1990). However, it must be pointed out that a substantial number of consents which the NRA inherited were not set on a "river needs" basis and, for the present, most existing

consents still only have to comply with conditions on a 95 percentile basis and not on an absolute basis.

As a result of the introduction of the Urban Waste Water Treatment Directive, the control of discharges from sewage treatment works has been under scrutiny by the NRA. The NRA has continued to be involved with working groups looking at various options for systems of consenting which will be required. These include composite sampling of effluents. A collaborative project to look at the statistical translation of spot sampling standards to composite standards has been under way during 1993/94. The outcome of the project will be known in July 1994.

Options for self monitoring by dischargers are being actively investigated by the NRA.

The identification of areas particularly sensitive to eutrophication, required by both the EC UWWT Directive and the EC Nitrate Directive, has been completed by the NRA and the Government has been advised of the delineation of these areas.

Pollution prevention

Pollution prevention is of key importance to achieving improvements to the water environment.

On the principle that prevention is better than cure, the NRA has striven to change the habits and attitudes that contribute to pollution by making people aware of their interaction with, and responsibilities for, the water environment.

These efforts have embraced education programmes, selective campaigns, the production of best practice guidance and site visits. Point source, diffuse pollution and the correct storage and disposal of potentially harmful substances have all been targeted.

During 1993/94 the NRA contributed to an R&D project managed by the Centre for Exploitation of Science and Technology (CEST) and supported by the BOC Foundation for the Environment, HMIP and Yorkshire Water Services to demonstrate the benefits of waste minimisation, water demand management and the use of cleaner technology in the Aire and Calder catchment in Yorkshire. The project demonstrated that considerable savings to industry and the environment can be derived by switching the emphasis from "end of pipe" treatment to waste minimisation and reductions in inputs such as water, energy and raw materials. A range of some 500 options for improving efficiency were identified and only a very small number were rejected as infeasible; many were easy to implement and had short pay-back periods. In the first 18 months of the project the 11 participating companies made savings of over £2 million per year. With such demonstrable benefits to both the discharger and the environment the NRA is actively seeking to set up similar projects in other parts of England and Wales. If waste minimisation was adopted more widely by

industry there could be marked reductions in the demand for water and in the amount of effluent discharged to overloaded river systems.

In February 1994, following public consultation which received extensive support, the NRA applied to the Secretary of State for an Order designating the River Dee as a Water Protection Zone. The Dee is one of the biggest lowland rivers used for public water supplies in England and Wales and is especially vulnerable to pollution incidents arising from the accidental spillage of chemicals by industry. The protection zone order is a legal mechanism aimed at preventing water pollution arising from activities which are unsuited to control by consenting of direct discharges.

Oil pollution is of particular concern to the NRA as the trend in most regions has been on the increase. An oil pollution prevention campaign was carried out in Thames Region during 1993/94 in conjunction with the local authority. A national oil recycling initiative will be undertaken during 1994. The NRA has been actively involved with the United Kingdom Petroleum Industries Association aimed at providing labelling on oil products for best practice on the disposal of waste oils.

In June 1993, the NRA launched an education pack called *Riverwork* for distribution to primary schools. Sixty illustrated worksheets cover a wide range of topics related to the water environment. The pack, which was developed in conjunction with educational consultants to meet the needs of the National Curriculum, is offered free to all schools and is aimed at developing an awareness and interest in the water environment amongst young people.

The NRA signed a Memorandum of Understanding with the Fire Services aimed at developing practical solutions for preventing water pollution. The Fire Service emergency teams are the first to arrive at many incidents - in particular those involving road vehicles - where there is a risk of pollution from fuel or chemical spills which can be washed into drains or sewers. The MOU clarifies the roles and responsibilities of the two organisations and marks a real commitment to work together to reduce the threat of environmental damage which is presented in every day accident and emergency incidents.

A national FREEPHONE number - 0800 80 70 60 - was introduced to enable members of the public to alert the NRA when an environmental incident occurs.

Abandoned mines and contaminated land

Pollution from abandoned mines and contaminated land present a significant threat to surface and groundwater quality in many areas of England and Wales. The cost of putting right the damage which they cause can be considerable. The highly publicised incident which occurred in 1992 at the Wheal Jane tin

mine in Cornwall has involved the NRA in remedial work which will cost over £8 million for an interim solution. The cost of providing a permanent solution to the problem is likely to be several times this amount.

More than 200 kilometres of waterways are currently contaminated by 100 abandoned coalmines in England and Wales and 400 kilometres by 71 abandoned metal mines. However, the potential extent of the problem has yet to be evaluated. The expected closure of many unproductive mines will add to the threat. Existing legislation is inadequate or unclear and the NRA has been actively seeking clarification from Government regarding the legal and operational responsibilities for clean up and remedial work. In March 1994 we published reports on both abandoned mines and contaminated land and their effects on the water environment aimed at stimulating debate about the subject. We welcome undertakings given by Government during the passage of the Coal Bill on the requirement to continue pumping operations where necessary at mines which are abandoned in order to avoid the risk of serious pollution.

As an interim measure, the NRA has signed a Memorandum of Understanding with British Coal whereby British Coal has agreed to give the NRA at least 14 days notice of its intention to cease pumping operations at any mine.

The NRA has also jointly funded research into the methods and costs of treating minewater discharges and the particular problems posed by contaminated land.

Environmental monitoring

The NRA is responsible for some 20 EC Directives which have a direct environmental monitoring requirement.

The EC Bathing Waters Directive has an especially high public profile and the NRA maintains rigorous procedures for obtaining samples from 419 designated bathing beaches in England and Wales.

In 1993, overall compliance with the EC Directive imperative standard increased by 0.6% to 79.4%. Improved water quality has been maintained over the last 4 years and the number of beaches that consistently failed also decreased.

The NRA expects a more dramatic increase in compliance after 1995 when the majority of capital schemes being undertaken by the water service companies are completed.

The European Commission has stated its intention to revise the Bathing Water Directive and has agreed proposals for its updating. During 1993/94 the NRA discussed these proposals and their likely impacts with the Department of the Environment. We will continue



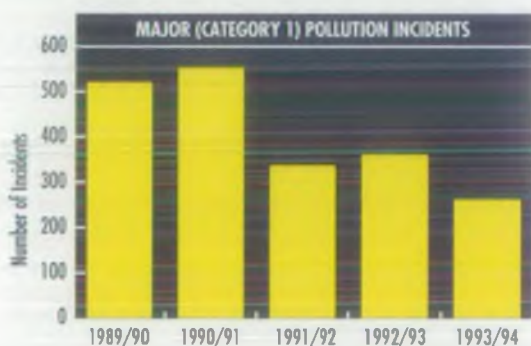
to provide technical expertise to the Department and to the EC Economic and Social Committee to ensure that any new parameters and standards are based on sound scientific criteria.

In addition to monitoring the quality of controlled waters against set standards the NRA undertakes large scale surveillance operations. During 1993 four surveys were carried out around the coast of England and Wales to assess the quality of coastal waters. The NRA's four survey vessels were deployed in conjunction with aerial surveillance using thermal and spectrographic imagers. Data were produced on the distribution of metals, organic pollutants, nutrients, suspended solids and chlorophyll around the coast. Further surveys will be implemented during 1994/95.

Pollution incidents and enforcement

Pollution incidents arise from many activities - both regulated and unregulated discharges, accidents and poor management.

During 1993/94 almost 32,000 pollution incidents were reported to the NRA of which over 24,000 were subsequently substantiated. These numbers are little changed from the previous year although the number of the most serious - Category 1 - pollution incidents has decreased. Of the substantiated incidents in 1993/94, 263 were classified as Category 1.



Pollution prevention is our preferred option but the NRA will not hesitate to enforce pollution control through the courts where this is considered appropriate and where there is sufficient evidence. During 1993/94 some 423 successful prosecutions

were obtained by the NRA for both breaches of consent and pollution incidents. These resulted in fines of over £1 million and costs awarded of £362,000.

In early 1993 the NRA obtained a successful prosecution using "Cyclops"; an instrument capable of continuously monitoring an effluent stream. During 1993/94 the instrument was put out to tender for commercial production. 26 instruments have now been manufactured and will be deployed at key sites across the country.



Operations

The NRA is much more than a back room think-tank organisation. The work we do in regulating and monitoring the water environment is only one aspect of our role.

An equally important task is that of providing an active presence in the field - both in the form of site visits for the purposes of education and inspection, and in the form of operational response when pollution incidents happen.

In this way, many incidents with the potential for environmental disaster are either prevented from happening in the first place or are effectively contained at an early stage thanks to carefully formulated emergency procedures and the skills and experience of our emergency workforce.

Examples of operational response during the year range from attending road, rail and aviation emergencies to prevent pollution to watercourses from fuel spillages, to containing a massive slurry slip in an incident on Exmoor when the wall of a farm slurry store gave way, threatening downstream public water supply abstraction points, salmon breeding grounds and fish farms.

All of the 32,000 pollution incidents which were reported in 1993/94 were investigated by NRA staff. 92% of Category 1 incidents were attended within our standard of service target time (i.e. within 2 hours of notification during normal working hours or within 4 hours at other times).

The aim of the Water Resources function is to manage water resources in order to achieve the right balance between the needs of the environment and those of the abstractor.

Water resources

The launch of our water resources development strategy will provide a framework for ensuring that future demands for water for public supply, industry and agriculture in England and Wales may be met in an environmentally sustainable way.

Resource management

Rainfall levels have been well above average during the year. As a result depleted aquifers have undergone appreciable recharge and groundwater resources are now at a satisfactory level across England and Wales. There were no drought orders in place during 1993/94 and no immediate resource problems are anticipated.

Throughout the year, the NRA has continued to actively augment resources through the operation of major river regulation schemes such as the Ely Ouse transfer scheme located in the Anglian Region and releases from reservoirs such as Clywedog for the regulation of flows in the River Severn.

During the year, approval has been given by the DoE for the NRA to continue development of the Shropshire Groundwater Scheme to phase 3. Increasing demands for water have meant that the storage capacity of Clywedog reservoir is considered insufficient to meet demand in dry summers and, without the availability of additional storage, the NRA could not meet its duties to support flows at Bewdley. The Scheme supplements flows from undeveloped groundwater resources stored naturally in the sandstone formations underlying much of North Shropshire. This groundwater can be pumped at times of low flows from boreholes drilled into the rock and discharged through pipelines directly to the River Severn or its tributaries.

Low flows

Throughout the year considerable effort has been given to rectifying the problem of unacceptably low flows in some of our rivers.

The beneficial effect of high rainfall on low flows is often only transient as these problems are caused by excessive abstractions rather than by drought. In most cases the cause of low flows has been groundwater abstractions which have resulted in groundwater seepage to rivers being reduced or halted.

The long term objective of the Water Resources function is to deal with the cause of the problem at source, regulating the inherited licence conditions which allow excess abstractions rather than dealing with the low flow symptoms which result.

During the year low flow problems have been tackled in a variety of ways, with the main thrust of activity focusing upon the previously published "Top 40" low flow sites.

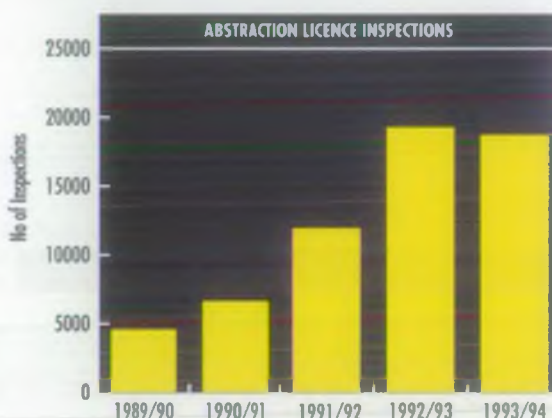
During 1993/94 the number of low flow sites at which problems have been totally or substantially solved rose to 6, at sites on Battlefield Brook (Severn-Trent), River Pang, Letcombe Brook and the River Ver (Thames), the River Lowther (North West) and on the Lower Glen (Anglian).

Investigations into the cause and solutions of other problem rivers are also underway at several other locations.

In addition, a further 9 problems are now being addressed by the relevant Water Companies as part of their Strategic Business Plans including work on phase one of the River Darent (Southern), a major scheme which could cost up to £12 million.

Abstraction licensing and enforcement

As pressure on water resources in England and Wales increases, the NRA needs to have a system in place which makes sure that water resources are safeguarded and that abstractions do not disrupt or cause long-lasting changes to the environment. Without this constraint, persistent over-abstraction could lead to shortages in water supply, increased



river pollution by reducing dilution of pollutants, damage to fisheries and wildlife habitats and, ultimately, to the loss of rivers for our recreation and enjoyment. Through licensing, we can control the level of abstraction to protect both water supply and the environment.

The NRA manages the terms and conditions of about 50,000 licences throughout England and Wales. This involves reviewing and, where necessary, revising or revoking licences.

During 1993/94, approximately 1,500 new licence applications were determined and over 3,000 existing licences were varied or revoked. Almost 19,000 licence enforcement inspections were carried out.

There has been a recent upsurge in applications to abstract water for hydropower purposes. This has resulted from the Government's 'Non Fossil Fuel Obligation' which encourages the use of renewable energy sources. Around 50 potential sites have been identified, half of which are located in the Snowdonia National Park. Steps have been taken to ensure a consistent approach to these applications, bearing in mind the sensitive nature of their locations and the

potential loss of flow that could result over long distances of by-passed river.

Charging schemes

Funding of the NRA's water resources activities is derived from charges levied on abstractors.

Charges are set so as to recover expenditure on a year by year basis, subject to any adjustments needed to offset a deficit or repay a surplus from a previous year.

1993/94 was the first year to see the implementation of the new scheme of abstraction charges which applies to all licence holders in England and Wales and replaces the 10 different regional schemes which the NRA inherited from the former Regional Water Authorities.

The new scheme has successfully provided a consistent method of charging throughout England and Wales, although the quantum of charge is still regionally based. The new charges reflect the impact of each abstraction on water resources and the associated level of NRA activity.

The Authority is committed to keeping increases in charges at or below the rate of inflation.

Resource planning

In March 1994, the NRA published its strategy for ensuring that future demand for water for public supply, industry and agriculture will be met in an environmentally sustainable way.

In *Water: Nature's Precious Resource* the NRA examines demand for water and describes the ways in which legitimate needs can be met into the next century.

One of the main themes of the strategy is the need to implement demand management measures including selective domestic metering and control of leakage from water supply pipes.

The NRA has reinforced its view to government that water companies and OFWAT should be given a statutory duty to promote the efficient use of water.

With a modest success in the implementation of demand management measures, leading to a low estimated increase in demand, it is expected that major – and costly – strategic water resources development can be put off for a generation.

The strategy offers a realistic means of meeting the needs of the environment as well as of those who wish to abstract water for public supply, industry or agriculture. The strategy also sets out the NRA's view

on the respective roles of the NRA, water undertakers and other private organisations in the promotion, financing and development of new water resources schemes.

In addition to the national water resources strategy, important regional reports have been published addressing more local requirements. Consultation continues to be seen as an important part of the development of all plans and arrangements are now in place at national and regional levels to ensure that the views of interested organisations are taken into account.

Further consultation will follow as the national and regional strategies are developed.

Resource protection

The protection of water resources is essential for maintaining and developing a sustainable water resources strategy.

The protection of groundwater stored in aquifers is particularly important due to the protracted time it takes for aquifers to recover from pollution. The continued implementation of the NRA's policy and practice for the protection of groundwater ensures a consistent national approach to the prevention of groundwater pollution.

Throughout the year, the NRA has made considerable progress with government plans to implement the EC Nitrate Directive. A total of 785 zones have now been defined, based on catchments of public supply boreholes.

Hydrometry

Hydrometry is the measurement of the water cycle and is essential to the efficient running of the water resources function.

The NRA currently operates over 10,500 hydrometric stations which are vital for the operational management of national and regional water resource schemes. Some of the data are held in national archives by the Institute of Hydrology, British Geological Survey and the Meteorological Office, where they are available for research and other purposes.

During the year, work commenced on an efficiency review of hydrometry within the NRA with the objective of delivering a value for money service which meets customer requirements. Detailed specifications for selected hydrometric activities are now in preparation and these will form the basis for assessing service delivery options.

The NRA has a general supervisory duty over all matters relating to flood defence in England and Wales. The majority of flood defence activities are carried out using permissive powers through Regional Flood Defence Committees. Income is raised through levies on Local Authorities and direct grant-aid from MAFF and the Welsh Office for specific flood alleviation schemes.

flood defence

The flooding over the past year, and the importance of existing flood defences in avoiding serious incidents, has reinforced the economic and social importance of Flood Defence activities. The NRA is committed to the protection, in an environmentally acceptable manner, of people and property from flooding and will seek to continue the quest for value for money in carrying out its work.

For Flood Defence purposes, there are two classifications of watercourse - 'main river' or 'non-main river'. The NRA has greater operating powers over main river; for example, we can promote capital works for flood alleviation purposes. For historic reasons, the approach to categorising rivers has not been consistent and many urban watercourses are classed as non-main river. The flooding in the past year from such watercourses (see below) has reinforced the importance of a consistent approach to 'enmaining.' With this in mind, we have trialled guidelines in our North West Region and will seek to phase in implementation of these guidelines to protect built-up areas where the benefits of investment to people and property would be most apparent.

The specific aims of the Flood Defence function are to

- (i) provide effective defence for people and property against flooding from rivers and the sea;
- (ii) provide adequate arrangements for flood forecasting and warning.

In practice, Flood Defence operates in three broad activity areas; *prevention* (through planning liaison), *physical works* (construction/maintenance), and *emergency response*.

- As in all things, for flood defence prevention is better than cure. Building in the flood plain means more houses are vulnerable and less land is available to store flood waters. We endeavour to direct development away from flood risk areas by stating our intentions in Catchment Management Plans and through the planning process.
- Where property has already been constructed in the floodplain, we will protect it by constructing and maintaining flood defences where the works are economically, technically and environmentally sound.
- There are occasions when flooding is inevitable, when a flood exceeds the level for which the defence was designed or where no defences are in place. In these circumstances, and where it is cost effective, we will provide and operate a flood warning system.

The *NRA Flood Defence Strategy*, published in August 1993, sets out how we intend to carry out flood defence work effectively and efficiently for the benefit of the community whilst at the same time ensuring that we protect and preserve the water environment. The strategy complements the MAFF/Welsh Office *Strategy on Flood and Coastal Defence* and plans on water level and shoreline management.

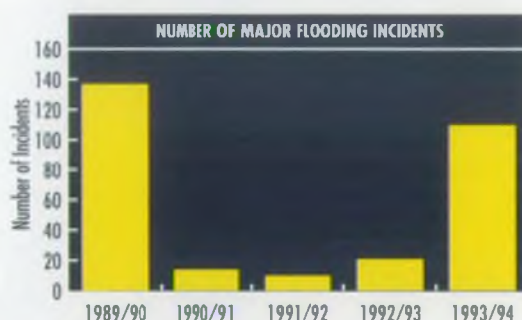
Flooding incidents

The period from Christmas into the New Year proved to be particularly wet across much of the country, with the South especially subject to heavy rain. Regional Flood Defence staff were actively involved with Local Authority and emergency services' personnel in responding to flooding incidents. There

was keen media interest throughout the period, but, whilst the flooding was serious, the high profile it was given may have exaggerated the severity of the event.

One event of particular significance caught the public attention, that of the flooding of Chichester and neighbouring communities. A prolonged period of rain falling on the South Downs led to exceptional flows in the River Lavant. The culvert carrying the watercourse through Chichester was overloaded and flooding occurred in parts of the city.

NRA Southern Region staff, with the support of colleagues brought in from other NRA regions, worked day and night with other emergency response personnel and were praised for their efforts in the House of Commons by Mr. Soames, the MAFF Parliamentary Secretary. A review of the effectiveness of the response suggests that, although the response was excellent, there are areas which warrant further attention. For example, the feasibility of extending the flood warning network to cover nearby villages will be considered.



Elsewhere, properties were flooded in the Severn-Trent Region and further property flooding occurred at Polperro (South Western) from non-main river.

Other regions monitored developments carefully and were in a high state of operational readiness, with a number of areas experiencing the highest river levels since the 1960s.

During the Summer, exceptional storms caused major flooding at Llandudno Junction and Cardigan, affecting a large number of properties. New schemes are being promoted for both of these sites.

Planning & development control

In March, a Memorandum of Understanding was signed between the NRA and the Associations of County Councils, District Councils and Metropolitan Authorities. The Memorandum was drawn up in response to the Department of the Environment's Circular 30/92, *Development and Flood Risk*.

The NRA believes that prevention is the most effective flood defence and is embarking on a programme of consultation with Local Planning Authorities (LPAs). This will enable the NRA to find

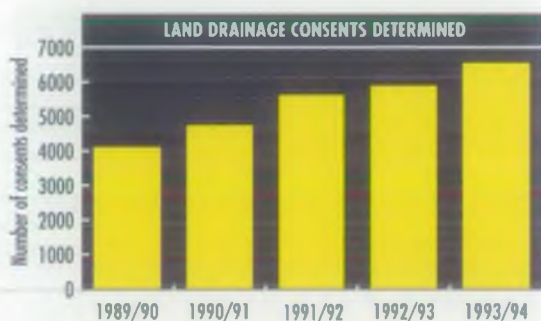
out where development pressures are, how these development areas are affected by flooding and how the development itself would affect flooding. This information will enable the NRA to advise LPAs objectively. The NRA will support decisions at appeal or at Public Enquiry where the decision is on the grounds of flood risk.

We intend to publish a document on development in flood plains defining our future policy. Development of this policy began in 1993/94.

Regulation & enforcement

All works immediately adjacent to, over or under a watercourse require a Flood Defence consent. This ensures that flood defence and environmental interests are not adversely affected by careless or damaging development.

In 1993/94, the NRA determined 6,550 new consents; 98% of all applications were determined within the two month statutory period.



Capital works & maintenance

In 1993/94, approximately 2.3 million House Equivalents across England and Wales received increased protection as a result of maintenance of over 32,000km of existing flood defences. The construction of an additional 160km of new/improved defences afforded protection to a further 90,000 House Equivalents.

The Flood Defence Management Framework incorporates Standards of Service, asset management, project justification and programme prioritisation under one umbrella. The Framework was further progressed in the year and development commenced on a computerised system to hold the required data.

A process of Post Project Appraisals has been introduced, with at least two appraisals per region per year planned. Results of these will enable us to learn lessons from previous work in a structured way, with general recommendations being shared across the NRA.

Fluvial defences

Regions are currently compiling Standards of Service data to be used for the prioritisation of maintenance programmes. The focus of work continues to move to urbanised areas where benefits are greatest.

Important fluvial schemes within the year's capital programme included:

- In Northumbria & Yorkshire Region, major schemes were completed at Fenay Beck, Greatham Creek and North Street, York. The Fenay Beck scheme received a commendation under the Institute of Civil Engineers Yorkshire Association Awards for 1994.
- In North West Region, work commenced on phase 2 of the £2.7m Glossop Brook Scheme.
- In Severn-Trent Region, Keadby Pumping Station refurbishment was completed at a cost of £2.3m.
- In Southern Region, Brockenhurst flood relief scheme was completed.
- In South Western Region, the final stage of a £1.4m scheme at Blandford Forum in Dorset was completed. A 600 metre long wall and earth flood banks now reduce flood risk for nearly 200 houses in the town which has a history of flooding from the River Stour.
- In Thames Region, the flood alleviation scheme at Aylesbury was substantially completed at a cost of £2m.
- In Welsh Region, Hopkinstown (£0.8m) Whitland (£0.4m) and Pontypridd [Sion Street] (£0.6m) flood alleviation schemes were completed. A further scheme at Pontypridd, (estimated cost of £0.45m) commenced.

Sea and tidal defences

The most important management tool for these assets is the Sea Defences Survey. The need for updating has always been recognised and proposals are being developed to ensure that this will be done in a consistent and objective manner across the NRA.

All works on NRA-owned defences identified in the Sea Defences Survey as both requiring significant improvement and protecting urban land were targeted for completion by 1995. With the exception of Porlock, where an economically worthwhile option has not been identified, and Langley Point, where work is now programmed for 1996/97, it is anticipated that all such works will be completed by March 1995, within target.

The coastline is divided into a number of coastal cells which reflect the physical characteristics of the coast. The NRA is a member of all of the Coastal Cell Groups which bring together interested parties, share

expertise and influence decision making. The Groups are developing Shoreline Management Plans which look at coastal processes within the cell so that agencies can work together and not adversely affect each others' interests.

Managed Retreat, where a sea wall is set-back to create a new defence line using salt marsh and mud flats, was considered in the year. It is supported where it can be shown to be the most satisfactory economic and environmental solution to a flood defence problem.

Important tidal or estuarial schemes within the year's capital programme included :

- In Anglian Region, the Colne Barrier was completed. The Barrier was first operationally employed in Autumn to effect closure against a predicted surge tide.
 - In North West Region, the Haverigg Sea Defence Scheme was completed.
 - In Severn-Trent, completion of phase 2 of the Purton to Frampton flood embankment fronting Slimbridge - an example of a high degree of integration between Flood Defence and Conservation, also incorporating a proportion of managed retreat. MAFF approval was received to commence the last two contracts of the River Soar Improvement Scheme.
 - In Southern Region, the joint NRA/Arun District Council Elmer Coastal Defences Scheme was completed. This scheme is unique in its utilisation of a series of rock islands to protect the coast. The final phase of construction of Pennington Sea wall was completed. Design of the Pevensey Bay frontage in Sussex was progressed in preparation for a major scheme costing £30m.
 - In South Western Region, a 9,000 ton lock structure measuring 66 metres by 33 metres was floated into place as part of a £10m scheme to provide tidal defences at Plymouth Barbican.
- Beesands sea defences project in Devon, a £1.8m scheme, was opened by Earl Howe, Parliamentary Secretary at MAFF.
- Sea defences were completed at Dawlish Warren as part of a £1.7m scheme which will protect the Warren, a nature reserve of international interest.
- In Thames Region, work commenced on the £2.2m Tidal River Crane scheme in London.
 - In Welsh Region, construction began on the £1.4m Dinas Dinlle scheme south of Caernarfon.

Forecast & warning service

In the year, flood warnings were issued to police for 68% of properties which were subsequently affected by flooding.

The effectiveness of the flood warning system is constantly reviewed, and discussions have been taking place between the NRA, police, MAFF and local authorities to see if a more effective warning dissemination process could be employed. Whilst the performance of the flood warning system works well in those areas covered by the flood warning network, the need to extend coverage is continually reviewed. The results of Section 105 surveys looking at flood risk zones will greatly assist this process.

During the year, a new flood warning system was commissioned in North West Region. Clee Hill Radar station, developed in conjunction with the Meteorological Office, was opened in Severn-Trent Region. Planning for the extension of the tidal warning system to cover South and West Wales continued and will be implemented in 1994/95.

Emergency response

Indicative standards of service for emergency response have been developed and are now subject to approval by the Regional Committees.

The NRA has been reviewing policy on dam failure, and will adopt a formal position during 1994/95. Whilst dam failure is considered highly unlikely, this in itself is because of vigilance and planning.

Market testing

Development of Market Testing within Flood Defence has progressed considerably during the year.

A significant portion of the maintenance work which Flood Defence undertakes is handled by our In-House Workforce. This work has been reviewed and formalised, with the production of specifications and methods of measurement. The formal process of competitive tendering will begin in 1994/95.

Importantly, we have continued to provide a robust emergency response, which was demonstrated on several occasions through the year. Contracts have been developed which will provide a similar level of service in the future.

Four regions have in-house design teams responsible for feasibility studies and design and project management of schemes, often for several functions. Discussions have taken place with external consultancy groups with a view to in-house staff moving out of the organisation by negotiated take-over, whilst ensuring that the expertise of the design workforce continues to be utilised on flood defence schemes.

In the broadest sense, the fisheries aim of the NRA is to maintain, improve and develop fish stocks, the basic fisheries resource, in order to optimise the social and economic benefits from their sustainable exploitation. Our aims and objectives in relation to fisheries are more fully discussed in the NRA Fisheries Strategy which was published during the year.

fisheries

Regulating fisheries using a sound system of licensing; monitoring fish populations; rearing fry to restock depleted rivers; installing structures which help migratory fish to return to their spawning grounds and improving habitats all contribute to preserving healthy fish stocks.

Licensing

River and coastal fisheries in England and Wales have continued to be regulated by using a sound system of licensing to help conserve and maintain stocks.

In April 1993, we introduced a national 7 day rod licence which complemented the full annual licence. Subject to riparian owner permission, this allowed the holder to fish for any species, including salmon and sea trout, anywhere in England and Wales.

Following the decision not to proceed with the Section 142 Charging Scheme, the NRA issued a Public Consultation Document *Revised Structure of NRA Rod Licences and Duties*. The purpose of the document was to seek the views of angling organisations on proposals for a tiered rod licence structure and duties with associated concessionary and short-term categories to be introduced in April 1994. A substantial and valuable response was received from a wide range of organisations and individuals including our own Regional Fisheries Advisory Committees. On the basis of this we introduced a two-tier licence for 1994/95 - a salmon & sea trout licence (which is valid for all species) and a trout & coarse fish licence. In addition, short-term licences are available for 8 days and 1 day.

The revised structure and duties were implemented in March 1994 and will be valid from 1 April 1994.

During 1993 we carried out a pilot scheme for sales of the rod licence by the Post Office in selected areas of the Thames Region. The scheme was closely monitored and proved successful. Following the pilot scheme, the options for licence distribution and sales were reviewed. Subsequently, a contract was negotiated with the Post Office for the distribution and sale of rod licences using the network of 17,000 main and sub-Post Offices throughout England and Wales. In addition, 300 bankside outlets have been retained. The contract provides a unique combination of an eight-fold increase in the number of outlets and a reduction in administration costs to the NRA as well as greatly enhanced information on sales timings and patterns. The NRA will be retaining its postal licence sales service. In future, all licence agents including the Post Office will be dealt with at a single administrative centre in Warrington.

Informative leaflets on NRA fisheries work and the 1994/95 two-tier rod licence have been produced and are available at Post Offices and NRA offices throughout England and Wales.

Legislation and byelaws

In October 1993 we undertook national consultation on a review of the Close Season for coarse fishing to address differences in regulations in different parts of the country. We consulted widely with major bodies representing the interests of anglers, fishery owners

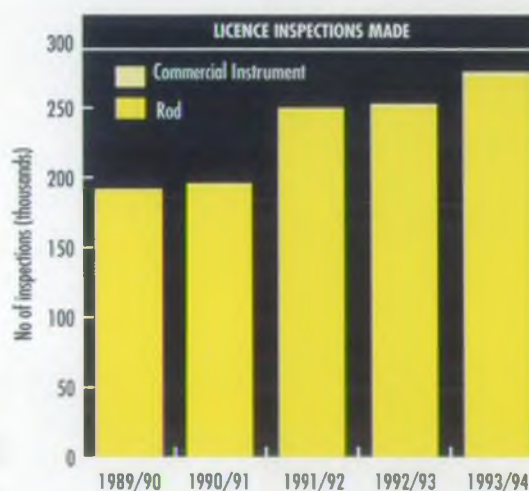
and conservationists as well as with our own Regional Fisheries and Regional Rivers Advisory Committees. We identified that there was scope for a national byelaw which we aim to implement in 1995. Details of our intentions will be widely disseminated during the summer of 1994.

Byelaws to regulate the North East Coast net fishery are essential. Whilst the number of net licences issued in Northumbria and Yorkshire over the last two years has declined, their catch of salmon still totalled over 40,000 in 1993. There is increasing recognition that this fishery, which exploits a range of stocks of salmon and sea trout, creates difficulties for the conservation and management of individual river stocks. The NRA is reducing the number of drift net licences as current licence holders leave the fishery.

Following preparatory work in 1993/94, a review of all existing net licence systems will be progressed in 1994/95 and a consistent, equitable national system for netting duties will be recommended.

Enforcement

A review of fisheries enforcement activities is being progressed. There have been significant policy initiatives introduced. Procedure Instructions have been issued on dog handling, bailiffs' clothing and rewards for information.



A computerised "Fisheries Intelligence System" has been developed in Welsh Region which enables crime management techniques to be deployed in anti-poaching work. The system provides a consolidated database of information which enables us to target our limited resources more effectively against organised criminals. The system has potential for enforcement nationally and provides additional opportunities for monitoring patterns, trends and developing situations.

Local initiatives to enforce regulations included the launch of a *River Watch* scheme in the Derbyshire Dales to control poaching. In Sussex, extensive patrols of the vulnerable elver migrations were undertaken to enforce the byelaws. In Northumbria and Yorkshire Region, large scale media coverage supported a purge on rod licence evasion and, in Southern Region, a "buyer beware" campaign was launched against the illegal trade in salmon and sea trout.

A large number of prosecutions were taken against those taking fish illegally with 319 successful prosecutions for salmon poaching offences and 12 for handling offences. A further 140 and 25 prosecutions, respectively, were pending at year end.

During the year, in excess of 275,000 licence checks were made. Over 4,600 prosecutions were brought for licence offences resulting in fines of approximately £196,000. In a number of cases custodial sentences were imposed. A further 925 prosecutions were taken for byelaw and other offences with fines of £43,000.

Fish mortalities

336 fish rescues were undertaken during the year and over 1 million fish were recovered alive. Fisheries staff sometimes need to mount rescue operations to save fish threatened by pollution, drought and other causes. Whenever possible we recharge the cost of investigation and restocking to the polluter.

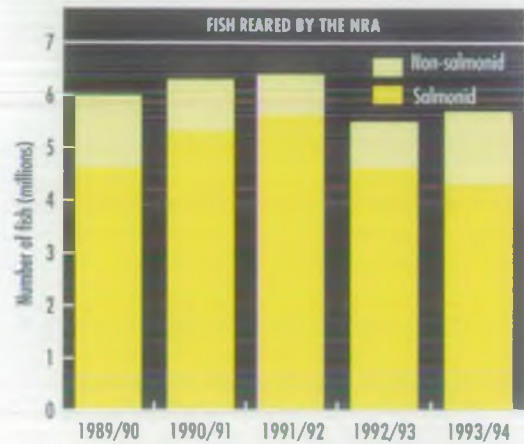
The NRA laboratory at Brampton provides a comprehensive range of technical fisheries support services to all regions from a centralised location. The experience of staff, the facilities and equipment available to them, and the scope of diagnostic and screening work carried out, is respected both within the NRA and outside the organisation.

In 1993/94 the laboratory completed over 200 fish health investigations and fish ageing analysis was undertaken on 44,000 specimens.

Rearing and stocking

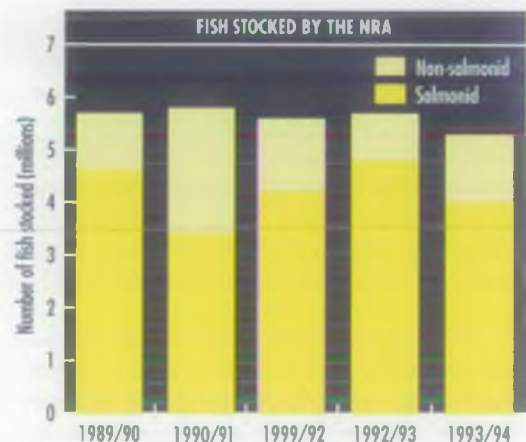
In total over 4 million salmonids and 1.3 million coarse fish were reared and stocked out by the NRA in 1993/94.

Notable programmes include re-stocking of the rivers Lowther in Cumbria and the Darent in Kent following the success of schemes to solve low flow problems which had reduced fish stocks. Other re-stocking has occurred on rivers such as the Calder in South Yorkshire following pollution incidents which had killed large numbers of fish. Improvements in water quality which are gradually bringing rivers such as the Torridge in Devon and the Rother in Yorkshire back to life have also led to re-stocking operations. 200,000 young salmon, raised at the Kielder hatchery, were released into the Tees as a continuing part of a



rehabilitation programme and another 200,000 into the Test.

The planned expansion of the Calverton Fish Farm in the Severn-Trent Region will increase the production and stocking of coarse fish nationally. It is estimated that an additional 100,000 fish per annum will be reared.



Steady progress has been made in the implementation of recommendations of a Fish Culture Review Group established in 1992. There has been a realistic identification of national stocking needs, consistent accounting procedures have been developed and sites have been identified both for closure and expansion. Two sites have already announced their intention to close, Pickering Fish Farm in Northumbria & Yorkshire Region and the Brampton Fish Culture Unit run by laboratory staff in Anglian Region.

The results of a Research and Development report on *The effectiveness of stocking strategies for migratory salmonids* will be completed by July 1994. Results will identify the most cost-effective strategies for stocking migratory salmonids, where this continues to be justifiable, to maximise returns of adult fish to fisheries and/or their natal river.

Monitoring

To enable effective fisheries management activities to be carried out, surveys representing 9,600km of river length were conducted during the year.

Monitoring and surveys of salmonids and coarse fish stocks involve the use of electric fishing, netting, fish counters and traps and the use of catch statistics.

Fish monitoring surveys provide us with information relating to fish population structure, fish health and species composition. These data compared with historical data and expected results, determine any work that needs to be done in order to maintain, improve or develop those fish stocks.

Information derived from the surveys enables the NRA to comment on fisheries interests in thousands of planning applications throughout England and Wales.

A strategic objective of monitoring is to enable fisheries staff to make appropriate input into the Catchment Management Planning process that is the cornerstone of the NRA's integrated approach.

Catch statistics

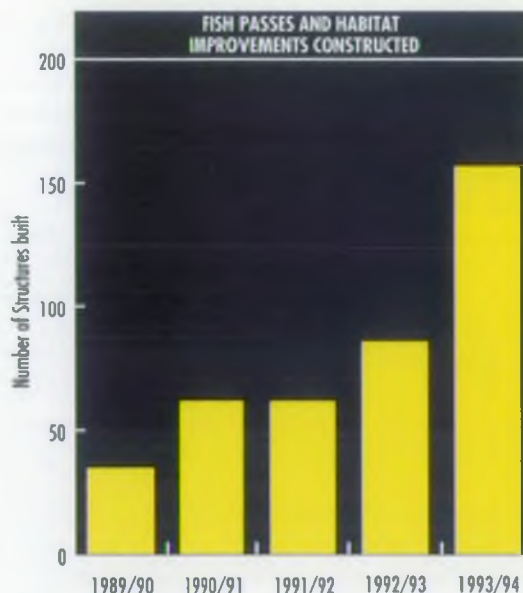
The NRA collated data for *Salmonid & Freshwater Fisheries Statistics for England and Wales, 1992* to produce the fourth annual publication in the series. The report has been improved to include time-series graphics for annual catches and average weights of salmon and sea trout in addition to the usual tables and text. The overall declared catch of salmon and sea trout by nets was the lowest for more than 10 years. This was due largely to reduced net catches off the English North East Coast. Declared rod catches of salmon showed a slight increasing trend, particularly in the North East and North West of England. Sea trout rod catches continued to decline.

An R&D project *The use of catch statistics to determine fish stock size* will help us evaluate the use of migratory salmonid, eel and freshwater fish catch statistics for the management of these stocks in England and Wales, and to determine how such statistics can best be used to estimate stock size. The project will be completed in early 1995.

Habitat and fishery improvement

Often the cause of poor fish stocks is impoverished habitat. During the year, 22 fish passes were built and refurbished to facilitate greater access by fish to spawning and nursery areas.

In Welsh Region, the longest rock tunnel fish pass in Britain was constructed at Conwy Falls in a collaborative project with the Conwy Fisheries Trust.



In Thames, the salmon rehabilitation scheme saw the addition of 2 more fish passes constructed on the Thames and 3 on tributaries. A record run (338) of adult salmon returning to spawn was recorded and the largest fish for 150 years, weighing in at 17lbs, was caught at Teddington.

Nationally, a total of 135 physical habitat improvement structures have been completed this year with features such as pools, spawning gravels, riffles and trees for cover.

Review of fisheries activities

A review of all fisheries activities was initiated in 1993/94 and is due to be completed by May 1994. A basis has been established for priority planning and the review has identified some changes to the current levels of service for certain activities, specifically a reduction in fish production activities. A comprehensive list of statutory powers and duties related to the activities of the Fisheries function has provided important input to this.

The review includes quantification of current and future income and an assessment of the willingness of direct beneficiaries to contribute to expenditure. Current patterns of NRA fisheries expenditure by activity and region have been examined. For the first time, income from coarse fish and non-migratory trout licences will be sufficient to fund all planned expenditure on coarse and trout fisheries. This means that this area of our activities will no longer have to depend on Government funding and will be safe on a national basis from expenditure cuts.

**The NRA's
principal aim
in relation to
conservation
is to conserve
and enhance
wildlife,
landscape and
archaeological
features
associated
with inland
and coastal
waters of
England
and Wales.**

CC

Conservation

Surveys of over 8000km of river corridor, some using aerial interpretation techniques, and work on a river habitat survey methodology provided essential information to manage and target our operations more effectively.

Introduction

The NRA has long recognised that rivers, lakes, estuaries and coastal waters are all important contributors to the biodiversity of species and habitats. Indeed, England and Wales contain around 250,000km of inland waters and a coastline of 4,000km, important for many habitat types and associated plants and animals. Helping to maintain this valuable resource will be a key responsibility for the NRA as part of its contribution to the UK's Biodiversity Action Plan.

In 1993, the NRA summarised its conservation responsibilities and activities in its *Conservation Strategy*. The contents of the document reflect not only the high profile and public expectations of conservation related issues, but also the strong duty placed upon all signatory countries to conservation matters agreed at the 1992 Rio Earth Summit.

Environmental appraisal

Conservation continued to represent the focus for progressing and co-ordinating a consistent approach to environmental appraisal in the Authority. Draft guidelines for screening internal operational activities and external proposals were produced. These will be refined in 1994/95 to produce specific technical publications as well as simple guidance notes and checklists for external developers. The aim is to improve the efficiency and effectiveness of the Authority in dealing with proposals and appraising their potential impacts.

Through its role as statutory consultee on planning applications, the NRA has sought to influence other parties to sustain or further the conservation interest of water related sites. In 1993/94 over 7,000 planning applications were screened for conservation implications. Major developments commented on have included Manchester Airport's second runway and the Channel Tunnel/Union Railways and East Thames Corridor proposals.

The catchment approach continues to receive strong emphasis in all the NRA's functions and a draft framework has been completed to enable a more focused approach to conservation input into catchment management plans.

Archaeological conservation

A review of the Authority's duties with respect to archaeological sites and discoveries was carried out in 1993/94. This took the form of an R&D Project, contracted to in-house conservation staff. Phase 1, during the period January to March, included a one-day workshop attended by NRA staff from all functions and representatives of external bodies such as English Heritage.

Procedures and criteria regarding archaeology will be developed during Phase 2 of the project in 1994/95 and these will dovetail with the NRA's environment appraisal guidelines.

Collaboration with partners

In discharging its conservation responsibilities the NRA has continued to work closely with the statutory conservation bodies, English Nature (EN), Countryside Council for Wales (CCW), and the Joint Nature Conservation Committee (JNCC). This liaison has included provision of advice regarding Special Areas of Conservation. These will form part of Europe's Natura 2000 sites to be established under the European Union Habitats and Species Directive. The NRA continued to be closely involved with EN, CCW, and Scottish Natural Heritage (SNH) in the development and testing of SERCON, a computerised System for Evaluating Rivers for Conservation.

In 1993/94, 129 collaborative projects were undertaken with our various 'partners' including a wetlands strategy for Anglesey and the development of site management plans for Exminster Marshes and Amble Marshes in South West England.

Collaborative projects and publications

1993/94 saw the successful conclusion of the 3 year national RiverWATCH project which was supported throughout by the NRA. Sponsored by National Power and organised by the Royal Society for Nature Conservation (RSNC), the project aimed to promote and stimulate an awareness of rivers and their catchments amongst youngsters. Three colourfully illustrated and fun activity packs concentrated on particular aspects of the river environment including water quality, bankside habitats and catchments. The results of this nationwide exercise will be launched later in 1994.

A classic example of collaboration between the NRA and voluntary conservation bodies is *The New Rivers and Wildlife Handbook* which will be published in June 1994 in partnership with RSNC and the Royal Society for the Protection of Birds (RSPB). The foreword, written by the Prime Minister, highlights the key partnership role that river engineers and conservationists have when working to provide essential flood protection whilst at the same time maintaining and enhancing the wildlife interest of our rivers.

Environmentally responsible farming

The NRA and the Farming and Wildlife Advisory Group (FWAG) last year invited farmers and landowners to take part in a project to influence the wildlife value of the countryside they manage. The FWAG/NRA Riverside Farm Conservation project was initiated to work with landowners on the rivers

Ure, Swale and Nidd in Yorkshire. In 1993/94 the Countryside Commission in Yorkshire agreed to target the same rivers for their Funding of the Waterside Landscapes option of the Countryside Stewardship Scheme.

Both FWAG and the NRA are keen to promote environmentally responsible farming in which conservation is integrated with the commercial running of the farm. This joint initiative has proved to be a very cost effective way of focusing limited NRA resources on improving the conservation value of river corridors.

River Corridor Survey (RCS)

River Corridor Survey is a standard method used to describe and map the conservation "resource" of rivers. It highlights important features which need protecting and identifies opportunities to enhance degraded habitats.

In 1993/94, over 5,500km of river corridor were surveyed with a further 2,600km of river corridor appraised using aerial interpretation techniques.

River Habitat Survey (RHS)

In assessing the state of the water environment, the NRA closely monitors trends in the biological and chemical status of rivers using well established sampling methods.

Recognising that the structural aspects of river habitats are not currently being evaluated in respect of their importance to wildlife, the NRA continued to develop and field test a simple habitat classification and monitoring method, River Habitat Survey. This has now reached its validation and calibration stage, using 1500 randomly selected sites throughout England and Wales as a preliminary baseline reference. A standard sampling methodology and working classification are scheduled for October 1994, with operational implementation from April 1995.

Species issues

Freshwater crayfish feature in the NRA's conservation R&D programme. In January we published a guide to identifying native and introduced species to aid compilation of accurate records of their distribution. This will contribute valuable information and

guidance to the national crayfish management strategy recently produced by the Joint Nature Conservation Committee (JNCC).

In some instances, the Authority's conservation responsibilities may not sit entirely comfortably alongside other NRA duties. One such case is the potential impact of fish-eating birds on fish stocks. There is growing concern and circumstantial evidence that some fish-eating birds, notably the cormorant which is protected by law, may in some locations be causing damage to fisheries. In March the NRA published R&D Report No. 15, *Fish-Eating Birds: Assessing their Impact on Freshwater Fisheries*, a comprehensive review written by the Institute of Terrestrial Ecology. In response to the report, the NRA produced a statement on fish-eating birds, recognising the legitimate concerns of anglers and highlighting the need for strategic management planning involving all interested parties in order to (i) identify bird related impacts and (ii) assess the effectiveness of measures to prevent serious damage to fisheries.

An NRA otter strategy which represents the Authority's contribution to a UK-wide conservation plan for Britain's favourite wild animal was produced in March. Matching effort with need to maintain or create appropriate habitat structure and water quality conditions on a catchment basis is the key guiding principle of the strategy.

An initiative in the South Western Region has seen the construction of a safe pathway under the A39 which has been built for the use of otters living along the River Avill. There had been so many otter casualties on the road that NRA in-house engineering workforce built the pathway to ensure the otters no longer have to cross the busy main road.

Technical publications

Specific national outputs produced during the year included two more publications in the Conservation Technical Handbook Series dealing respectively with assessment of river landscapes and river habitat management suitable for otters. The former reflects the responsibility of the NRA in wider environmental matters, whilst the latter reflects the traditional position of otters as important indicators of the health of our rivers.

Responsibility for inland navigation in England and Wales is shared between the NRA and a number of other authorities, principally British Waterways (BW) and the Broads Authority. Our aim is to improve and maintain inland waters and their facilities for use by the public where the NRA is the navigation authority.

navigation

The NRA manages some 800km of inland navigations with approximately 40,000 boat registrations which involve some 550,000 participants. In addition, an estimated 10.5 million recreation visits are made to these navigations for the purposes of walking, rambling and sightseeing, with lock sites being a focus of attraction.

Strategy developments

In September 1993, the *NRA Navigation Strategy* was published and well received. It clearly articulates the aims and objectives of the function and identifies the key tasks to be addressed in future years. In response, the regions began to develop locally-based strategies. The 3-year "Thames Project" completed in its first year an extensive survey of users as a key stage in the assessment of demand and customer requirements. This will underpin the development of the Thames strategy in 1995. A strategy for the Anglian Region was initiated with a survey of facilities and structures.

Finance

The NRA began a comprehensive review of the navigation function which will conclude in late 1994. As part of this review an economic appraisal of the informal recreation activities associated with the maintenance of the NRA's navigations indicates a benefit to society valued at £5 million per annum. The NRA's navigation finance review will continue in 1994 and will review duties and responsibilities, income streams and customer requirements, with a view to achieving efficiency savings and reductions in overheads.

Commercial activity at the Harbour of Rye declined as a result of economic conditions, with a consequent adverse impact on income from commercial dues. On the Dee Estuary shipping movements were consistent with last year's volume but the NRA is constrained by primary legislation which limits charges for cargo.

A small increase in the total number of boat registrations was recorded in 1993 compared with the previous year, although much of the increase was made up of visitor or short-term licences.

Maintenance and improvements

During the year £3.4m was spent on capital works schemes.

The Hambleden Lock refurbishment, which has now alleviated a bottleneck for boats on the River Thames, was completed in March 1994 in time for the start of the holiday season. Construction took place in two phases with piling carried out in the winter of 1992.

This year saw the completion of the cofferdam, demolition of the existing structure and construction of a new, larger lock. The overall dimensions of the lock have been increased by 50 percent and a full underfloor sluice system has been employed to move water more quickly with reduced turbulence. The hydraulic rams on the sluices and steel chamber gates will be operated electronically from May 1994.

In Anglian Region a major programme of improvement works was completed with the installation of 32 landing stages at locks along the River Nene. Extensive dredging was undertaken in Peterborough to ensure adequate depth for the boats that moored at the Inland Waterways Festival in August.

A significant part of expenditure and staff resources were committed to the maintenance of the locks, weirs, houses and bridges that form the navigation function's extensive asset portfolio. The primary objective throughout the year was to ensure that structures and facilities were safe and operable for boats and the general public.

Regulation and enforcement

NRA staff continued to enforce byelaws and inspect vessels to ensure compliance with registration and licensing conditions. A range of enforcement techniques were used from inspections at locks, to river or bankside patrols. As in previous years, compliance with byelaws was high and 99% of inspected vessels were registered and licensed.

A review of registration and licensing legislation was undertaken as part of a study to assess the feasibility of establishing harmonised charging schemes for the NRA. Discussions were also held with the British Canoe Union (BCU) and a survey of registered canoeists was undertaken to consider how the registration and licensing procedures could be modified to match the requirements of this group of users. Preliminary indications are that any such changes will require modification of several sets of primary legislation. Work will continue to progress this initiative in 1994/95 and the NRA will seek to secure the appropriate mechanisms for changes to primary legislation in the forthcoming Environment Agency Bill.

During the year further progress was made with British Waterways to develop the inspector training modules for the Harmonised Boat Safety standards. These standards will ultimately replace existing requirements in Thames and Anglian Regions and provide a nationally agreed set of standards for boat safety.

Liaison and collaboration

The NRA continued to play a lead role in collaborating and liaising with other inland navigation authorities.

The NRA, British Waterways and the Broads Authority shared expertise and information throughout the year. As in the previous year the three authorities shared a stand at the Earls Court Boat Show in January. This was a cost-effective means of

exhibiting at this prestigious event and provided an opportunity for customers to meet and talk to staff. By working together it was possible to respond in detail to the European Commission 4th Framework R&D Programme and make new proposals that cover the interests of inland waterways in Britain.

The tripartite group worked during the year to provide the basis from which to deliver tangible initiatives in 1994/95 and beyond. These include: standards for electric charging systems; code of conduct for boaters; harmonised signage; and, reciprocal licensing.

Communications with user groups and navigation and trade representative bodies were reinforced with regular meetings and discussions at national and regional level.

The NRA has a duty to promote the use of water and associated land for recreation. In carrying out this duty we seek to take a balanced view and our aim is to develop strategies which ensure that recreation developments are in harmony with other users and the environment.

recreation

Wherever possible, we endeavour to work with other organisations who have overlapping interests in our sphere of work.

This collaborative approach provides opportunities for sharing expertise and research and most often produces a more cost-effective means of achieving our objectives.

Site management

The NRA manages approximately 1,000 sites which offer recreation facilities and amenities. In 1993/94, procedures were established for the recreation and conservation functions to record and analyse the NRA's sites and the extent and range of their use. Before the end of the year all regions had begun to collate information and develop an inventory of sites. By September 1994 sufficient data will be held both nationally and regionally to complete a review of landholdings and produce a stand-alone report for the DoE Standing Committee for the Code of Practice on Conservation, Access and Recreation.

Policy review

A comprehensive policy review was completed during the year. This provided an appraisal of existing policy and has indicated where new or revised policy will be required. Following on from this, work began to develop a foundation training course for recreation staff. This training will be delivered in 1994 and will be supplemented by policy guidelines and technical manuals relating to Site Management and Financial Assistance Schemes and a Facility Design Handbook.

Research

The NRA and the Sports Council jointly commissioned a study to investigate water recreation issues in Cumbria and Northumbria. Both the NRA and the Sports Council recognise that recreational pressure on water space in Northern England is increasing rapidly. Issues range from the proposed speed limit on Lake Windermere to the development of recreation upstream of the Tees Barrage: from the increasing conflicts between anglers and canoeists to the introduction of new sports such as dragon boat racing. The study assessed demand and reviewed provision for a wide range of water-based activities throughout Northern England. The influence of national trends and facilities in neighbouring regions were also taken into account. Whilst a wide range of formal and informal activities were reviewed, particular emphasis was placed on how best to cater for motorised water sports and reconcile potentially conflicting interests. Factors which currently constrain participation in watersports were established and opportunities for developing and improving watersports provision were identified. The study, which took 9 months to complete, has provided the NRA and the Sports Council with a database of all existing facilities and makes recommendations for appropriate strategies to accommodate the upsurge of interest in water based activities.

The report will assist the NRA in its decision making and planning at a local and regional level. The value of this type of study for other parts of the country, where there is a shortage of strategic information, is now being considered.

An R&D project *Socio-Economic Review of Angling* completed a survey and analysis phase. The project will provide a 'state of the sport' report in 1994.

A second R&D project *Impact of Recreation on Wildlife* began the first phase of its programme in 1993. Extensive consultation was undertaken by the consultants with governing bodies for sport and statutory organisations. A case study report for peer group review will be produced by the summer of 1994.

Planning and development control

NRA staff reviewed the capital works programmes of other functions and commented on their implications for recreation. Along with mitigation measures, opportunities were sought for new or improved facilities.

In addition to advice and comments for NRA catchment management plans, recreation staff also contributed to the consultation phases of Local Authority Statutory Plans. Input to these plans is an effective means of safeguarding the NRA's interests and promoting recreation. National guidance was given to planning authorities by the production of NRA Model Policies.

Promotion and collaborative projects

The NRA continued to exploit its expertise and strategic understanding of the water environment to promote recreation. Throughout the year a regular stream of public enquiries were addressed. Regions produced information and leaflets to inform the public about recreational opportunities in their locality and to generally promote the environment. River-line telephone services, which inform anglers and canoeists about river conditions, were particularly popular and were used extensively.

Wherever possible the NRA sought to work with other organisations and more than 80% of the 167 recreation projects undertaken during the year were collaboratively funded.

Liaison

The NRA liaised and communicated with governing bodies for sport, user groups and statutory organisations at national and regional level. Officers played a full part in the work of the Countryside Recreation Network (formerly CRRAG) which is an ideal forum for statutory organisations and academics to share information and initiate joint research.

During the year the NRA consulted with angling, canoeing and landowner organisations to assess support for reformation of the Angling and Canoeing Liaison Group. Support was widespread and the NRA will facilitate a meeting of interested parties in 1994.

environmental policy

“The NRA is committed to the environmental principles of stewardship and sustainability. In addition to vigorously pursuing its statutory responsibilities as *Guardian of the Water Environment*, the NRA will aim to establish and demonstrate wise environmental practice throughout all its functions.”

Our internal Environmental Policy was introduced in 1992. In 1993/94, we have continued the phased implementation of environmental good practice throughout the organisation. The following measures demonstrate some of these achievements.

- As part of the NRA's new project appraisal procedure, environmental policy compliance is now required for all projects costing in excess of £10,000.
- An environmental procurement policy has been developed and will be implemented during 1994. Environmental guidelines have been produced for all 10 of the NRA's commodity contract areas.
- Following energy audits on all occupied buildings, efficiency measures are being implemented which offer potential reductions in emissions of carbon dioxide of around 2,500 tonnes per annum.

- For transport, the change to an all diesel fleet continues. This will result in a pro rata reduction of 30% in carbon dioxide emissions. Fuel consumption of all fleet vehicles is being monitored and fuel efficiency forms part of vehicle purchase specification.
- The consumption of ozone depleting substances has largely ceased. A policy in respect of their use as refrigerants and drench systems is being developed.
- A policy in respect of our use of toxic substances, developed last year, will be implemented in 1994.
- The use of recycled paper has been largely adopted throughout the NRA, subject to the limitations of existing office equipment.
- Recycling systems for paper are in place, with some locations achieving 100% recycling.
- Our national stationery contract now requires the supplier to add 10 environmentally friendly items to their range each year.
- All NRA sites have been audited by our own pollution prevention staff.

nra customer charter

The Citizen's Charter, launched by Government in 1991, encapsulates the principles of good public service, quality and care for the customer. We have taken these principles to heart and have continued to improve our customer focus and service in 1993/94. Key achievements are set out below.

April 1993 Implementation of our national complaints system to replace existing regional systems. This was kept under review during the first year of operation and has now been further improved in line with the Complaints Taskforce booklet *Effective Complaints Systems: Principles and Check List*, published October 1993.

"Customer Care" training for our 80 telephonists and receptionists was held during the year, beginning in March 1993.

Quantitative survey work carried out in five of our eight regions showed 93% of respondents were completely satisfied with the service they received from the NRA.

June 1993 Submitted our application for a Charter Mark. Although we did not receive an award, we were highly commended by Government for our "continuous commitment to provide a very good service".

October 1993 Launched our emergency FREEFONE number, making it easier for the public to report incidents such as pollution, flooding, fish mortalities or illegal fishing.

Reviewed our Citizen's Charter Action Plan in light of feedback from our Charter Mark application and established our programme of work for 1994/95.

November 1993 Completed qualitative survey work with in-depth interviews of key customer representatives to identify needs for further survey work.

Began joint work with the Chartered Institute of Arbitrators on designing an independent conciliation/arbitration scheme to complement our internal complaints system. This will be implemented in 1994, subject to securing approval from the DoE.

January 1994 Published our Customer Charter booklet in response to both the Citizen's Charter and "Working with Business" initiatives. This set out our service standards and was made widely available to all our key customer groups.

March 1994 Work to improve staff awareness of customer issues throughout the year included information leaflets on Citizen's Charter and Customer Care and a "Design a Poster" competition.

The table opposite shows the monitored outturns in 1993/94 for those standards published in our Customer Charter.

The service we provide	The standard we aim to meet	1993/94 Outturn
Responding to complaints	An immediate response where possible. A written response within 5 working days of receipt of complaint.	For written responses - 70% answered within 5 days; 92% within 10 days.
Responding to general enquiries by telephone & letter.	An immediate response by telephone where possible. A written response within 10 working days of receipt of letter.	Not monitored centrally. Local compliance is responsibility of line management.
Answering telephone calls	An answer within 15 seconds	6.5 secs average*
Responding to application for discharge consent.	A decision within 4 months of receipt of completed application. For complex discharges, which may take longer to determine, we will agree a longer response period at the time of application.	90% answered in time.
Responding to application for an abstraction or impoundment licence	A decision within 3 months of receipt of completed application. For complex applications, which may take longer to determine, we will agree a longer response period at time of application.	74% answered in time
Responding to application for a consent to carry out flood defence or land drainage works on main river, or certain works on ordinary watercourses and in the floodplain.	A decision within 2 months of receipt of completed application.	98% answered in time
Providing advice to local authority planning offices as a consultee on planning applications.	Advice provided on 50% of applications within 14 working days of receipt; 75% of applications within 21 working days; and, 95% within 28 days.	63% within 14 days 77% within 21 days 88% within 28 days
Making the results of water sample analyses available on the public register.	Results on register within 60 days.	96% in time
Responding to pollution emergencies.	Attendance within 2 hours during normal working hours and within 4 hours at other times	92% of Category 1 and 90% of Category 2 incidents attended in time.
Responding to reported fish kills.	Attending 90% within 2 hours during normal working hours and within 4 hours at other times	78% of all reported incidents attended. 92% of these attended in time.
Responding to navigation incidents.	Attending 90% within 4 hours of notification.	100% in time
Responding to requests for advice on FRCN matters.	A considered response or site visit within 20 days of receiving request.	94% in time

* National data for response to telephone calls only available for March 1994.

*Research &
Development*

Personnel

*Legal Services
and
Committee
Services*

Finance

*Information
Systems*

*Internal
Audit*

business support services

Research & Development

The development and subsequent publication of the *NRA R&D Strategy* has provided a strong focus for the R&D Programme in 1993/94. This focus has extended not only to the business need for R&D but also the scientific basis upon which the NRA will build in order to develop the practical outputs it requires.

The main purpose of our R&D programme is to make the NRA more efficient and effective by providing innovative solutions and useable outputs to help NRA staff in their work.

R&D projects in 1993/94

In 1993/94, the NRA successfully developed and commenced 57 new projects compared with a target of 50 set out in the associated Corporate Plan. This increase reflects the additional requirements of the core functions for R&D to assist their activities.

In 1993/94, the projects supporting key NRA initiatives and activities included:

- an assessment of best practice in European environmental monitoring, in collaboration with the Po River Authority, Italy, who have particular experience of monitoring heavily industrialised catchments.
- further work on the implementation of the PHABSIM model for setting of abstraction licences in the framework of environmentally acceptable flows.
- the development of practical guidelines for the management of beaches as natural coastal flood defences.
- an assessment of recent developments in fish tracking technology in association with the Ministry of Agriculture, Fisheries and Food.
- the development of techniques to determine sediment movement in coastal waters and land-cover in river corridors using remote sensing techniques, as part of the NERC's Land Ocean Interaction Study.

R&D outputs in 1993/94

The NRA continues to place great emphasis on the production of practical outputs as well as the effective dissemination of research findings. Since the 1993/94 Corporate Plan and as a consequence of NRA project management procedures, a project is only considered complete when the customer has signed off both the output and the implementation plan. Of the 97 projects planned to end in 1993/94, 40 were successfully completed with the resultant outputs being taken up by NRA staff. The majority of the remaining projects have been completed, with the outputs expected to be implemented prior to the end of May 1994.

Key outputs

In 1993/94, the NRA published eight documents in its R&D Report series. These included:

- *The Disposal of Sheep Dip Waste* in association with Scotland and Northern Ireland Forum for Environmental Research (SNIFFER)
- *The Implications of Climate Change for the NRA*
- *The Development of Environmental Economics for the NRA*
- *Design of Straight and Meandering Compound Channels*, produced through R&D funded by NRA, MAFF, HR Wallingford and the Science and Engineering Research Council

The NRA is keen to publicise the availability of all its R&D outputs. Following a review of all outputs, a significant number of previously restricted documents were subsequently made available to the general public. The NRA also published a *List of R&D Outputs* covering the period September 1989 to September 1993 giving details of all outputs produced through the R&D Programme together with their availability. The *Annual R&D Review - 1993*, which provides further details of both outputs produced and the R&D Programme, was also published in March 1994.

Environment Agency

In preparation for the proposed Environment Agency, an R&D Sub-group of the DoE's Environment Agency Advisory Group has been established to take forward the harmonisation of R&D Programmes. This Sub-group, involving NRA, HMIP, DoE and representatives of the waste regulatory authorities, is now coordinating the R&D programmes of member organisations. As a result, a number of collaborative projects such as the piloting of toxicity-based consents for complex discharges have been developed, where the output will be relevant to the future Agency.

European Union and Research & Technological Development (RTD)

The NRA has made significant contributions to the debate over the content of the future EU Fourth Framework RTD Programme. In October 1993, the NRA jointly sponsored a Euroworkshop with the CEC and TechWaRe to discuss research needs in relation to water policy and management. The conclusions of this workshop, together with those from other member states, were discussed with Commission staff involved in the formulation of future RTD priorities. The NRA is currently involved in six EU-funded R&D projects.

External collaboration

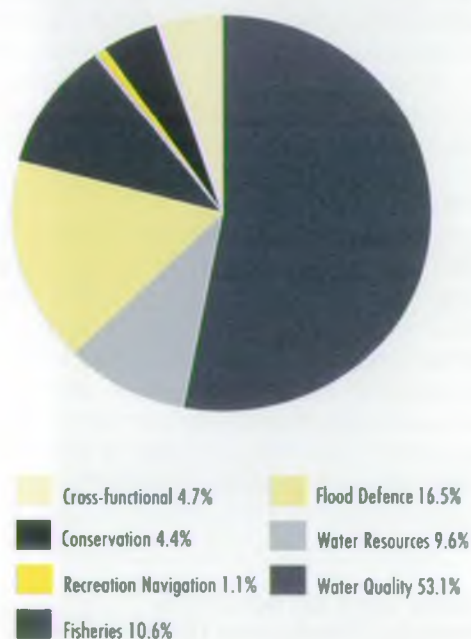
Great emphasis is placed in developing partnerships with other research-commissioning organisations in areas of mutual interest. The 1993/94 R&D Programme saw the NRA working in collaboration

with over 30 other organisations, ranging from Government Departments to industry. The benefits that accrue from this approach include enhancing the general acceptance of research findings in particular areas, influencing the way in which other organisations work within the water environment, and improving the NRA's value for money.

Review by DoE Chief Scientist

During the year, the DoE Chief Scientist's Group reviewed the structure and management of the NRA's R&D programme to assess its compliance with Cabinet Office Guidelines for public sector R&D. The review concluded that the NRA's approach is well balanced and that adequate measures are taken to achieve appropriate targeting and cost-effectiveness. The DoE supported the NRA programme to evaluate different sectors of its R&D work on a rolling-basis in order to ascertain that it produces meaningful outputs and provides value for money.

R&D PROGRAMME 1993/94
Expenditure by Function (Total Cost £4.9m)



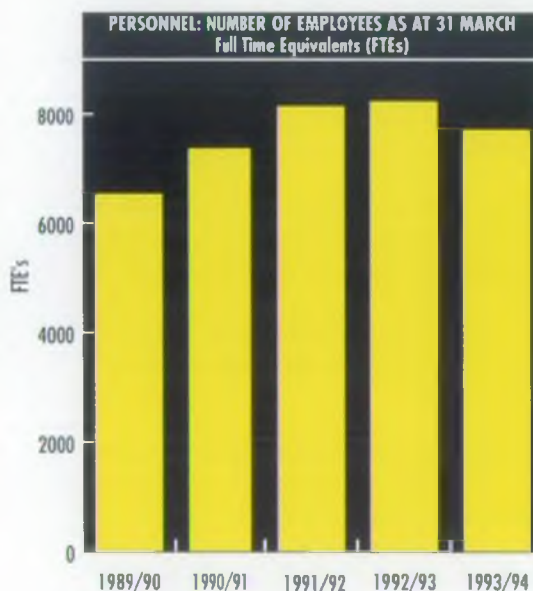
Personnel

General

New areas of policy and activity have been developed this year to respond to current and planned changes within the Authority.

Restructuring, market testing and efficiency programmes will continue to affect the number of employees directly employed by the Authority. A voluntary severance scheme has been introduced to respond to the fact that employee numbers will decline, although the Authority must retain flexibility to ensure the best utilisation of its staff. Similarly, extensive outplacement and re-training arrangements are available to all employees who leave as a result of reorganisation and rationalisation activities.

There has also been further development of national employment policies in the areas of relocation and secondment to facilitate the Authority's ability to make best use of its staff and offer the best career development prospects.



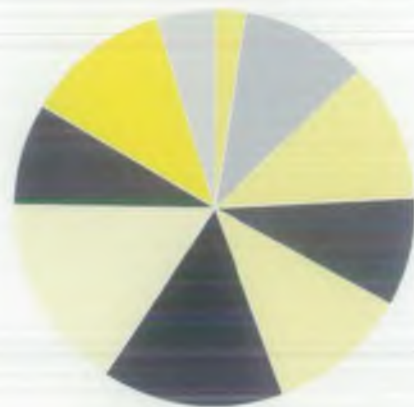
Equal opportunities

A new recruitment slogan "The NRA is committed to achieving Equal Opportunities" has been introduced and Equal Opportunities policies are kept under constant review and continuously audited.

Pensions

Extensive work has been undertaken with employees who are leaving the Authority and are of pensionable age to ensure they achieve the maximum of available benefit especially in respect of past entitlements. Employees have also been counselled to support them where they will be involved in a negotiated external takeover of their activity. Equally extensive work has defined their options and entitlements in these circumstances.

STAFFING BY REGION AT 31 MARCH
No of FTEs



Head Office 197	Anglian 1136
Northumbria & Yorkshire 791	Thames 1235
North West 888	Southern 656
Welsh 680	South Western 892
Severn-Trent 883	National Centres 351

Training and development

The programme of courses for senior managers at Ashridge Management College was completed during the year. These courses resulted in recommendations for improvements in management processes, including the need for training for managers in the next tier.

A programme of some 20 training courses have been arranged with Sundridge Park Management Centre for a further 400 managers.

An in-house "Certificate of Management" programme has been developed and launched in partnership with the Open College. This is a distance learning course which will be a major component of future management training programmes. Over 100 managers are currently completing the first year's course.

A steering group for Technical and Professional training with representation from the Board, Directors and Regional Managers was established during the year and led task groups which made recommendations on training priorities within functions. Courses designed to meet these needs have been organised and will be completed during 1994/95. Over 6,000 delegate days of training are included in this element of the NRA's training programme.

Recognising the need for better coordination of training and to ensure value for money in training activities, a National Training Service was established during the year. Its purpose is to ensure that training plans are coordinated so that they reflect both

Staffing by Function as at 31 March 1994

Function	No of FTE	% of Total FTE
Water Quality	1247	16.2
Water Resources	784	10.2
Flood Defence	3094	40.1
Fisheries	515	6.7
Conservation	90	1.2
Navigation	84	1.1
Recreation	31	0.4
Support Services	1513	19.6
National Centres	351	4.5
Total	7709	100

regional and national priorities and to manage national training programmes such as those outlined above.

Employee relations

Agreements were reached with the trade unions for salary and wage increases within the Government public sector pay policy in July 1993. Progress was made on consultation over the first major market testing initiatives covering laboratories, Project Engineering Services and Transport and Mobile Plant Maintenance. The rationalisation of laboratories was completed in accordance with the timetable, and all those staff from the closing laboratories who expressed a wish to remain with the NRA were found alternative posts. Consultation arrangements were established to take forward the proposed negotiated takeover of Project Engineering Services and parts of Transport and Mobile Plant Maintenance. However, these major changes and the market testing programme led Unison, the main employee trade union, to conduct an attitude survey among members and hold a ballot for industrial action. The ballot did not by a small margin provide a majority for action, but important lessons were learned from the attitude survey.

The implementation of revised grading structures and performance related pay based on job evaluation was delayed because of the public sector pay policy but arrangements to go ahead in July 1994 are well in hand.

Discussions to change the working practices and travel time arrangements for the in-house workforce were held during the year. The need to secure greater efficiency and value for money by revised systems of work and new pay arrangements were recognised by both parties.

Health & safety

During the year health and safety has maintained its very high profile at all levels. This was highlighted by health and safety training arranged for Directors and Regional General Managers and a 2 day session for the new Area Managers. The number of reportable accidents continued on a downward trend and we received our third British Safety Council award.

In May 1993 we held the Annual Safety Forum in the Midlands, where nominated Regional Safety

Representatives were rewarded for their outstanding effort in the field of health and safety with a Certificate of Commendation, presented by the Chief Executive. Carole Robertson of Southern Region became the first winner of the Dave McGovern Shield for Health and Safety.

A National Safety Service has been established to ensure co-ordination and consistency in safety matters across the Authority. Regions, areas and laboratories nominated personnel to undertake the role of Safety Co-ordinator in preparation for the re-organisation of health and safety nationally. The training for co-ordinators will commence in the new financial year.

Numerous health and safety training courses were completed during the year and the occupational health programme continued to be very well supported in all areas.

Legal Services and Committee Services

A slight reduction in the number of pollution prosecutions is an indication that the Authority's policy of rigorous enforcement is beginning to bear fruit. The success rate for such prosecutions remains at well over 90%.

Legal support continues for various training initiatives including the training of multi-functional enforcement teams. Major contributions were made to enable the completion of the contract with Post Office Counters for the distribution of rod fishing licenses and to facilitate the outsourcing of the debt recovery process. Evidence was provided to the House of Lords European Communities Committee in respect of the EC Green Paper on Remedying Environmental damage.

Committee Services has taken up the additional task of servicing the Pension Committee as well as assisting in its reorganisation. Additionally, the administration of two EG Sub-Groups, namely the Priorities and Scheme of Delegation Sub-Groups, came under the department's control. Operating procedures for the Authority's Regional Advisory Committees were developed and agreed following regional consultation. Guidelines were issued on a variety of matters, including Board and Committee Member's interests, the treatment of confidential papers as well as Honours nominations and citation writing.

Estates Management

The Authority commissioned a report and valuation of all its freehold properties which assisted in the production of a national accommodation plan and programme, a property disposal plan and the identification of "opportunity costs" of holding property.

A review has been carried out of the estates services both internally and by the DoE which has resulted in an improvement to the delivery of estates services at a

strategic level. The Estates Function has also been involved in the analysis of its activities, outputs and levels of service and in responding to the continuing market testing process.

The Estates Department continued in its activities in obtaining possession of land for the Authority's substantial capital and revenue programmes, including the valuation and payment of compensation to affected landowners and the acquisition of property required for capital schemes. Land holdings remain under review in order to identify used and under-utilised land for sale or estates management.

Finance

Financial Management

The Authority has continued its drive to ensure effective financial control and to maximise value for money in its use of resources. The implementation of formal project management monitoring and control procedures for all new projects as from 1 November 1993 was accompanied by an extensive training programme for all relevant staff throughout the organisation. Further effort has gone into improving understanding and awareness of economic appraisal techniques for use in cost benefit analysis and to assist the Authority in its decision-making at policy, programme and project levels. Financial forecasting methodologies have been reviewed and the groundwork has been laid for improving the accuracy of both short and longer-term financial forecasts. Major progress has been made in reducing trade debtors and in strengthening credit control. Effective financial support has been provided for the Authority's market testing programme and reorganisation initiatives ensuring propriety, regularity and the delivery of value for money.

Procurement

The on-going development of professional procurement has produced savings, based on contract period, of approximately £2.6 million during the year. National contract coverage for recurrent supplies and services increased from £8 million at the start of the year to £25 million at year end and standard NRA conditions of contract were introduced for all new contracts to reduce commercial risk exposure. Over 200 staff received procurement training aimed at increasing commercial awareness and ensuring compliance with EC procurement legislation.

Corporate Planning

Following consultation, a corporate strategy and strategies for each of our 7 core functions and R&D have been produced and widely disseminated internally and externally.

Performance measurement criteria were reviewed and a new quarterly performance reporting process was introduced. A corporate planning management information system was developed and implemented.

Advice has been provided to DoE on Environment Agency planning.

Information Systems

Following the creation of National IS Services, the control of IS planning and expenditure and the focus on national systems have ensured that major IS projects fully support the NRA's business priorities.

The procurement of national systems for water monitoring and archive (WAMS), integrated accounting (IAS) and personnel and payroll (PP) have now received Government approval and will be implemented on a national basis during 1994 and 1995.

A number of business cases for other national IS systems have been completed for flood defence management, pollution and fisheries incident reporting and prosecution, planning applications, NRA wide communications through electronic mail and the presentation and analysis of environmental data through geographical information systems (GIS).

The reduction of diversity of computer hardware and software has been achieved in the areas of personal computers by the selection through open procurement of single suppliers for hardware purchase and maintenance on a national basis and the standardisation of PC package software. Open

procurement for the supply of larger computers and local and wide area communication was also initiated. These measures will not only reduce diversity but will also lead to reductions in costs of the systems currently being supported.

Internal Audit

Internal Audit reviews all of the NRA's activities and recommends improvements to controls aimed at helping the Authority to manage and reduce its business risks.

In 1993/94, the department produced approximately 100 reports including budgetary control, market testing, procurement, hydrometry and telemetry. Savings of over £2.5 million per annum were identified.

The NRA is committed to strong internal audit and the impact largely reflects the support of senior managers and the Board. The Authority's Audit Committee, under the chairmanship of Lord Gregson, monitors the performance of Internal Audit. It also ensures action is taken whenever improvements are necessary.

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- v* Income and Expenditure Account
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- viii* Notes to the Financial Statements
- ix* Supporting Statements
- x* Direction on the Annual Accounts

financial statements

**for the year ended
31 March 1994**

History and Statutory Background of the National River Authority (NRA)

The Authority is a non-departmental public body having statutory powers and duties relating to flood defence, water resources, pollution control, fisheries, recreation, conservation and navigation. It took up its full statutory duties on 1 September 1989 under the provisions of the Water Act 1989 which was subsequently superseded by the Water Resources Act 1991 and other consolidating legislation.

The Authority's sponsor in government is the Department of the Environment which has primary responsibility for administering the controls over the Authority under the Financial Memorandum. The Ministry of Agriculture, Fisheries and Food (MAFF) has specific responsibilities for flood defence and fisheries in England and so the Authority deals directly with the Ministry on policy issues relating to those functions. The Authority also has direct dealings with the Welsh Office on matters associated with its functions as they affect Wales.

Flood defence activities are financed primarily by levies and by grants from MAFF and the Welsh Office towards the costs of capital projects. Expenditure on the water resources function is funded entirely through charges to customers. The Authority's remaining functions, relating to pollution control, fisheries, navigation, recreation and conservation, receive their funding partly through fees and charges and partly through grant-in-aid from the Department of the Environment. Grant-in-aid allocated to the Authority is included in Class VII, Vote 5 of the parliamentary supply estimates.

Results

The Authority had a surplus of £8.4m for the year. There were transfers of £16.1m to the capital reserve and £0.5m from the special asset replacement fund (see note 11), leading to a reduction in the balance on the income and expenditure account of £7.2m. Financial information on a receipts and payments basis is to be found in Section ix.

The results were significantly affected by the introduction of the voluntary severance scheme

during the year. The aggregate of severance payments to ex-employees and accruals for future liabilities for added years' pension payments was £14.2m (see also note 3).

Review of Activities

Water Resources

The Authority is required to ensure that, taking one year with another, income from abstraction charges equals expenditure (including current cost depreciation on water resources assets, a rate of return of 2% on the net current cost value of water resources assets transferred to it on 1 September 1989 and 8% on such assets acquired since then). Cash surpluses at the year end can be carried forward only to the extent that they cover net repayments due to abstractors, short term creditors and accrued liabilities. All other cash surpluses must be offset against the grant-in-aid requirements of the general pollution control, fisheries, navigation, recreation and conservation functions.

Expenditure exceeded income from abstraction charges in the year by £1.0m. Net accumulated surpluses, which are being returned to abstractors through reductions in charges in 1994/95, consequently fell from £14.1m to £13.1m over the period (see Section ix(c) of the Financial Statements).

Water resources closing cash in hand totalled £25.7m. An amount of £17.5m was required to cover creditors, accruals, and repayments due to abstractors (see note 8). A cash surplus of £8.2m remained because it arose too late to be offset against grant-in-aid in year but will be offset against grant-in-aid in 1994/95.

Grant-aided Functions

The principal financial duty for each of the grant-aided functions is to balance receipts (including grant-in-aid) with payments in each financial year. Any cash surpluses relating to such a function to be carried forward from one financial year to the next must not exceed 2% of the original grant-in-aid for that function.

As regards pollution control specifically, the Authority must also ensure that, taking one year with another, income from applicants for, and holders of, discharge consents equals expenditure (including

current cost depreciation on relevant assets) incurred in connection with the granting of direct discharges of effluent to controlled waters. Any cash surpluses arising on monitoring and consenting activities, after allowing for net repayments due to charge-payers, short term creditors and accrued liabilities, must be offset against grant-in-aid requirements.

Financial performance on grant-aided functions has to be measured in cash accounting terms. The following table, derived from the analysis of receipts and payments, summarises the position on grant-aided functions:-

	Payments £m	Operating Receipts £m	Funding Requirement £m
Pollution control	80.2	45.4	34.8
Fisheries	25.4	11.6	13.8
Navigation	7.9	3.3	4.6
Recreation & conservation	5.9	0.4	5.5
Sub total	119.4	60.7	58.7
Unfunded pensions	11.7	-	11.7
	131.1	60.7	70.4

The Authority is seeking to carry forward the maximum amount of cash permissible for grant-aided functions, which is £1.4m (2% of the original grant-in-aid allocation). This amount comprises £0.8m grant-in-aid in hand at the year end and £0.6m surplus water resources cash.

Expenditure on pollution control activities relating to the granting and monitoring of discharge consents exceeded relevant income by £0.8m (see Section ix (d)). This deficit will be recoverable from the applicants and holders of consents through adjustments to tariffs in future years. A net cash surplus of £1.9m was generated on the charges for discharges account and was retained for in-year funding purposes.

Flood Defence

The Authority is required to break even, taking one year with another, on income and expenditure. It must also extinguish, within five years from 1 April 1992, cash reserves transferred to it on 1 September 1989 other than those representing the balance on the income and expenditure account.

The consolidated flood defence account comprises the individual accounts of Flood Defence Committees through which the Authority, under Section 106 of

the Water Resources Act 1991, arranges for its flood defence functions to be carried out.

The Authority received capital grants of £33.9m from MAFF and £0.6m from the Welsh Office.

Fixed Assets

Expenditure of £52.7m was incurred on tangible fixed assets in the year. Grants, contributions and depreciation together provided funding of £36.6m. The remaining financing of £16.1m was transferred from the accumulated surplus on the income and expenditure account. The balance sheet shows a net increase of £22.2m in tangible fixed assets from the opening position.

Pensions

The Authority is the statutory administering body for the pensions fund for new employees and transferees from the former water authorities (the NRA Superannuation Fund) and also for a remnant fund (the New Main and New Second Fund) which provides benefits to pensioners of the Foundation for Water Research, WRc plc, Water Services Association of England and Wales, Water Training international and the former British Water International. The Funds are defined benefits schemes administered in accordance with local government superannuation scheme regulations.

The New Main and New Second Fund (known as the "Closed Fund") receives no contributions from the Authority and the Secretary of State for the Environment has a duty under S.173(3) of the Water Act 1989 to ensure that the Fund can always meet its liabilities, including future indexation awards. Separate accounts are maintained for the NRA Superannuation Fund and the New Main and New Second Fund, respectively.

Research and Development

The furtherance of research is specified as one of the Authority's duties in the Water Resources Act 1991. The aims of the research and development programme are to improve the Authority's efficiency in the exercise of its functions and to provide new knowledge and techniques which increase its ability to discharge its duties. The programme covers all core functions but pollution control attracts the largest proportion of financial resources. Expenditure in the year was £5.6m.

Future Developments

The 1994/95 Corporate Plan sets out the Authority's mission, aims and future targets for its core functions and support services. The Authority's top priorities

will continue to be flood defence and pollution control. After this, maximum expenditure possible is to be concentrated on the other core functions, and not on support services. The main features of the plan also include ambitious efficiency savings, further development of integrated catchment management and preparations for the transfer of functions to the planned Environment Agency.

Events since the End of the Financial Year

There have been no events since the end of the financial year which impact materially on these financial statements.

Board and Committee Members

Particulars of Board Members are given in Appendix 1 of the report, and Committee Members in Appendix 2.

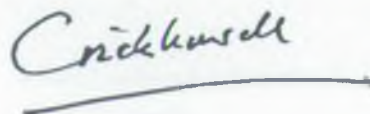
Disabled Persons

If any employee becomes disabled, every effort is made to allow that person to continue in the Authority's employment, and to offer an alternative job and provide re-training where necessary.

The Authority considers applications for employment from individuals with disabilities on the same basis as other applicants, having regard to the nature of the disabilities and vacant posts.

Employee Involvement

The Authority has national and regional joint committees for consultation and negotiation with industrial and non-industrial employees. The committees are also means of keeping employees' representatives informed of developments affecting employment with the Authority.



CHAIRMAN



CHIEF EXECUTIVE AND ACCOUNTING OFFICER

7th July 1994

11 statements of responsibilities of board members and accounting officer

The Board is required to prepare financial statements in accordance with the Accounts Direction (see Section x).

The Board is responsible for the strategic direction and policies of the Authority, together with its proper and effective management. Members are responsible, inter alia, for the stewardship of public funds and are trustees of the assets. They take particular care to ensure that the efficiency and effectiveness of the Authority's activities, including its administration, are regularly monitored and, where possible, improved.

The Accounting Officer is responsible for the propriety and regularity of all the Authority's financial transactions, for the keeping of proper accounts, for prudent and economical administration, for the avoidance of waste and extravagance, and for the efficient and effective use of all the Authority's resources. In particular, the Accounting Officer must

ensure that proper financial procedures are followed and accounting records maintained, that public funds are properly and well managed, and that the Authority's assets are adequately controlled and safeguarded.

All Board Members have received copies of "Responsibilities of Board Members of Non-Departmental Public Bodies" (a note by the Department of the Environment), which expands the above paragraphs.



CHIEF EXECUTIVE AND ACCOUNTING OFFICER
7th July 1994

Report of the Auditors to the Board of the National Rivers Authority, the Secretary of State for the Environment, the Secretary of State for Wales and the Minister of Agriculture, Fisheries and Food.

We have audited the financial statements on pages 53 to 77.

Respective responsibilities of Board Members and Auditors

As described in Section ii, the Board is responsible for the preparation of financial statements. It is our responsibility to form an independent opinion, based on our audit, on those statements and to report our opinion to you.

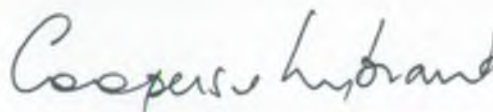
Basis of opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the Authority in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Authority's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of affairs of the National Rivers Authority at 31 March 1994 and of its surplus and cash flow for the year then ended and have been properly prepared in accordance with Section 121 (2) of the Water Resources Act 1991 and the Accounts Direction dated 7 July 1994 given thereunder.



Chartered Accountants and Registered Auditors

Bristol

7th July 1994

17 statement of accounting policies

(a) Basis of Accounting

The financial statements have been prepared in accordance with the Direction on the Annual Accounts made by the Secretary of State for the Environment, the Secretary of State for Wales and the Minister of Agriculture, Fisheries and Food under Section 121(2) of the Water Resources Act 1991. A copy of the Direction is included in Section x below.

(b) Accounting Convention

The financial statements are prepared using the historical cost convention.

(c) Income

Income represents total income, exclusive of VAT, receivable for functions undertaken and grant-in-aid receivable from the Department of the Environment (DoE). Grant-in-aid is received from the DoE in respect of capital and revenue expenditure on pollution control, fisheries, navigation, recreation and conservation activities.

(d) Capital Grants and Contributions

Grants that relate to specific capital expenditure are treated as deferred income which is then credited to the income and expenditure account over the asset's useful life.

(e) Special Asset Replacement Fund

The Fund was originally set aside to provide for the future need for major capital works on the Thames Barrier, but may now be used for other capital works in the Thames Region and is to be extinguished no later than March 1997. Transfers to the Fund from the income and expenditure account represent interest receivable on reserve balances and transfers are made from the Fund to meet capital costs incurred.

(f) Capital Reserve

Tangible fixed assets were transferred to the Authority at vesting free of debt. The written down value of such assets in the opening balance sheet was recorded in a capital reserve. Annual transfers to the reserve since vesting represent the excess of capital expenditure net of disposals over historical cost depreciation.

(g) Intangible Fixed Assets

Expenditure on intangible fixed assets is charged to the income and expenditure account in the year in

which it is incurred. Intangible fixed assets are defined as river bank, channel and related works which are of no realisable value to the Authority or works on structures and properties belonging to third parties where the ownership of the works undertaken does not vest in the Authority.

(h) Tangible Fixed Assets

Pre vesting assets are included in the financial statements at the values at which they were transferred to the Authority as at 1 April 1989 less depreciation charged in subsequent years. Fixed assets acquired since the opening balance sheet are stated at cost less accumulated depreciation. The cost of tangible fixed assets is their purchase cost, together with any incidental expenses of acquisition. Depreciation is calculated so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful lives of the assets concerned. The principal asset lives used for this purpose are:

Buildings 10-60 years

Vehicles and mobile plant 3-20 years

Operational structures 20-100 years

Computers and equipment 5-10 years

Freehold land is not depreciated

(i) Water Resources Account

Surpluses which accumulate on regional water resources accounts (see Section ix(c) of the Financial Statements) are treated as liabilities for sums repayable to abstractors. These are credited to the income and expenditure account as water resources costs exceed income from charges to abstractors through adjustments to tariffs. Deficits are treated as amounts due from abstractors and are debited to the income and expenditure account as income from charges exceeds costs.

(j) Pollution Control Account

From 1993/94 the Authority has to ensure that charges for discharge consent activities cover costs. The pollution control account is effectively divided into two parts: one relates to activities associated with the monitoring of consents; the other concerns general environmental control. A surplus on the part of the account relating to the administration and control of consents is treated as a liability for a sum repayable to consent holders. It is credited to the pollution control account as costs exceed income from charges to

consent holders through adjustments to tariffs. A deficit is treated as an amount due from consent holders and is debited to the account as income from charges exceeds expenditure.

(k) Leases

Costs in respect of operating leases are charged on a straight line basis, over the lease term.

Finance leases are treated as if the asset had been purchased outright. The relevant assets are included in fixed assets and the capital element of the leasing commitments is shown as an obligation under finance leases. Depreciation on the relevant assets is charged to the income and expenditure account on a straight line basis to write the assets off over their expected useful lives. Finance lease payments are treated as consisting of capital and interest elements, and the interest is charged to the income and expenditure account using the annuity method. All obligations under finance leases were inherited from the predecessor water authorities.

(l) Research and Development

Research and development expenditure is charged to the income and expenditure account in the year in which it is incurred.

(m) Pensions

The Authority makes regular contributions to the NRA Superannuation Fund (known as the "Active Fund") only. They are charged to the income and expenditure account and are set following formal actuarial valuation of the Fund at a level sufficient to ensure the scheme is fully funded and taking account of the expected pension costs over the service lives of the employees. Liabilities for enhancements to employees' pension arrangements under the Authority's voluntary severance scheme are accounted for in the year in which applications for severance are approved.

The Authority also effects payment of certain unfunded pensions to former water industry employees on behalf of the Government. Such pensions payments are met entirely from grant-in-aid.

Income and expenditure account for the year ended 31 march 1994

		1993-94	1992-93	1993-94	1992-93	1993-94	1992-93
	See note	Total	Total	Service Accounts	Service Accounts	Flood Defence	Flood Defence
				(See note 18)		(See note 19)	
		£m	£m	£m	£m	£m	£m
Income							
Income from activities		319.7	317.0	139.6	125.8	180.1	191.2
Government grant-in-aid		48.6	59.6	48.6	59.6	-	-
Capital grants and contributions		31.9	34.8	0.3	0.3	31.6	34.5
Sale of assets		1.3	1.3	0.2	0.2	1.1	1.1
		401.5	412.7	188.7	185.9	212.8	226.8
Expenditure							
Staff costs	2,3	169.1	151.8	94.2	86.0	74.9	65.8
Depreciation and expenditure on intangible fixed assets		104.4	106.3	16.2	14.4	88.2	91.9
Other operating costs		131.0	125.8	78.2	74.3	52.8	51.5
		404.5	383.9	188.6	174.7	215.9	209.2
Operating (deficit)/surplus	4	(3.0)	28.8	0.1	11.2	(3.1)	17.6
Interest receivable	5	11.4	15.1	2.4	2.8	9.0	12.3
Surplus for year		8.4	43.9	2.5	14.0	5.9	29.9
Transfers to/(from) reserves							
Capital reserve	11(a)	16.1	25.0	6.8	13.4	9.3	11.6
Special asset replacement fund	11(c)	(0.5)	0.3	-	-	(0.5)	0.3
		(7.2)	18.6	(4.3)	0.6	(2.9)	18.0
Balance brought forward		55.8	37.2	4.6	4.0	51.2	33.2
Balance carried forward		48.6	55.8	0.3	4.6	48.3	51.2

Note:

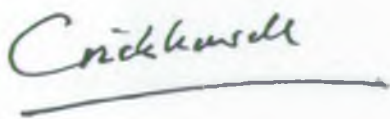
All of the Authority's income and surplus for the year were derived from continuing activities.

The Authority had no recognised gains and losses other than those included in the income and expenditure account, and therefore no separate statement of total recognised gains and losses has been prepared.

vi balance sheet as at 31 march 1994

		1993-94	1992-93	1993-94	1992-93	1993-94	1992-93
	See note	Total	Total	Service Accounts	Service Accounts	Flood Defence	Flood Defence
		£m	£m	£m	£m	£m	£m
Fixed assets							
Tangible assets	6	502.4	480.2	203.1	199.7	299.3	280.5
Current assets							
Stocks and work in progress		2.2	2.6	0.3	0.3	1.9	2.3
Debtors	7	34.4	32.0	14.8	14.1	19.6	17.9
Cash at bank and in hand		142.2	146.1	27.3	28.4	114.9	117.7
Total current assets		178.8	180.7	42.4	42.8	136.4	137.9
Creditors: amounts falling due within one year	8	84.2	66.7	41.7	25.9	42.5	40.8
Net current assets		94.6	114.0	0.7	16.9	93.9	97.1
Total assets less current liabilities		597.0	594.2	203.8	216.6	393.2	377.6
Financed by							
Creditors: amounts falling due after more than one year	8	1.4	10.6	0.4	9.8	1.0	0.8
Provision	9	-	2.5	-	2.5	-	-
Deferred grants and contributions	10	28.7	22.6	4.5	4.4	24.2	18.2
Reserves							
Capital reserve	11(a)	473.7	457.6	198.6	195.3	275.1	262.3
Income and expenditure account	11(b)	48.6	55.8	0.3	4.6	48.3	51.2
Special asset replacement fund	11(c)	44.6	45.1	-	-	44.6	45.1
		597.0	594.2	203.8	216.6	393.2	377.6

The financial statements on pages 53 to 77 were approved by the Board on 7 July 1994 and were signed on its behalf by:



CHAIRMAN



CHIEF EXECUTIVE AND ACCOUNTING OFFICER

VII cash flow statement for the year ended 31 march 1994

	See note	1993-94		1992-93		1993-94		1992-93		1993-94		1992-93	
		Total		Total		Service Accounts		Service Accounts		Flood Defence		Flood Defence	
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Operating Activities													
Grant-in-aid received		61.3		74.7		61.3		74.7		-		-	
Cash received from customers		316.6		331.8		137.5		134.4		179.1		197.4	
Cash payments to suppliers		(123.4)		(131.4)		(74.1)		(77.3)		(49.3)		(54.1)	
Cash paid to and on behalf of employees		(169.2)		(151.9)		(94.2)		(86.0)		(75.0)		(65.9)	
Other cash payments		(11.7)		(11.5)		(11.7)		(11.5)		-		-	
Net cash inflow from operating activities	20	73.6		111.7		18.8		34.3		54.8		77.4	
Net cash inflow from returns on investments - interest received		11.4		15.1		2.4		2.8		9.0		12.3	
Investing Activities													
Payments to acquire tangible fixed assets		(52.5)		(59.5)		(22.0)		(27.3)		(30.5)		(32.2)	
Receipts from sale of tangible assets		1.3		1.3		0.2		0.2		1.1		1.1	
Payments for intangible fixed assets		(75.5)		(79.8)		(0.6)		(0.4)		(74.9)		(79.4)	
Net cash outflow from investing activities		(126.7)		(138.0)		(22.4)		(27.5)		(104.3)		(110.5)	
Net cash outflow before financing		(41.7)		(11.2)		(1.2)		9.6		(40.5)		(20.8)	
Financing													
Capital grants and contributions for the purchase of:													
Tangible fixed assets		(6.6)		(7.2)		(0.1)		(0.4)		(6.5)		(6.8)	
Intangible fixed assets		(31.2)		(34.2)		-		-		(31.2)		(34.2)	
Net cash inflow from financing		(37.8)		(41.4)		(0.1)		(0.4)		(37.7)		(41.0)	
(Decrease)/increase in cash and cash equivalents	20	(3.9)		30.2		(1.1)		10.0		(2.8)		20.2	
		(41.7)		(11.2)		(1.2)		9.6		(40.5)		(20.8)	

Our notes to the **financial statements**

1 Service Accounts

The term 'Service Accounts' incorporates the water resources, pollution control, fisheries, navigation, recreation and conservation functions.

2 Information Regarding Board Members

	1993-94 £000	1992-93 £000
Members' emoluments:-		
Total fees and salaries of Board Members	347	323
The emoluments, excluding pension contributions, of:		
the Chairman	53	51
the Chief Executive		
- salary	99	98
- payment of performance related pay for 1992/93	14	-
- performance related pay for 1993/94 (part)	7	-

The Chief Executive's performance related pay is calculated by reference to the extent to which pre-determined objectives have been achieved and a maximum value of 15% of basic salary.

The numbers of Board Members (including the Chairman and Chief Executive) who received emoluments, excluding pension contributions, were:-

	1993-94 Number	1992-93 Number
£5,001-10,000	3	3
£10,001-15,000	2	2
£15,001-20,000	6	5
£20,001-25,000	1	2
£50,001-55,000	1	1
£95,001-100,000	-	1
£115,001-120,000	1	-

3 Information Regarding Employees (including Chief Executive)

	1993-94 £m	1992-93 £m
Salaries and wages	122.4	117.7
Social security costs	10.4	9.3
Other pension costs	6.1	8.7
Other staff related costs	16.0	16.1
Amounts payable under the voluntary severance scheme	14.2	-
	169.1	151.8

Scale of emoluments of senior employees, excluding pension costs:-

	1993-94 Number	1992-93 Number
£30,001-40,000	130	94
£40,001-50,000	53	47
£50,001-60,000	5	11
£60,001-70,000	11	5
£70,001-80,000	2	-
£90,001-100,000	-	1
£110,001-120,000	1	-

Average numbers of persons employed during the year:-

	1993-94 Number	1992-93 Number
Senior managers	207	182
Other non-manual employees	5,825	5,758
Manual employees	2,082	2,188
Total	8,114	8,128

No material transactions, arrangements or contracts entered into in which a Board Member, an executive, a higher paid employee, or a person connected with these, at any time during the year, had a direct or indirect material interest, were brought to the attention of the Authority.

4 Operating Surplus

The operating surplus is arrived at after charging:-

	1993-94	1992-93
	£m	£m
Auditors' remuneration:		
Audit work	0.2	0.2
Non-audit work	0.2	0.2
Research and development	5.6	6.8
Operating lease rentals	4.4	4.2
Depreciation on tangible fixed assets	29.0	26.5
Expenditure on intangible fixed assets	75.4	79.8
Travelling, transport, subsistence and hospitality costs:		
Board Members	0.1	0.1
Employees	10.8	10.6
Losses and special payments (1,334 in number, 818 in 1992/93)	1.3	1.0
and after write-back of provision no longer required (see also note 9)	2.5	-

5 Interest Receivable

	1993-94	1992-93
	£m	£m
Interest receivable from short-term fixed interest deposits	11.4	15.1

Note:

Losses and special payments encompass cash and stores losses, claims waived and abandoned, and fruitless, ex-gratia and compensation payments. As regards individual items of value in excess of £25,000, the 1993/94 figure contains two thefts of vehicles, each with a written down value of £27,000, theft of one vehicle with a book value of £29,000 and theft of computer equipment valued at £33,000.

6 Tangible Fixed Assets

6(a) Analysis by Type

	See note	Total £m	Freehold Land and Buildings £m	Plant and Machinery £m	Fixtures and Fittings £m	Assets under Construction £m
Cost						
At 1 April 1993		642.2	403.6	137.3	62.3	39.0
Additions		52.7	11.1	11.8	5.8	24.0
Reclassification		-	25.0	(6.7)	7.4	(25.7)
Disposals		(4.6)	(0.5)	(3.9)	-	(0.2)
At 31 March 1994	6(b)	690.3	439.2	138.5	75.5	37.1
Depreciation						
At 1 April 1993		162.0	73.3	56.7	32.0	-
Provided during the year		29.5	7.6	13.2	8.7	-
Disposals		(3.6)	-	(3.6)	-	-
At 31 March 1994	6(b)	187.9	80.9	66.3	40.7	-
Net Book Value						
At 31 March 1994		502.4	358.3	72.2	34.8	37.1
At 31 March 1993		480.2	330.3	80.6	30.3	39.0

6(b) Analysis by Function

	See note	Total £m	Flood Defence £m	Service Accounts Total £m	Water Resources £m	Pollution Control £m	Fisheries £m	Recreation £m	Conservation £m	Navigation £m
Cost										
At 1 April 1993		642.2	371.3	270.9	119.9	79.5	21.9	3.3	1.5	44.8
Additions and reclassifications		52.7	36.7	16.0	5.4	4.3	2.5	0.5	0.4	2.9
Disposals		(4.6)	(3.4)	(1.2)	(0.5)	(0.4)	(0.2)	-	-	(0.1)
At 31 March 1994	6(a)	690.3	404.6	285.7	124.8	83.4	24.2	3.8	1.9	47.6
Depreciation										
At 1 April 1993		162.0	90.8	71.2	33.7	22.0	6.0	0.7	0.3	8.5
Provided during the year		29.5	17.2	12.3	4.4	5.4	1.3	0.1	0.1	1.0
Disposals		(3.6)	(2.7)	(0.9)	(0.3)	(0.3)	(0.2)	-	-	(0.1)
At 31 March 1994	6(a)	187.9	105.3	82.6	37.8	27.1	7.1	0.8	0.4	9.4
Net Book Value										
At 31 March 1994		502.4	299.3	203.1	87.0	56.3	17.1	3.0	1.5	38.2
At 31 March 1993		480.2	280.5	199.7	86.2	57.5	15.9	2.6	1.2	36.3

7 Debtors

	1993-94 £m	1992-93 £m
Less than one year		
Trade debtors	3.8	5.3
Other debtors:		
Grants	9.7	8.4
VAT	10.2	8.3
Employee loans	1.5	1.8
Other	0.3	0.4
Water resources expenditure recoverable from abstractors	0.2	-
Pollution control expenditure recoverable from consent holders	0.8	-
Prepayments and accrued income	6.1	5.8
	32.6	30.0
More than one year		
Employee loans	1.8	2.0
	34.4	32.0

8 Creditors

	1993-94 £m	1992-93 £m
Amounts falling due within one year		
Trade creditors	8.9	8.4
Accruals and other creditors	15.1	8.8
Capital creditors	28.3	30.0
Due to Government:		
Grant-in-aid returnable	-	1.1
Water resources surplus	7.6	1.6
Pollution control surplus	1.9	-
Navigation licence income	-	2.2
Returnable to Government:		
Water resources surplus to be used to fund grant-aided functions in 1994/95	0.6	2.0
Grant-in-aid carried forward	0.8	3.0
Water resources income repayable to abstractors	15.8	4.7
Tax and social security	3.9	3.4
Customer deposits and receipts in advance	1.2	1.2
Finance leases	0.1	0.3
	84.2	66.7
Amounts falling due after more than one year		
Water resources income repayable to abstractors	-	9.4
Finance leases	0.1	0.2
Capital creditors	1.0	0.7
Other creditors	0.3	0.3
	1.4	10.6

9 Provision

	1993-94 £m	1992-93 £m
At 1 April 1993	2.5	1.9
Movement in the year	(2.5)	0.6
At 31 March 1994	-	2.5

The provision related to the Authority's liability for future infrastructure maintenance under the Clywedog operating agreement with Severn-Trent Water plc. During the course of 1993/94 it was established that the provision was no longer required and should be refunded to abstractors through adjustment to tariffs in 1994/95.

10 Deferred Grants and Contributions

	1993-94 £m	1992-93 £m
At 1 April 1993	22.6	16.0
Amounts receivable in the year	6.8	7.2
Amortisation in year	(0.7)	(0.6)
At 31 March 1994	28.7	22.6

In addition to the deferred grants and contributions receivable in respect of tangible fixed assets set out above, there were grants receivable of £31.2m (1993 - £34.2m) relating to intangible assets written off in the year.

11 Reserves and Retained Surpluses

(a) Capital Reserve

	Total £m	Service Accounts £m	Flood Defence £m
At 1 April 1993	457.6	195.3	262.3
Movements in the year:			
Transfer from income and expenditure account	16.1	6.8	9.3
Movement between functions	-	(3.5)	3.5
At 31 March 1994	473.7	198.6	275.1

Note:

The transfer from income and expenditure account is calculated as follows:

	Total £m	Service Accounts £m	Flood Defence £m
Purchase of fixed assets	52.7	22.1	30.6
Grants and contributions (net)	(6.1)	0.1	(6.2)
Depreciation (including capitalised depreciation)	(29.5)	(15.1)	(14.4)
Disposals	(1.0)	(0.3)	(0.7)
	16.1	6.8	9.3

(b) Income and Expenditure Account

	Total £m	Service Accounts £m	Flood Defence £m
At 1 April 1993	55.8	4.6	51.2
Deficit for year	(7.2)	(4.3)	(2.9)
At 31 March 1994	48.6	0.3	48.3

(c) Special Asset Replacement Fund

	£m
At 1 April 1993	45.1
Movement in the year:	
Transfer to income and expenditure account	(0.5)
At 31 March 1994	44.6

Note:

The transfer to the income and expenditure account is calculated as follows:

Interest receivable	2.5
Capital costs incurred	(3.0)
	(0.5)

12 Contingent Liabilities

The Authority has the following unprovided contingent liabilities:-

	1994 £m	1993 £m
(a) Staff bridging loan guarantees	1.0	0.6
(b) Disputed contractors' claims	2.7	8.9
(c) Public liability claims	0.3	-

13 Capital Commitments

	1994 £m	1993 £m
Contracted for but not provided in the financial statements	22.6	24.3
Authorised but not yet contracted for	115.1	110.0

14 Operating Leases

At 31 March 1994 the Authority had annual commitments under operating leases as follows:-

	1994 Land & Buildings £m	1994 Other £m	1993 Land & Buildings £m	1993 Other £m
Leases expiring:				
Within one year	-	0.1	0.1	0.2
In the second to fifth years incl.	0.5	0.9	0.3	1.0
Over 5 years	2.6	-	2.3	0.1
	3.1	1.0	2.7	1.3

15 Pension Obligations

The Authority operates a defined benefit pension scheme (the NRA Superannuation Fund) for employees and transferees from the former water authorities. It is a statutory scheme under the Local Government Superannuation Regulations 1986.

The total pension cost for the Authority was £6.7m (1993 - £11.5m). The pension cost relating to the scheme is assessed in accordance with the advice of an independent qualified actuary using the projected unit method. The latest actuarial valuation of the scheme was at 31 March 1992. The assumptions that have the most significant effect on the valuation are those relating to the rate of return on investments and the rates of increase in salaries and pensions. It was assumed that the investment return would be 9 1/2% per annum, that salary increases would average 7% per annum and that present and future pensions would increase at the rate of 5 1/2% per annum.

At the date of the latest actuarial valuation, the market value of the assets of the United Kingdom schemes was £297.5m. The actuarial value of the assets (using

the projected unit method) was sufficient to cover 152% of the benefits which had accrued to members. The independent consulting actuaries to the fund have issued a certificate to the effect that liabilities were fully funded within Inland Revenue regulations. The regulations governing the pension scheme prevent surpluses from being applied to reductions in members' contributions or improvements to pensioners' benefits. However, following the results of the actuarial valuation, a reduction in the employer's level of contributions was effected in 1993/94.

In the year, the Authority accrued a total of £6.0m relating to the future liabilities for enhancements to ex-employees' pension arrangements which were approved during the year in accordance with the Authority's newly introduced voluntary severance scheme.

The Authority also effected aggregate payments of £11.7m in respect of unfunded pensions to former water industry employees, on behalf of the government.

16 Insurance

Apart from statutory insurance requirements and certain risks covered with the approval of the DoE, the Authority follows a strategy of self-insurance in accordance with the Financial Memorandum.

17 Corporation Tax

On 27 July 1988 the Inland Revenue confirmed that the Authority was exempted from tax because it met the definition of a local authority for tax purposes set out in Section 519(4) of the Taxes Act 1988, which was subsequently replaced by Section 842A of the same Act. Accordingly no amounts for corporation tax have been provided in the financial statements.

18 Analysis of Income, Expenditure and Surpluses by Function

	Total Service Accounts £m	Water Resources £m	Pollution Control £m	Fisheries £m	Recreation and Conservation £m	Navigation £m
Income						
Abstraction charges	78.3	78.3	-	-	-	-
Tolls	0.2	-	-	-	-	0.2
Licence fees	2.3	-	-	-	-	2.3
Fishing licence duties	10.2	-	-	10.2	-	-
Charges	44.3	-	44.3	-	-	-
Other income	4.3	0.4	1.7	1.0	0.5	0.7
Income from activities	139.6	78.7	46.0	11.2	0.5	3.2
Government grant-in-aid	48.6	-	29.4	11.3	4.3	3.6
Capital grants and contributions	0.3	0.1	0.2	-	-	-
Sale of assets	0.2	0.1	0.1	-	-	-
	188.7	78.9	75.7	22.5	4.8	6.8
Interest receivable	2.4	2.3	0.1	-	-	-
Total income, including interest	191.1	81.2	75.8	22.5	4.8	6.8
Expenditure						
Staff costs	94.2	28.8	44.6	14.7	2.7	3.4
Depreciation and expenditure on intangible assets	16.2	6.0	7.2	1.6	0.4	1.0
Other operating costs:						
Contracted out services	45.7	25.2	16.2	2.5	1.2	0.6
Materials	13.3	3.9	6.6	2.2	0.3	0.3
Other	19.2	6.2	8.4	3.3	0.8	0.5
	188.6	70.1	83.0	24.3	5.4	5.8
Surplus/(deficit) for year	2.5	11.1	(7.2)	(1.8)	(0.6)	1.0

19 Analysis of Flood Defence Income and Expenditure

	Total £m
Income	
Local authority levies	163.4
General drainage charges	3.0
Internal drainage boards	6.7
Contributions from beneficiaries	0.4
Other income	6.6
Income from activities	180.1
Capital grants and contributions	31.6
Sale of assets	1.1
	212.8
Interest receivable	9.0
Total income, including interest	221.8
Expenditure	
Staff costs	74.9
Depreciation and expenditure on intangible fixed assets	88.2
Other operating costs:	
Contracted out services	25.6
Materials	12.0
Internal drainage boards	1.8
Other	13.4
	215.9
Surplus for year	5.9

20 Notes to the Cash Flow Statement

(a) Reconciliation of Operating Surplus to Net Cash Inflow from Operating Activities

	1993-94 Total £m	1992-93 Total £m	1993-94 Service Accounts £m	1992-93 Service Accounts £m	1993-94 Flood Defence £m	1992-93 Flood Defence £m
Operating (deficit)/surplus for the year	(3.0)	28.8	0.1	11.2	(3.1)	17.6
Depreciation and expenditure on intangible fixed assets	73.8	71.5	15.7	14.1	58.1	57.4
Other non cash movements	0.3	1.4	-	(0.2)	0.3	1.6
Sale of assets	(1.3)	(1.3)	(0.2)	(0.2)	(1.1)	(1.1)
Decrease in stocks and work in progress	0.3	-	-	-	0.3	-
(Increase)/decrease in debtors	(2.5)	(1.3)	(0.7)	0.6	(1.8)	(1.9)
Increase in creditors	6.0	12.6	3.9	8.8	2.1	3.8
Net cash inflow from operating activities	73.6	111.7	18.8	34.3	54.8	77.4

(b) Analysis of Balances of Cash and Cash Equivalents as shown in the Balance Sheet

At 31 March 1994	142.2	146.1	27.3	28.4	114.9	117.7
At 1 April 1993	146.1	115.9	28.4	18.4	117.7	97.5
(Decrease)/increase in cash equivalents	(3.9)	30.2	(1.1)	10.0	(2.8)	20.2

Note:

Cash equivalents include short-term deposits for which repayment notice is required.

ix supporting statements

(a) Analysis of Receipts and Payments for the Year ended 31 March 1994

	Total	Flood Defence	Total Service Accounts	Water Resources	Pollution Control	Fisheries	Recreation and Conservation	Navigation	Unfunded Pensions
	£m	£m	£m	£m	£m	£m	£m	£m	£m
Receipts									
Precepts, levies	181.6	181.6	-	-	-	-	-	-	-
Abstraction charges	77.5	-	77.5	77.5	-	-	-	-	-
Navigation licence receipts	2.3	-	2.3	-	-	-	-	2.3	-
Other operating receipts	58.0	-	58.0	-	45.3	11.3	0.4	1.0	-
Capital grants and contributions:									
Ministry of Agriculture, Fisheries and Food	33.9	33.9	-	-	-	-	-	-	-
Welsh Office	0.6	0.6	-	-	-	-	-	-	-
Other	1.8	1.8	-	-	-	-	-	-	-
Interest received	11.4	9.0	2.4	2.3	0.1	-	-	-	-
Grant-in-aid	71.2	-	71.2	-	36.1	13.6	5.4	4.4	11.7
Total receipts	438.3	226.9	211.4	79.8	81.5	24.9	5.8	7.7	11.7
Payments									
Operating costs	292.0	124.0	168.0	63.0	72.9	22.4	4.9	4.8	-
Fixed assets	128.6	105.7	22.9	8.5	7.3	3.0	1.0	3.1	-
Unfunded pensions	11.7	-	11.7	-	-	-	-	-	11.7
Repayments to Government re 1992/93	9.9	-	9.9	3.6	3.2	(0.3)	1.5	1.9	-
Total payments	442.2	229.7	212.5	75.1	83.4	25.1	7.4	9.8	11.7
Cash (deficits)/surpluses	(3.9)	(2.8)	(1.1)	4.7	(1.9)	(0.2)	(1.6)	(2.1)	-
Opening cash at bank and in hand	146.1	117.7	28.4	21.0	2.7	1.0	1.6	2.1	-
Closing cash at bank and in hand	142.2	114.9	27.3	25.7	0.8	0.8	-	-	-
Analysis of closing cash at bank and in hand									
Flood defence balances	114.9	114.9	-	-	-	-	-	-	-
Water resources purposes	17.5	-	17.5	17.5	-	-	-	-	-
Pollution control purposes	(1.9)	-	(1.9)	-	(1.9)	-	-	-	-
Special fisheries funds	0.8	-	0.8	-	-	0.8	-	-	-
Carried forward for general purposes (for grant-aided functions)	1.4	-	1.4	0.6	0.8	-	-	-	-
Sub-total	132.7	114.9	17.8	18.1	(1.1)	0.8	-	-	-
Payable to Government:									
Water resources cash surpluses	7.6	-	7.6	7.6	-	-	-	-	-
Pollution control surplus required for in-year funding	1.9	-	1.9	-	1.9	-	-	-	-
Closing cash at bank and in hand	142.2	114.9	27.3	25.7	0.8	0.8	-	-	-

b) Flood Defence Income and Expenditure Account for Year Ended 31 March 1994

	Anglian					Northumbria & Yorkshire		North West	Severn- Trent	Southern			
	Essex	Great Ouse	Lincs	Norfolk & Suffolk	Welland & Nene	North- umbria	Yorkshire			Isle of Wight	Hampshire	Sussex	Kent
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Income													
Local authority levies	10.3	5.7	6.1	5.8	3.7	2.7	12.8	18.7	21.7	0.3	2.0	5.7	8.8
General drainage charges	0.6	0.6	0.8	0.7	0.3	-	-	-	-	-	-	-	-
Internal drainage boards	-	2.0	1.5	0.4	0.6	-	0.5	-	0.5	-	-	0.1	0.8
Contributions from beneficiaries	-	0.1	0.1	-	0.1	-	-	-	-	-	-	-	0.1
Other income	0.3	0.4	0.1	0.1	0.1	0.1	1.1	0.1	0.3	-	-	0.2	0.5
Capital grants and contributions	3.2	3.7	4.6	3.7	0.7	0.4	2.3	0.6	0.5	0.3	0.6	1.7	2.3
Sale of assets	-	0.2	-	-	-	-	0.1	0.1	0.1	-	-	-	0.2
Interest receivable	0.3	0.4	0.8	0.2	0.2	-	0.4	0.7	0.5	-	0.1	0.2	0.2
Total income, including interest	14.7	13.1	14.0	10.9	5.7	3.2	17.2	20.2	23.6	0.6	2.7	7.9	12.9
Expenditure													
Main river:													
Inland waters	2.0	3.5	1.9	1.0	2.0	0.2	2.2	6.0	9.4	0.2	0.8	2.9	3.3
Tidal waters	2.4	0.5	0.3	1.7	0.1	0.1	0.7	0.2	1.0	-	-	0.6	0.9
Sea defence	1.0	0.1	0.4	0.4	0.1	-	0.1	0.2	0.2	-	0.4	1.4	1.8
Flood warning	-	-	0.2	-	-	-	0.4	0.4	0.3	-	-	-	0.1
Other works	0.6	0.7	0.6	0.4	0.7	2.4	4.9	6.9	4.0	-	0.1	0.1	0.4
Depreciation and expenditure on intangible assets	7.1	8.4	7.1	6.6	2.7	1.5	9.8	5.4	2.5	0.5	1.6	3.3	4.9
Internal drainage boards	-	0.7	0.5	0.3	0.1	-	-	-	-	-	-	0.1	0.1
Total Expenditure	13.1	13.9	11.0	10.4	5.7	4.2	18.1	19.1	17.4	0.7	2.9	8.4	11.5
Surplus/(deficit) for year	1.6	(0.8)	3.0	0.5	-	(1.0)	(0.9)	1.1	6.2	(0.1)	(0.2)	(0.5)	1.4
Transfer to/(from) reserves													
Capital reserve	1.4	(0.1)	(0.1)	0.1	0.2	(0.1)	0.9	2.1	6.7	-	-	(0.2)	(0.2)
Special asset replacement fund	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.2	(0.7)	3.1	0.4	(0.2)	(0.9)	(1.8)	(1.0)	(0.5)	(0.1)	(0.2)	(0.3)	1.6
Balance brought forward	2.4	4.3	3.8	0.6	0.9	1.0	1.5	5.7	3.6	0.5	1.3	1.9	1.6
Balance carried forward	2.6	3.6	6.9	1.0	0.7	0.1	(0.3)	4.7	3.1	0.4	1.1	1.6	3.2
Analysis of:													
Capital expenditure	10.6	8.6	7.1	6.8	2.9	0.9	12.4	7.8	11.5	0.5	1.5	3.1	4.8
Grant receipts - MAFF	4.0	4.5	4.9	3.4	0.6	0.4	2.0	0.9	2.5	0.2	0.6	1.5	2.0
Grant receipts - Welsh Office	-	-	-	-	-	-	-	-	-	-	-	-	-

South Western				Thames	Welsh						Total	
South West	Avon & Dorset	Wessex & Bristol	Somerset		Dee & Clywd	Gwynedd	Wye	Usk	Glamorgan	South West Wales		
£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	
7.2	3.0	1.9	4.1	34.0	2.2	1.6	1.0	0.4	1.8	1.9	163.4	Income
-	-	-	-	-	-	-	-	-	-	-	3.0	Local authority levies
-	-	-	0.2	-	-	-	-	0.1	-	-	6.7	General drainage charges
-	-	-	-	-	-	-	-	-	-	-	0.4	Internal drainage boards
-	0.1	-	0.1	2.9	-	0.1	-	-	-	0.1	6.6	Contributions from beneficiaries
2.9	0.4	0.1	0.9	1.5	-	0.8	-	-	0.3	0.1	31.6	Other income
0.3	-	-	-	0.1	-	-	-	-	-	-	1.1	Capital grants and contributions
0.1	0.1	0.1	0.1	4.2	-	0.1	-	0.1	0.1	0.1	9.0	Sale of assets
10.5	3.6	2.1	5.4	42.7	2.2	2.6	1.0	0.6	2.2	2.2	221.8	Interest receivable
												Total income, including interest
												Expenditure
												Main river:
3.2	0.5	0.5	1.8	14.6	1.5	0.9	0.5	0.5	1.5	1.2	62.1	Inland waters
0.9	0.4	-	0.2	2.6	0.1	0.3	-	-	0.3	0.1	13.4	Tidal waters
0.1	0.2	-	0.3	-	-	0.1	0.1	0.3	-	0.2	7.4	Sea defence
0.4	0.1	0.1	0.1	1.7	0.1	0.1	0.1	0.1	0.1	0.1	4.4	Flood warning
-	0.6	0.7	1.0	14.0	0.2	0.1	-	-	0.1	0.1	38.6	Other works
5.5	1.0	0.5	2.0	15.3	-	1.0	0.2	0.2	0.8	0.3	88.2	Depreciation and expenditure on intangible assets
-	-	-	-	-	-	-	-	-	-	-	1.8	Internal drainage boards
10.1	2.8	1.8	5.4	48.2	1.9	2.5	0.9	1.1	2.8	2.0	215.9	Total Expenditure
0.4	0.8	0.3	-	(5.5)	0.3	0.1	0.1	(0.5)	(0.6)	0.2	5.9	Surplus/(deficit) for year
(0.3)	0.1	-	0.1	(1.5)	-	-	-	0.1	0.1	-	9.3	Transfer to/(from) reserves
-	-	-	-	(0.5)	-	-	-	-	-	-	(0.5)	Capital reserve
0.7	0.7	0.3	(0.1)	(3.5)	0.3	0.1	0.1	(0.6)	(0.7)	0.2	(2.9)	Special asset
0.9	0.8	0.6	1.4	13.9	0.2	0.4	-	1.4	1.7	0.8	51.2	replacement fund
1.6	1.5	0.9	1.3	10.4	0.5	0.5	0.1	0.8	1.0	1.0	48.3	Balance brought forward
												Balance carried forward
5.6	1.2	0.5	2.2	14.4	0.3	1.1	0.1	0.1	1.0	0.4	105.4	Analysis of:
2.3	0.5	0.1	1.3	2.2	-	-	-	-	-	-	33.9	Capital expenditure
-	-	-	-	-	-	0.5	-	-	-	0.1	0.6	Grant receipts - MAFF
												Grant receipts - Welsh Office

(c) Water Resources Account by Region for the Year Ended 31 March 1994

	Total	Anglian	Northumbria & Yorkshire		North West	Severn-Trent	Southern	South Western		Thames	Welsh
			North-umbria	York-shire				South West	Wessex		
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
At 1 April 1993	14.1	1.0	3.4	1.3	-	3.4	1.0	1.3	-	2.3	0.4
Income receivable	80.2	14.1	11.0	3.5	6.0	10.7	7.7	3.9	3.7	9.8	9.8
	94.3	15.1	14.4	4.8	6.0	14.1	8.7	5.2	3.7	12.1	10.2
Expenditure	81.2	13.6	12.5	3.9	5.8	11.6	6.5	4.4	3.3	9.2	10.4
At 31 March 1994	13.1	1.5	1.9	0.9	0.2	2.5	2.2	0.8	0.4	2.9	(0.2)

Note:

Expenditure shown in the table includes current cost depreciation and rate of return.

Each region of the Authority maintains its own water resources account and operates a national charging scheme with regional unit rates which are determined from local circumstances and approved by the Board. This table shows the water resources income and expenditure account by region.

In its charges to abstractors, the Authority is required to provide for a 2% rate of return on the current cost value of water resources assets which were transferred to it on 1 September 1989 and an 8% return on assets acquired subsequently. Charges must also provide for current cost depreciation on water resources assets. The rate of return and current cost depreciation have been calculated as follows:-

Rate of return:

	Current cost value	Required rate of return	Amount of return
	£m	%	£m
Assets transferred on 1 September 1989	159.2	2	3.2
Assets acquired since 1 September 1989	41.4	8	3.3
Totals	200.6		6.5

Current cost depreciation:

	£m
Water resources asset values at 1 April 1993	198.8
Additions	11.9
	210.7
Water resources asset values at 31 March 1994	200.6
Current cost depreciation for year	10.1

(d) Pollution Control Account

	Total	General environmental pollution control	Charging for discharges activities
	£m	£m	£m
Income receivable	46.4	4.3	42.1
Expenditure (including current cost depreciation)	84.5	41.6	42.9
Totals	(38.1)	(37.3)	(0.8)

Charging for discharges activities relate to the granting of consents for direct discharges of effluent to water courses and the monitoring and control of those discharges. General environmental pollution control comprises the remaining activities of the pollution control function. Charges to applicants for and holders of discharge consents must provide for current cost depreciation on relevant assets.

(e) Navigation Account

The navigation function was not required to recover costs through income from charges in 1993/94 and therefore the income and expenditure account in note 18 does not include current cost depreciation and rate of return. Had there been charges to navigation for current cost depreciation and rate of return, the account would have been as follows:-

	£m
Income	
Income from activities	3.2
Government grant-in-aid	3.6
	<u>6.8</u>
Expenditure	
Staff costs	3.4
Other operating costs	1.4
Current cost depreciation and rate of return	5.2
	<u>10.0</u>
Deficit for year	<u>(3.2)</u>

(f) Grant-in-Aid Received in the Year

The following statement shows the amount of grant-in-aid received from the Department of the Environment according to the budgetary provision in Class VII, Vote 5 of the Parliamentary supply estimates:-

	£m	£m
Grant-in-aid received in the year		61.3
Offset of amounts due to the DoE in respect of previous year:		
Grant-in-aid returnable	4.1	
Navigation licence income	2.2	
Water resources surplus	3.6	9.9
		<u>71.2</u>
Gross allocation in analysis of receipts and payments		
Water resources surplus for current year:		
To be repaid to DoE	(7.6)	
To be used to fund grant-aided functions in 1994/95	(0.6)	(8.2)
		<u>(1.9)</u>
Pollution control surplus required for in-year funding		(1.9)
Grant-in-aid to be carried forward to 1994/95		(0.8)
Grant-in-aid received for unfunded pensions		(11.7)
Grant-in-aid included in income and expenditure account		<u>48.6</u>

(g) 5 Year Summary of Results: Income and Expenditure Account

	1993-94	1991-92			1989-90		1992-93			1990-91			1993-94	1991-92			1989-90	
		1992-93			1990-91		1993-94			1991-92			1992-93			1990-91		
	Total	Total	Total	Total	Total	Service Accounts	Service Accounts	Service Accounts	Service Accounts	Service Accounts	Flood Defence	Flood Defence	Flood Defence	Flood Defence	Flood Defence			
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m			
Gross income	401.5	412.7	400.2	347.0	343.3	188.7	185.9	185.2	155.1	165.2	212.8	226.8	215.0	191.9	178.1			
Operating costs	404.5	383.9	373.2	324.8	281.0	188.6	174.7	162.8	137.9	125.8	215.9	209.2	210.4	186.9	155.2			
Operating surplus	(3.0)	28.8	27.0	22.2	62.3	0.1	11.2	22.4	17.2	39.4	(3.1)	17.6	4.6	5.0	22.9			
Interest receivable (net)	11.4	15.1	16.6	21.4	6.0	2.4	2.8	3.6	5.3	(0.2)	9.0	12.3	13.0	16.1	6.2			
Surplus for year	8.4	43.9	43.6	43.6	68.3	2.5	14.0	26.0	22.5	39.2	5.9	29.9	17.6	21.1	29.1			
Transfers to reserves	15.6	25.3	33.1	55.2	51.4	6.8	13.4	18.4	33.4	31.9	8.8	11.9	14.7	21.8	19.5			
Retained surplus/(deficit) for year	(7.2)	18.6	10.5	(11.6)	16.9	(4.3)	0.6	7.6	(10.9)	7.3	(2.9)	18.0	2.9	(0.7)	9.6			
Balance brought forward	55.8	37.2	26.7	38.3	21.4	4.6	4.0	(3.6)	7.3	-	51.2	33.2	30.3	31.0	21.4			
Balance carried forward	48.6	55.8	37.2	26.7	38.3	0.3	4.6	4.0	(3.6)	7.3	48.3	51.2	33.2	30.3	31.0			

(h) 5 Year Summary of Results: Balance Sheet

	1993-94	1991-92			1989-90		1992-93			1990-91		1993-94	1991-92			1989-90
		1992-93			1990-91		1993-94			1991-92	1989-90		1992-93			1990-91
	Total	Total	Total	Total	Total	Service Accounts	Service Accounts	Service Accounts	Service Accounts	Service Accounts	Flood Defence	Flood Defence	Flood Defence	Flood Defence	Flood Defence	
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	
Fixed assets	502.4	480.2	448.6	411.7	365.0	203.1	199.7	186.5	168.8	138.6	299.3	280.5	262.1	242.9	226.4	
Net current assets	94.6	114.0	92.3	78.4	87.4	0.7	16.9	13.3	4.5	16.7	93.9	97.1	79.0	73.9	70.7	
Total assets less current liabilities	597.0	594.2	540.9	490.1	452.4	203.8	216.6	199.8	173.3	155.3	393.2	377.6	341.1	316.8	297.1	
Financed by Creditors: amounts due after more than one year	1.4	10.6	8.4	8.0	11.7	0.4	9.8	7.4	6.5	9.4	1.0	0.8	1.0	1.5	2.3	
Provision	-	2.5	1.9	1.6	-	-	2.5	1.9	1.6	-	-	-	-	-	-	
Deferred grants and contributions	28.7	22.6	16.0	8.8	1.9	4.5	4.4	4.6	3.0	0.2	24.2	18.2	11.4	5.8	1.7	
Reserves																
Capital reserve	473.7	457.6	432.6	402.9	363.1	198.6	195.3	181.9	165.8	138.4	275.1	262.3	250.7	237.1	224.7	
Income and expenditure account	48.6	55.8	37.2	26.7	38.3	0.3	4.6	4.0	(3.6)	7.3	48.3	51.2	33.2	30.3	31.0	
Special asset replacement fund	44.6	45.1	44.8	42.1	37.4	-	-	-	-	-	44.6	45.1	44.8	42.1	37.4	
	597.0	594.2	540.9	490.1	452.4	203.8	216.6	199.8	173.3	155.3	393.2	377.6	341.1	316.8	297.1	

x direction on the annual accounts

The Secretary of State for the Environment, the Secretary of State for Wales and the Minister of Agriculture, Fisheries and Food, with the consent of the Treasury and in accordance with Section 121(2) of the Water Resources Act 1991, hereby notify the National Rivers Authority (hereinafter referred to as "the Authority") of the following requirements in respect of its annual accounts.

1. The annual accounts, which it is the duty of the Authority to prepare in respect of each financial year, shall comprise:

- (a) a foreword;
- (b) an income and expenditure account;
- (c) a statement of total recognised gains and losses;
- (d) a balance sheet;
- (e) an analysis of receipts and payments; and
- (f) a cash flow statement;

including in each case such notes and additional information as may be necessary for the purposes referred to in paragraphs 2 and 3 below. The Authority should observe all relevant guidance given in "Government Accounting" and in "Trading Accounts: a Guide for Government Departments and Non-Departmental Public Bodies" as amended or augmented from time to time and except if superseded by this direction.

2. Subject to the foregoing requirements, without limiting the information given, and save as described in Schedule 1 to this direction, the annual accounts shall give a true and fair view of the income and expenditure, state of affairs and cash flows of the Authority and, where applicable, shall follow:

- (a) the accounting and disclosure requirements of companies legislation for the time being in force

- (b) the best commercial accounting practice including accounting standards adopted or issued by the Accounting Standards Board
- (c) any additional disclosure or accounting requirements that the Treasury may issue from time to time in respect of accounts that are required to give a true and fair view
- (d) any additional disclosure requirement contained in "The Fees and Charges Guide", in particular those relating to the need for appropriate segmental information for any services, or forms of services, provided and for which a charge is made.

3. The annual accounts shall include the information set out in Schedules 1 and 2 to this direction, and in these schedules, undefined technical terms have the meaning ascribed to them by generally accepted accounting practice in the United Kingdom or by the Companies Act 1985.
4. A copy of this direction shall be published with the annual accounts.

5. This direction replaces that dated 31 March 1992.

Signed on behalf of the Secretary of State for the Environment

I NICOL

A Grade 5 Officer in the Department of the Environment

Date 7th July 1994

Signed on behalf of the Secretary of State for Wales

A H H JONES

A Grade 5 Officer in the Welsh Office

Date 7th July 1994

Signed on behalf of the Minister for Agriculture, Fisheries and Food

R HATHAWAY

A Grade 5 Officer in the Ministry of Agriculture, Fisheries and Food

Date 7th July 1994

Schedule 1

1. The disclosure exemptions for small and medium-sized companies permitted by the Companies Act 1985 shall not apply to the Authority.
 2. Except where described otherwise in this direction, references in the Companies Act 1985 to "directors" shall be taken to be references to Board Members of the Authority.
 3. There shall be a foreword to the annual accounts which shall contain the information required by the Companies Act 1985 to be disclosed in the Directors' Report. The foreword shall show the surplus or deficit for the year after tax and before transfers to reserves, and shall be signed and dated by the Accounting Officer.
 4. The Authority's balance sheet shall be in format 1 as set out in Schedule 4 to the Companies Act 1985 and that format shall be applied in such a manner that the items set out in paragraph 2 of Schedule 2 to this direction are separately disclosed.
 5. In the balance sheet, a total shall be struck at "Total Assets less Current Liabilities".
 6. The balance sheet shall be signed and dated by the Accounting Officer.
 7. The profit and loss account formats in Schedule 4 to the Companies Act 1985 shall not apply to the Authority's income and expenditure account which shall be in such a format as is necessary to disclose separately the information set out in paragraph 1 of Schedule 2 to this direction.
 8. The cash flow statement shall be drawn up using the "direct" method of reporting, and following the illustrative example 2 in Financial Reporting Standard No. 1.
- (ii) capital grants identified as to each source
 - (iii) abstraction charges
 - (iv) flood defence levies
 - (v) contributions from flood defence beneficiaries
 - (vi) local authority levies
 - (vii) general drainage charges
 - (viii) contributions from internal drainage boards
 - (ix) discharge consents
 - (x) navigation licence income
 - (xi) fishing licence duties
 - (xii) interest receivable
 - (xiii) proceeds from sales of fixed assets
 - (xiv) other income
- (b) the following expenditure -
- (i) for services that are required to recover costs, the estimated monetary advantage in the year to the Authority (ignoring payments for uninsured losses) of self insuring, where this applies, and in which case there shall be a corresponding credit to a provision in the balance sheet for uninsured losses
 - (ii) for services that are required to recover costs, with the exception of water abstraction charges (see sub-paragraph (iii) below) and discharge consents and fisheries charges (to which this sub-paragraph does not apply), the notional cost of capital, being an amount calculated as 6% of the average of the balance sheet values of the total assets less current liabilities relating to such services during the year, less any actual interest or finance charges payable for the year in respect of finance leases
 - (iii) for water abstraction charges, the notional cost of capital, being an

Schedule 2

1. The income and expenditure account or the notes thereto shall disclose, in addition to the disclosure required by paragraphs 2 and 3 of this direction, for each class of business:

(a) the following income -

- (i) Government grant-in-aid

amount calculated as the sum of 2% of the net current cost value of water resources assets transferred to the Authority on 1 September 1989 and 8% of the net current cost value of such assets acquired thereafter

(iv) contracted out services

(v) materials

(vi) contributions to internal drainage boards

(vii) expenditure on intangible assets

(viii) other administrative expenditure

(ix) interest payable

(x) other operating costs

(c) on the line below the result for the year, an entry reversing the above notional cost of capital

(d) the income and expenditure account balance brought forward, movements in the year and balance carried forward, which, for flood defence, shall be calculated in accordance with Section 47 of the Land Drainage Act 1976.

2. The balance sheet shall show, in addition to the disclosure required by paragraphs 1 and 2 of this direction, an analysis of reserves between:

(a) income and expenditure account for service accounts

(b) income and expenditure account for flood defence

(c) capital reserve for service accounts

(d) capital reserve for flood defence

(e) special asset replacement fund.

3. The analysis of receipts and payments or the notes thereto shall show inter alia for each class of business:

(a) under "Receipts" similar headings to those used for income in paragraph 2 to this Schedule and, in addition, the following items-

(i) capital grants from the Ministry of Agriculture, Fisheries and Food

(ii) capital grants from the Welsh Office

(iii) other capital grants

(b) under "Payments" the following items -

(i) revenue payments

(ii) capital - ordinary

(iii) capital - restructuring

(iv) unfunded pensions

(v) grant-in-aid repaid

(c) cash balances brought forward and carried forward.

4. For the purposes of this Schedule, the classes of business shall be Water Resources, Flood Defence, Pollution Control, Navigation, Fisheries, and Recreation and Conservation. Headquarters, central services, and research and development shall be apportioned to each class of business.

5. The notes to the annual accounts shall include, in addition to the disclosure required by paragraphs 1 and 2 of this direction:

(a) an analysis of flood defence income and expenditure by local flood defence districts, demonstrating that revenue raised in a district is spent only on flood defence functions in that district or for certain other purposes as specified in Section 118(3) of the Water Resources Act 1991;

(b) analysis of flood defence capital expenditure and grant receipts by local flood defence districts;

(c) analysis of fixed assets by class of business with separate disclosure of additions, reclassifications and disposals;

(d) a statement of the number of employees during the year, other than Board Members, whose emoluments excluding pension contributions, fell in each bracket of a scale in multiples of £10,000 per annum starting at £30,000 per annum;

- (e) a statement of the total emoluments of Board Members during the year, including salaries, fees, pension contributions, compensation payments, and estimated money value of non-cash benefits;
- (f) a statement showing the emoluments of the Chairman, the highest paid Board Member and the Chief Executive during the year, excluding pension contributions, with separate disclosure where more than one person occupied those offices during the year; for this purpose, emoluments shall be split into salary and performance related elements, and the basis on which performance is measured shall be explained;
- (g) a statement of the number of all Board Members during the year whose emoluments, excluding pension contributions fell in each bracket of a scale in multiples of £5,000;
- (h) a statement of the average number of persons employed during the year, including part-time employees, excluding non-executive Board Members, analysed between senior management, non-manual, and manual employees;
- (i) a statement of employee costs during the year, excluding non-executive Board Members, showing separately—
 - (i) wages and salaries
 - (ii) social security costs
 - (iii) contributions to self administered pension schemes
 - (iv) payments for unfunded pensions
 - (v) any enhanced or special pension contribution for the Chief Executive
 - (vi) other pension costs, analysed as between defined contribution schemes and defined benefit schemes;
- (j) particulars of any transaction, arrangement or contract (other than a contract of service or of employment) entered into by the Authority with another party, in which a Board Member, an executive, a higher paid employee, or a person connected with these, at any time during the year, had a direct or indirect financial interest exceeding £1,000 (including transactions at arm's length and assuming that the office of director constitutes an interest);
- (k) a statement of the total expenses payable for the year to Board Members and employees respectively, expenses being reimbursements and payments in respect of travelling, subsistence and hospitality;
- (l) a statement of losses and special payments during the year, being transactions of a type which Parliament cannot be supposed to have contemplated. Disclosure shall be made of the total of losses and special payments if this exceeds £25,000, with separate disclosure and particulars of any individual amounts in excess of £25,000. Disclosure shall also be made of any loss or special payment of £25,000 and below if it is considered material in the context of the Authority's operations;
- (m) a summary of the water resources account by region showing balances brought forward, income, expenditure and balances carried forward;
- (n) a summary of financial statistics covering the last five years. This should be prepared using accounting policies consistent with those used in the latest year shown and using similar formats to the income and expenditure account and balance sheet;
- (o) a statement of grant-in-aid received in the year, referring to the appropriate vote and class, and analysed by the headings in the relevant supply estimates, and reconciled to the income and expenditure account and to the analysis of receipts and payments;
- (p) an analysis of the movements on all reserves during the year;
- (q) for water resources, a statement showing separately, the calculations of (a) the required rate of return and (b) current cost depreciation.

Appendices

Appendix 1

The Authority's
Board and Head
Office Management.

Appendix 2

Regional Offices and
Regional Committees.

Appendix 3

Principal Professional
Advisors to the
Authority.

Appendix 4

New Legislation,
Byelaws and other
Statutory Instruments
affecting the NRA.

Appendix 5

Publications and
Publicity Material.

Appendix 6

Research Publications
and Project
Completions.

Appendix 7

Selected Statistics.

Appendix 8

Glossary

Appendix 1 the authority's board and head office management

Biographical notes on the Board Members

LORD CRICKHOWELL, Chairman, age 60

Created life peer in 1987. As Nicholas Edwards was MP for Pembroke from 1970-1987 and Secretary of State for Wales from 1979-1987. Director of HTV Group plc, Associated British Ports Holdings plc and other companies. President of University of Wales College of Cardiff. Member of the Committee of the Automobile Association.

ED GALLAGHER, Chief Executive, age 49

Chief Executive of NRA since 6 April 1992. Executive with Black and Decker UK, 1971-1981; Director of Business Analysis and then Director of Market and Product Development, Black and Decker United States, 1981-1986. From 1986 Director of Corporate Development, Amersham International, subsequently Divisional Chief Executive and then Manufacturing Director; Chartered Engineer; Fellow of the Institution of Electrical Engineers (FIEE); Member of the Royal Institution; Member of Council, Bristol University.

ROSAMUND BLOMFIELD-SMITH, age 45

J Henry Schroder Wagg & Co. Limited, since 1979, Assistant Director since 1986. Member of Wandsworth Borough Council 1989-1993; Chairman, Accepting Houses Export Finance Committee 1986-87; Member of London Chamber of Commerce Export Finance Panel 1987-1991.

PETER BRANDT, age 62

Chairman of Atkins Fulford Ltd, Formerly Chief Executive of Merchant Bankers, William Brandt's Sons & Co. Ltd. Chairman of Anglian Regional Advisory Board.

LADY DIGBY DBE DL, age 60

Member Wessex Water Authority 1983-89, Chairman of Avon & Dorset Customer Consultative Committee 1984-89; non-executive Director, Western Advisory Board of National Westminster Bank 1986-92; Member of the Council Exeter University; Chairman of the South and West Concerts Board from 1989; President of Council and Board Member Bournemouth Orchestras from 1991; DBE for services to the Arts, 1991. Co-Chairman of South Western Regional Advisory Board.

PROFESSOR RON EDWARDS CBE, age 63

Professor Emeritus, University of Wales; Member Welsh Water Authority 1973-1989; Deputy Chairman 1983-89. Member Natural Environment Research Council, 1970-73, and 1980-83. Chairman National Parks Review Panel 1989-91. Member of Brecon Beacons National Park Committee. Chairman of the Secretary of State for Wales' Advisory Committee for Wales and Welsh Regional Advisory Board.

LORD GREGSON DL Hon F ENG, age 70

Non-Executive Director of Fairey Group plc and British Steel plc; Vice President of the Association of Metropolitan Authorities since 1984; Pro-Chancellor, Southampton University 1993; Chairman of the NRA Audit Committee.

DENNIS MITCHELL, age 63

Member South West Water Authority 1974-89 and Chairman of its Regional Fisheries Advisory Committee and Environmental Panel. Chairman of Water Authorities' Association National Fisheries Committee from 1983-89. Deputy Managing Director and Technical Director of Watts, Blake, Bearne & Co plc. Co-Chairman of the South Western Regional Advisory Board. Chairman of Regional Fisheries Advisory Committee Chairmen.

KAREN MORGAN, age 48

Deputy Chairman, Board of Governors, University of the West of England. Member of Council, Water Aid. Director, Gimlet Business Finance Ltd. Trustee, Bath Festivals Trust. Chairman, Southern Regional Advisory Board.

JOHN H M NORRIS CBE DL, age 64

Farms 1,500 acres in Essex. Involved in the administration of Flood Defence and Land Drainage in Anglian Water Authority's area from 1971. National President of the Country Landowners Association 1985-88; Crown Estate Commissioner since 1991. Chairman of the Thames Regional Advisory Board. Vice Lord-Lieutenant of Essex 1992; Hon FIWEM 1992.

WYNDHAM J ROGERS-COLTMAN OBE, age 61

Arable farmer farming 330 acres near Berwick-on-Tweed; Managing Director of Lowick Farmers Silos Ltd 1969-1990; County Councillor for Berwick North, Northumberland County Council 1985-1993;

Chairman of the Country Landowners' Association, Northumberland Branch 1986-89; Chairman of Northumberland Farming and Wildlife Advisory Group 1987-90; Minister of Agriculture's Appointee on Northumbria Water Authority Land Drainage Committee 1981-89. Chairman, Board of Governors, Berwick High School, 1992-to date. Chairman, Northumbria and Yorkshire Regional Advisory Board.

R JULIAN F TAYLOR, age 64

Chief Executive, Manchester Ship Canal Company 1980-87; Director of Ocean Transport and Trading 1964-80; Chairman, The Groundwork Trust St Helens; Deputy Chairman, Harwich Haven Authority; Polar Medallist; Chairman of North West Regional Advisory Board.

PROFESSOR R KERRY TURNER, age 45

Executive Director of Centre for Social and Economic Research on the Global Environment (CSERGE), School for Environmental Sciences, University of East Anglia and University College London; Professor of Environment Economics and Management, University of East Anglia; Fellow of Royal Society of Arts.

JOHN WHEATLEY CBE, age 66

Director General Sports Council 1983-88; has worked for Sports Council and its predecessor, Central Council for Physical Recreation, since 1954. Chairman of the Severn-Trent Regional Advisory Board. Chairman National Small-bore Rifle Association. NRA Chief Executive from June 1991 - April 1992.

NRA Audit Committee

Members:

Lord Gregson (Chairman of Audit Committee)
Mr P Brandt (NRA Board)
Mrs R Blomfield-Smith (NRA Board)
Mr W Rogers-Coltman (NRA Board)
Mr J Wheatley (NRA Board)

Attendees:

Mr E Gallagher (Chief Executive)
Mr N Reader (Finance Director)
Dr K Bond (Operations Director)
Mr S Egan (Head of Audit)
Mr R Bacon (Coopers & Lybrand)
Mr J Tedder (Coopers & Lybrand)
Mr R Burton (Coopers & Lybrand)

Remuneration Committee

Members:

Lord Crickhowell (Chairman)
Mrs K Morgan (NRA Board)
Mr D Mitchell (NRA Board)
Lord Gregson (NRA Board)
Mr J Taylor (NRA Board)

Attendees:

Mr E Gallagher (Chief Executive)
Mr P Humphreys (Personnel Director)
Dr K Bond (Director of Operations)

Pensions Committee

Lord Crickhowell (Chairman)
Mr G Billington (Member Representative)
Mr P Brandt (Board Member)
Mr E Gallagher (Chief Executive)
Mr P Humphreys (Director of Personnel)
Mrs K Morgan (Board Member)
Mr K Newham (Pensioner Representative)
Mr N Reader (Director of Finance)
Mrs E Stormont (Member Representative)
Mrs S Timbrell (Pension Fund Manager)
Mr D White (Member Representative)
Mr M Wragg (Member Representative)
Mr R Herbert (Independent Adviser)
Mr J Tighe (Independent Adviser)

**Head Office Directors and Heads of Function
(as at 31 March 1994)**

Chief Executive's Office

Mr S Egan (Head of Internal Audit)

Water Management and Science Directorate

Dr C J Swinnerton (Director of Water Management)
Mr C Birks (Head of Flood Defence)
Mr M E Bramley (Head of Research and Development)
Mr P Chave (Head of Water Quality)
Mr D Jordan (Head of Fisheries, Recreation, Conservation and Navigation)
Mr J Seager (Head of Environmental Quality)
Mr J D Sherriff (Head of Water Resources)

Dr J Pentreath, NRA Chief Scientist and Head of Water Quality, was seconded to DoE in January 1994.

Personnel Directorate

Mr P J Humphreys (Personnel Director)
Mr I L Graham (Head of Employee Relations)
Mr P Parkinson (Head of Health & Safety)
Mr R Skipp (Training and Development Manager)
Mr M D Usher-Clark (Head Office Personnel Manager)

Finance Directorate

Mr N Reader (Finance Director)
Mr J Ashworth (Head of Systems Development)
Mr R Gall (Head of Financial Management)
Mr L F Gray (IAS Project Executive)
Mr H G Pearce (Head of Corporate Planning)
Mr M Spicer (Head of Business Services)
Mrs S Timbrell (Pension Fund Manager)
Mr M Yeomans (Head of Procurement)

Operations Directorate

Dr K Bond (Director of Operations)
Ms S Slack (Operations Co-ordinator)
Mrs J Tyler (Head of Administration)

Legal Services Directorate and Secretariat

Mr C F Martin (Secretary and Director of Legal Services)
Mr D Dent (Head of Estates Management)
Ms G Griffith (Environment Agency Co-ordinator)
Mrs A Hall (Head of Committee Services)

Market Testing Directorate

Dr G Mance (Director of Market Testing)

Public Affairs Directorate

Mr M W Wilson (Director of Public Affairs)
Ms E F O'Donnell (Head of Media & External Affairs)
Ms J M Jupe (Head of Corporate Communications)

Appendix 2 regional offices and regional committees

This Appendix lists the addresses of the Regional offices and the members of the three statutory Regional Committees in each of the NRA's eight Regions at March 31st 1994. Note that the two Regions recently re-organised each have six Regional Committees.

Members of the Regional Rivers Advisory Committees and the Regional Fisheries Advisory Committees are appointed by the NRA.

Members of the Regional Flood Defence Committees are appointed by local authorities, and the Minister for Agriculture, Fisheries and Food or the Secretary of State for Wales as appropriate, and the

NRA. Each Committee is represented on the other two Committees in the Region, usually by the Chairman.

The Regional General Manager in each Region is advised by the Regional Board Member and the Chairmen of the three statutory Regional Committees.

The Committees' terms of reference to report annually to the Authority have been fulfilled through reports in end of year Regional Reviews used to compile this Annual Report.

ANGLIAN REGION

Regional Office Address

Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 5ZR
Tel: (0733) 371811
Fax: (0733) 231840

Regional General Manager

Mr G Davies

Regional Board Member

Mr P Brandt

Fisheries Advisory Committee

Mr P Tombleson OBE
(Chairman)

Mr S Amos

Mr S Alden

Mr K Ball

Mr L Cass

Mr C Clare

Mr M Foster

Mr C Groome

Mr P Lambley

Mr D Lloyd

Mr J Martin

Mr P Peachey-Edwards

Mr A Wheeler

Mr T Wilson

Flood Defence Committee

Mr J Martin

(Chairman)

Mr J Childs

Mr D Cowie

Mr T Dale

Mr H Duffield

Mr J Ellis

Mr D Fisher

Dr M George

Mrs B Goble

Mr W Grant

Mr C Groome

Mr J Horrell

Mr C Mole

Mr R Payne

Mr J Plant

Mr D Riddington

Mr R C Rockliffe

Mr W H Squier

Mr P Tombleson OBE

Rivers Advisory Committee

Mr C Groome

(Chairman)

Mrs S Ashford

Mr R Bennett

Ms I Floering-Blackman

Mr R Burgin

Dr T Coles

Mr A Colston

Hon R Godber

Mr R Hardman

Mr B Isaacs

Mr C Jeffries

Mr D King

Mr J Loveys

Mr J Martin

Dr P Matthews

Mr R Murfitt

Dr D Simpson

Mr C Stratton

Mr P Tombleson OBE

Mr R Watts

NORTHUMBRIA & YORKSHIRE REGION

Regional Office Address

Rivers House
21 Park Square South
Leeds LS1 2QG
Tel: (0532) 440191
Fax: (0532) 461889

Regional General Manager

Mr R Hyde

Regional Board Member

Mr W Rogers-Coltman
OBE

Northumbria Fisheries Advisory Committee

Mr P Tennant

(Chairman)

Mr H Becker

Mr J Browne-Swinburne

Dr T Crisp

Mrs M Dickinson

Dr S Haile

Mr D Hall

Mr D Heselton

Mr K Hewitson

Mr M July

Mr R Kirton-Darling

Lord R Percy

Mr E Thomas

Mr C Warwick

Mr E Wrangham

Mr K Young

Northumbria Flood Defence Committee

Mr E Wrangham

(Chairman)

Cllr D Bates

Mr J Browne-Swinburne

Cllr A Campbell

Cllr R Dunn

Cllr G Fisher

Mr J Gibson

Cllr F Gill

Cllr G Houchen

Mr R Howell

Hon A Joicey

Mrs A Lough

Cllr G Spring

Mr D Stewart

Cllr R Stidolph

Mr P Tennant

Cllr E Walker

Northumbria Rivers Advisory Committee

Mr J Browne-Swinburne

(Chairman)

Mr J P P Anderson

Mr M Bird

Cllr J Coulthard

Mr D Dunlop

Mr K Hale

Mr W K Mason

Prof M Newson

Cllr D Nicholson

Mr J Ogilvie

Mr E Palmer

Mr R Pepper

Dr C Price

Mr P Tennant

Cllr Mrs M Thomas

Mr E Wrangham

Yorkshire Fisheries Advisory Committee

Mr J A Fawcett

(Chairman)

Mr J Austerfield

Mr T D Collier

Mr G Copley

Mr A R Dalby

Mr A Evans

Mr P Hayton

Mr R E Howard-Vyse

Mr W Jackson

Mr H G Mackrill

Mr J H Mitchell

Mr M O'Donnell

Mr M E Stewart

Mr G H Traves

Mr J W Whitworth

Yorkshire Flood

Defence Committee

Mr T D Collier

(Chairman)

Cllr J Bradley

Mrs J M Burnett

Cllr J Butler

Mr B R Croft

Mr J A Fawcett

Cllr J Goodhand

Cllr R G Heseltine

Cllr P A Kirk

Cllr H Sheldon

Cllr J M Sulley

Mr J R Welford

Mr J W Whitworth

Yorkshire Rivers

Advisory Committee

Mr J W Whitworth

(Chairman)

Mr J S Armitage

Mr I Carstairs

Mr R D Clarke

Mr T D Collier

Mr J C Cooke

Cllr H Daley

Mr J A Fawcett
Cllr R J Garbutt
Mr W F Kirtley
Dr P E Kneale
Mr M Konrad-Kosicki
Mr J Lunn
Ms S Marsden
Mr R I Pigg
Dr A J Shuttleworth
Cllr D J Tarlo
Mr J N Thompson
Mr I A White
Mr G A Wilford

NORTH WEST REGION

Regional Office Address

Richard Fairclough
House
Knutsford Road
Warrington WA4 1HG
Tel: (0925) 653999
Fax: (0925) 415961

Regional General Manager

Dr C Harpley

Regional Board Member

Mr R J F Taylor

Fisheries Advisory Committee

Mr J Carr
(Chairman)
Mr R Bailey
Mr D Bridgewood
Dr R Broughton
Mr A Brown
Mr J Castle
Mr S Griffiths
Mr B Irving
Mr K Lambert
Mr E Le Cren
Mr S Payne
Mr A Smith
Mr R Tinkler
Mr W Wannop OBE
Mr R Weston
Mr H Whittam

Flood Defence Committee

Mr W Wannop OBE
(Chairman)
Mr R Addison
Mr A Anderson
Mr K Bury
Mr J Carr
Mr S Cassidy*

Mr F Dolphin
Mr P Entwistle
Mr D Evans*
Mr P Fisher*
Mr S Hill
Mr J Hilton
Mrs E Kelly
Mr B O'Hare
Mr P Phizacklea*
Mr G Roper
Mr R Slack
Mr B Wallsworth
Mr R Weston
* Deputy Members

Rivers Advisory Committee

Mr R Weston
(Chairman)
Mr B Alexander
Mr P Barton
Mr M Berry
Mr I Brodie
Mr C Burford MBE
Mr J Carr
Mrs C Crawshaw
Mr G Doughty
Mr T Featherstonhaugh
Mr G Hammersley
Mr E Harper
Prof S Jones
Mr J Lucas
Mr R Reynolds
Dr P Roberts
Mr R Sharland
Mrs E Smith OBE
Mr W Wannop OBE
Mr A Wright

SEVERN-TRENT REGION

Regional Office Address

Sapphire East
550 Streetsbrook Road
Solihull
West Midlands B91 1QT
Tel: (021) 711 2324
Fax: (021) 711 5824

Regional General Manager

Mr D N Rainbow

Regional Board Member

Mr J Wheatley CBE

Fisheries Advisory Committee

Mr F Jennings
(Chairman)

Mr G Ayres
Mr R Baker
Dr P Bottomley
Mr G Chambers
Mr E Collin
Mr K Fisher
Lord Guernsey
Mr G Hawthorne
Mr A Jones
Mr P Kavanagh
Mr D Morgan
Dr A Richards
Mr A Sparrow
Dr H Tebbutt
Mr A Walsh
Mr R Williams

Flood Defence Committee

Mr G Hawthorne
(Chairman)
Cllr B Booth
Cllr G Bullock
Cllr J Carter
Mr J Chamberlayne
Cllr D Chapman
Cllr D Chater
Cllr W Cody
Mr J Dainty OBE
Mr D Dale
Cllr J Ellis
Mr A Fraser
Mrs J Gilman
Cllr J Griffiths
Mr F Jennings
Cllr G Manku
Mr J G Markwick
Mr R Prosser
Cllr D Sherriff
Dr H Tebbutt
Cllr J Wardle MBE JP

Rivers Advisory Committee

Dr H Tebbutt
(Chairman)
Mr J Betteridge
Cllr Mrs G Ferguson
Cllr Mrs S Foster
Mrs V Gillespie MBE
Mr D Grigg
Mr G Hawthorne
Mr F Jennings
Cllr D Jones
Cllr P Kellie
Cllr Mrs R Merritt
Mr P Mitchell
Mr P H Mitchell
Mr C Nicholson

Dr G B Parr
Mr D Pryor
Mr M Upstone
Mr J Thompson
Mr F Walmsley
Mr M White
SOUTHERN REGION
Regional Office Address
Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tel: (0903) 820692
Fax: (0903) 821832

Regional General Manager

Mr K Whiteman

Regional Board Member

Mrs K Morgan

Fisheries Advisory Committee

Mr A Humbert
(Chairman)
Mr P Cockwill
Mr A Costen
Mr M Drummond
Mr J Ferguson
Mr A Hodges
Dr B Lindsey
Mr C Neame
Mr D Owen
Mr J Parkman
Mr F Reader
Maj J Thomas
Mr A Williams

Flood Defence Committee

Mr C Neame
(Chairman)
Dr T Bines
Dr R P Bond
Mr R Cowley
Mr M Drummond
Mr I Hammond
Mr A Humbert
Mr S Leyland
Mr R Millard
Mr D Monnington
Mrs A H Moore
Mr M Odling
Mr H Richards
Mr T Sobey
Mr C Tandy
Mr G D Thomsett

Rivers Advisory Committee

Mr M Drummond
(Chairman)
Mr H Barnhoorn
Mr W Cutting
Dr M Clarke
Mr C Dempster
Maj I Duffin
Mr D Gibson
Mr D Harvey
Mrs E Haselden
Mr A Humbert
Ms L Leeson
Mr D Martin
Ms L Matson
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Mr B S Burrows
Lord Clinton
Mr S Day
Mr P D Edwards
Mr P Gompertz
Mr O Gilbert
Prof C Kennedy
Mr G C Manning OBE
Mr H Maund
Mr M Mountjoy
Mr J Muirhead
Mr T Mutton

Mr R Retallick
Mr M Weaver

South West Flood

Defence Committee

Mr G Manning OBE
(Chairman)

Mr P Butler
Miss D J Clerk
Mr A L Coulter
Mr P D Edwards
Mr M R Gillbard
Mrs E Heard
Mr M R Hughes
Mr M R Plinston
Mr M G Robins
Mr R G Ruffle
Mr D W J Spear
Mr J Stanbury
Mrs A Voss-Bark
Mr R A L Waller
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South West Rivers

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Mr B A Lister
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Ms J Smart
Mr M Turner
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Wessex Fisheries

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Miss W Pettigrew
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Mr A L Manners
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Mr R ap Simon Jones
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Cllr M Vaughan
Mr N Waters
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Mr J Harrison
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Appendix 4 new legislation, byelaws and other statutory instruments affecting the nra

EC Directives

1993

No Directives made affecting the NRA

UK Legislation

Leasehold Reform Housing and Urban Development Act 1993

Noise and Statutory Nuisance Act 1993

Cardiff Bay Barrage Act 1993

Radioactive Substances Act 1993

Trade Union Reform and Employment Rights Act 1993

Clean Air Act 1993

Byelaws

North West Region

Fisheries byelaw amending byelaw 11 limiting further the types of net allowed in fishing for salmon and sea trout on the River Ellen.
Confirmed 05/05/93.

South Western Region

Byelaws made under the Water Resources Act 1991 prohibiting the use of certain baits when fishing for salmon and migratory trout on the River Tamar and its estuaries. Confirmed 15/10/93.

Welsh Region

Amendments to byelaws regarding commercial fishing of salmon and migrating trout.
Confirmed 13/08/93.
Byelaws regarding the fishing for shellfish in the River Dee and its estuary. Confirmed 25/10/93.
Byelaws concerning the Boughroad/Llyswen Bridge on the River Wye, also The Afon Machno and the River Conwy. Confirmed 25/10/93.

Orders

Anglian Region

Reconstitution of the Welland & Deepings Internal Drainage Board.

Came into force 17th September 1992.

Reconstitution of the Alford Drainage. Came into force 4/1/93.

Reconstitution of the North East Lindsey Internal Drainage Board.

Came into force 4/1/93.

Reconstitution of the Louth Drainage Board. Came into force 4/1/93.

Reconstitution of the North Level Internal Drainage Board.

Came into force 1/3/93.

Reconstitution of the South Holland Internal Drainage Board.

Came into force 25/2/93.

Reconstitution of the Witham Third District Internal Drainage Board

Order No 910. Came into force 20.03.93.

Northumbria Region

NRA North East Coast Limitation Net Licences Order.

Came into operation 16th December '92.

Fishing Net Licence Duty Order.

Came into operation 1st March 1993.

North West Region

Net Limitation Orders for rivers Ribble (5 yrs), Duddon, Kent and Leven (10yrs). Confirmed 19th May 1992.

Severn-Trent Region

Reconstitution of the Newark Area Internal Drainage Board

Order no 829. Came into force 18.03.93.

Southern Region

Reconstitution of the Romney Marsh Levels Internal Drainage Board

Order no 815. Came into force 12.03.93.

Reconstitution of the River Stour (Kent) Internal Drainage Board

Order no 817. Came into force 12.03.93.

Reconstitution of the Upper Medway Internal Drainage Board

Order no 824. Came into force 18.03.93.

Reconstitution of the Lower Medway Internal Drainage Board

Order no 825. Came into force 18.03.93

South West Region

Net Limitation Order for River Camel came into operation 13th January 1993 for 5 years.

Yorkshire Region

Alteration of Boundaries of the Beverley and North Holderness Internal Drainage district Order 1993.

Came into effect 25 February 1993.

STATUTORY INSTRUMENTS

<i>Statutory Instrument Number</i>	<i>Description</i>	<i>Made</i>	<i>Coming Into Force</i>
445	Environmental Protection (Waste recycling Payments) (Amendment) Regulations 1993	02/03/92	01/04/92
517	The Common Agricultural Policy (Wine) Regulations 1993	04/03/93	01/04/93
566	The Controlled Waste (Amendment) Regulations 1993	10/03/93	01/04/93
848	The Local Government (Direct Service Organisations) (Competition) Regulations 1993	24/03/93	10/05/93
1041	The Reconstitution of the Bedfordshire and River Ivel Internal Drainage Board Order 1993	12/02/93	01/04/93
1062	The Financial Assistance for Environmental Purposes Order 1993	05/04/93	12/05/93
1116	The Local Fisheries Committee (Fees for Copy Byelaws) Order 1993	19/04/93	21/05/93
1119	The Transport and Works Applications (Inland Waterways Procedure) Regulations 1993	21/04/93	01/06/93
1149	The Coast Protection (Variation of Excluded Waters) Regulations 1993	19/04/93	28/05/93
1174	The National Rivers Authority (Anglian Region) (Reconstruction of Skegness District Internal Drainage Board) Order 1993	16/02/93	23/04/93
1175	The Reconstitution of the Denge and Southbrooks Internal Drainage Board Order 1993	03/02/93	23/04/93
1210	The Environmentally Sensitive Areas (Yuys Môns) Designation Order 1993	04/05/93	31/05/93
1211	The Environmentally Sensitive Areas (Radnor) Designation Order 1993	01/05/93	31/05/93
1241	The South West Regional Flood Defence Committee Order 1993	10/05/93	01/06/93
1413	Food Protection (Emergency Prohibitions) (Paralytic Shellfish poisoning) (No.2) Order 1993	04/06/93	04/06/93
1451	The Harbour Authorities (Variation of Constitution) Order 1993	21/05/93	07/07/93
1570	The Reconstitution of the Dearne and Dove Internal Drainage Board Order 1993	05/04/93	18/06/93
1580	The Merchant Shipping (Prevention of Oil Pollution) (Amendment) Order 1993	23/06/93	07/07/93
1581	The Merchant Shipping (Prevention of Pollution by Garbage) (Amendment) Order 1993	23/06/93	07/07/93
1590	The Swavesey Internal Drainage Board Award Drains Variation Order 1993	10/05/93	23/06/93
1592	The Montrose Harbour Revision Order 1993	11/06/93	12/06/93
1640	The Reconstitution of the Witham First District Internal Drainage Board Order 1993	11/05/93	29/06/93
1643	Environmental Protection (Controls on Injurious Substances) (No.2) Regulations 1993	29/06/93	31/07/93
1680	The Merchant Shipping (Prevention of Oil Pollution) (Amendment) Regulations 1993	05/07/93	20/07/93
1681	The Merchant Shipping (Prevention of Pollution by Garbage) (Amendment) Regulations 1993	05/07/93	20/07/93
1738	The Reconstitution of the Upper Witham Internal Drainage Board Order 1993	07/05/93	07/07/93
1749	The Environmental Protection (Prescribed Processes and Substances) (Amendment) Regulations 1993	13/07/93	30/07/93
1786	The Merchant Shipping Act 1979 (Overseas Territories) (Amendment) Order 1993	20/07/93	21/08/93
1810	The Local Government Superannuation (National Rivers Authority) Regulations 1993	20/07/93	17/08/93
1848	The Local Government Superannuation (Investments) Regulations 1993	21/07/93	20/08/93
1994	The Merchant Shipping (Load Lines) Act 1967 (Unregistered Ships) Order 1993	05/08/93	03/09/93
2016	The Sea Fishing (Enforcement of Community Control Measures) Order 1993	10/08/93	01/09/93
2291	The Sea Fishing Licensing (Variation) (No.2) Order 1993	21/09/93	12/10/93
2405	The Environmental Protection (Prescribed Processes and Substances) (Amendment) (No.2) Regulations 1993	04/10/93	26/10/93
2465	The Sole (Specified Sea Areas) (Prohibition of Fishing) (No.2) Order 1993	13/10/93	14/10/93
2712	The Reconstitution of the River Ouzel Internal Drainage Board Order 1993	22/03/93	01/11/93
2767	The Environmentally Sensitive Areas (Central Borders) Designation Order 1993	02/11/93	08/12/93
2768	The Environmentally Sensitive Areas (Stewartry) Designation Order 1993	02/11/93	08/12/93
3031	Transfrontier Shipment of Radioactive Waste Regulations 1993	-	-
3050	Notification of New Substances Regulations 1993	-	-
3198	Nitrate Sensitive Areas (Designation) (Amendment) Order 1993	20/12/93	11/01/94
130	The Cardiff and Vale of Glamorgan (Areas) Order 1994	26/01/94	01/03/94
238	The Environmentally Sensitive Areas (Clwydian Range) Designation Order 1994	01/02/94	01/03/94
239	The Environmentally Sensitive Areas (Preseli) Designation Order 1993	01/02/94	01/03/94
240	The Environmentally Sensitive Areas (Cambrian Mountains - Extension) Designation (Amendment) Order 1994	01/02/94	01/03/94
241	The Environmentally Sensitive Areas (Lleyn Peninsula) Designation (Amendment) Order 1994	01/02/94	01/03/94
245	The National Rivers Authority (Severn-Trent and Anglian Regional Flood Defence Committees Areas) (Boundaries) Order 1994	01/02/94	01/04/94

522	The Environmental Protection (Waste Recycling Payments) (Amendment) Regulation 1994	01/03/94	01/04/94	922	The Environmentally Sensitive Areas (North Peak) Designation (Amendment) Order 1994	24/03/94	30/04/94
667	The Town & Country Planning (Assessment of Environmental Effects) (Amendment) Regulations 1992	09/03/94	08/04/93	923	The Environmentally Sensitive Areas (Breckland) Designation (Amendment) (No.2) Order 1994	24/03/94	30/04/94
678	The Town & Country Planning General Development (Amendment) Order 1994	09/03/94	08/04/94	924	The Environmentally Sensitive Areas (South Wessex Downs) Designation (Amendment) Order 1994	24/03/94	30/04/94
707	The Environmentally Sensitive Areas (Blackdown Hills) Designation Order 1994	03/03/94	06/04/93	925	The Environmentally Sensitive Areas (Lake District) Designation (Amendment) Order 1994	24/03/94	30/04/94
708	The Environmentally Sensitive Areas (Cotswold Hills) Designation Order 1994	03/03/94	06/04/94	926	The Environmentally Sensitive Areas (South West Peak) Designation (Amendment) Order 1994	24/03/94	30/04/94
709	The Environmentally Sensitive Areas (Shropshire Hills) Designation Order 1994	03/03/94	06/04/94	927	The Environmentally Sensitive Areas (Avon Valley) Designation (Amendment) Order 1994	24/03/94	30/04/94
710	The Environmentally Sensitive Areas (Dartmoor) Designation Order 1994	03/03/94	06/04/94	928	The Environmentally Sensitive Areas (Exmoor) Designation (Amendment) Order 1994	24/03/94	30/04/94
711	The Environmentally Sensitive Areas (Essex Coast) Designation Order 1994	03/03/94	06/04/94	929	The Environmentally Sensitive Areas (The Broads) Designation (Amendment) (No.2) Order 1994	24/03/94	30/04/94
712	The Environmentally Sensitive Areas (Upper Thames Tributaries) Designation Order 1994	03/03/94	06/04/94	930	The Environmentally Sensitive Areas (Pennine Dales) Designation (Amendment) (No.2) Order 1994	24/03/93	30/04/94
723	The Environmentally Sensitive Areas (Alteration of Boundaries of the South Holland Internal Drainage District) Designation Order 1994	06/04/93	07/03/94	931	The Environmentally Sensitive Areas (South Downs) Designation (Amendment) (No.2) Order 1994	24/03/94	30/04/94
724	The Town & Country Planning (Use classes) (Amendment) Order 1994	14/03/94	04/04/94	932	The Environmentally Sensitive Areas (Somerset Levels & Moors) Designation (Amendment) (No.2) Order 1994	24/03/94	30/04/94
780	The Environmental Protection Act 1990 (Commencement No.14) Order 1994	15/03/94		933	The Environmentally Sensitive Areas (West Penrith) Designation (Amendment) (No.2) Order 1994	24/03/94	30/04/94
918	The Environmentally Sensitive Areas (North Kent Marshes) Designation (Amendment) Order 1994	24/03/94	30/04/94	1057	The Surface Waters (River Ecosystem) (Classification) Regulations 1994	12/04/94	10/05/94
919	The Environmentally Sensitive Areas (Test Valley) Designation (Amendment) Order 1994	24/03/94	30/04/94				
920	The Environmentally Sensitive Areas (Suffolk River Valleys) Designation (Amendment) Order 1994	24/03/94	30/04/94				

Directions

The National Rivers Authority (Nitrate Pollution) (Council Directive 91/676/EEC) Directions 1992

Whereas Council Directive 91/676/EEC ("the Directive") concerning the protection of waters against pollution caused by nitrates from agriculture sources (a) has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further such pollution;

And Whereas by Article 5 of the Directive Member States are required, for the purposes of realising those objectives, to establish action programmes in respect of designated vulnerable zones;

And Whereas Article 6 of the Directive requires that the nitrate concentration in freshwaters is monitored and that the eutrophic state of fresh surface waters is reviewed for the purpose of designating and revising the designation of vulnerable zones;

Now Therefore the Secretary of State for the Environment and the Secretary of State for Wales, after consultation with the National Rivers Authority, acting jointly in exercise of the powers conferred on them by section 5 of the Water Resources Act 1991 (b), hereby direct the National Rivers Authority as follows:

Citation

1. These Directions may be cited as the National Rivers Authority (Nitrate Pollution) (Council Directive 91/676/EEC) Directions 1992 and shall come into force on 27 January 1992.

2. -(1) The Authority shall monitor the nitrate concentration in freshwaters, and shall review the eutrophic state of fresh surface waters, estuarial and coastal waters, in accordance with Article 6 and Annex 4 of the Directive.

-(2) In relation to Article 6.1(a).i) of the Directive, within a period of 15 months from the date these Directions come into force-

(a) for those sampling stations where, in the opinion of the Authority, it is unlikely that the waters are or could be affected by pollution, not less than 12 samples shall be taken within a period of 12 months; and

(b) in any other case, not less than 20 samples shall be taken within the period of 12 months mentioned in paragraph (a).

-(3) The review of the eutrophic state of fresh surface waters, estuarial and coastal waters required by Article 6(c) of the Directive shall be completed within a period of 6 months from the date these Directions come into force.

*Authorised by the Secretary
of State to sign in that behalf*

*D L H Roberts
An Assistant Secretary in the
Department of the Environment
27 January 1992*

*Authorised by the Secretary
of State to sign in that behalf*

*A H H Jones
An Assistant Secretary in the
Welsh Office 27 January 1992*

The National Rivers Authority (Bathing Waters) Directions 1992

The Secretary of State for the Environment and the Secretary of State for Wales, after consultation with the National Rivers Authority, acting jointly in exercise of the powers conferred on them by Section 5 of the Water Resources Act 1991 (a), ("the 1991 Act"), hereby direct the National Rivers Authority as follows:

Citation

1. These Directions may be cited as the National Rivers Authority (Bathing Waters) Directions 1992 and shall come into force on 15 May 1992.

Sampling

2. Without prejudice to the generality of Section 84(2) of the 1991 Act, the Authority shall monitor controlled waters so as to give effect to Article 6.3 of Council Directive 76/160/EEC concerning the quality of bathing water (b) ("the Directive") and shall sample and test waters to which the classification BWI applies in accordance with the Bathing Waters (Classification) Regulations 1991 (c).

Article 3 of Directive 76/160/EEC

3. The Authority shall in exercising its powers under Part III of the 1991 Act in relation to waters to which the classification BWI applies give effect to Article 3.3 of the Directive and Articles 5 and 7 of the Directive to the extent that they apply in relation to Article 3.3.

- (a) 1991 c.15.
- (b) OJ NO. L31, 5.2.76, P.1.
- (c) S.I. 1991/1597.

*Authorised by the Secretary
of State to sign in that behalf*

*J Vaughan
An Assistant Secretary in the Department
of the Environment 5 May 1992*

*Authorised by the Secretary
of State to sign in that behalf*

*A H H Jones
An Assistant Secretary in the
Welsh Office 5 May 1992*

Direction to the National Rivers Authority under Section 5 of the Water Resources Act 1991 and relating to Council Directive 80/68 on the protection of groundwater

The Secretary of State for the Environment, as respects waters in or adjacent to England, and the Secretary of State for Wales, as respects waters in or adjacent to Wales, and the Minister of Agriculture, Fisheries and Food, after consultation with the National Rivers Authority and in exercise of powers conferred on them by section 5 of the Water Resources Act 1991 ("the Act") hereby direct the Authority as follows:

1. The Authority shall take all such steps as are open to it, in exercising its functions with respect to water pollution under Part III of the Act, and in carrying on its functions generally, to give effect to articles 1 to 15, 18 and 19 of, and the Annex to, Council Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances.
2. In deciding which substances are appropriate to List II of families and groups of substances in the Annex to the Directive having regard to their toxicity, persistence and bioaccumulation, the Authority shall act in accordance with the criteria set out in the Schedule to this direction.

Authorised by the Secretary of State for the Environment to sign in that behalf *A J C Simcock
An Assistant Secretary in the Department of the Environment 13 July 1992*

Authorised by the Secretary of State for Wales to sign in that behalf *A H H Jones
An Assistant Secretary in the Welsh Office 13 July 1992*

Authorised by the Minister of Agriculture, Fisheries and Food to sign in that behalf *G Bruce
An Assistant Secretary in the Ministry of Agriculture, Fisheries and Food 13 July 1992*

Schedule: Criteria for Classifying Dangerous Substances in List II of the Annex to Council Directive 80/68/EEC

Criteria for low toxicity

1. A substance shall be classified as having low toxicity if and only if:
 - (a) it is not included in a list of carcinogenic, mutagenic or teratogenic substances supplied from time to time to the Authority by the Secretary of State;
 - (b) sufficient data exist to carry out tests to establish whether it meets the criteria referred to in sub-paragraphs (c) and (d);
 - (c) according to the most stringent data obtainable its acute oral LD50 (rat) toxicity exceeds 200 mg/kg body weight; and
 - (d) according to the most stringent data obtainable it meets each of the following criteria for acute aquatic toxicity for which sufficient data exist:

- (i) its 96-h LC50 (fish) exceeds 10 mg/l;
- (ii) its 48-h EC50 (daphnia) exceeds 10 mg/l; or
- (iii) its 72-h IC50 (algae) exceeds 10 mg/l.

Criteria for low persistence

2. A substance shall be classified as having low persistence if and only if:
 - (a) its half-life in sediments in the dark is less than 3 months;
 - (b) where no data exist for the purposes of paragraph (a), the half-life of the substance in water (preferably freshwater rather than saline) in the dark is less than 30 days; or
 - (c) where no data exist for the purposes of paragraphs (a) or (b), the half-life of the substance in soil is less than 30 days.

Criteria for low bioaccumulation

3. A substance shall be classified as having low bioaccumulation if and only if:
 - (a) its measured bioconcentration factor (BCF) is less than 100 on whole body wet weight, or less than 1000 on fat (lipid) content of aquatic organisms or aquatic plant tissue;
 - (b) where no data exist for the purposes of paragraph (a), the log K_{ow} or log (n octanol/water partition coefficient) of the substance is not more than 3.0.

Direction to the National Rivers Authority under Section 5 of the Water Resources Act 1991 and relating to Council Directives on Discharges of Dangerous Substances

The Secretary of State for the Environment, as respects waters in or adjacent to England, and the Secretary of State for Wales, as respects waters in or adjacent to Wales, after consultation with the National Rivers Authority ("the Authority") and in exercise of the powers conferred upon them by sections 5 (1) and (2) and paragraph 4(1) of Schedule 10 to the Water Resources Act 1991 ("the Act"), hereby direct the Authority as follows:

1. It shall be the duty of the Authority -
 - (a) to impose, as conditions of consents granted under Chapter II of Part III of the Act, such conditions as may be necessary to comply with the Community obligations arising from Council Directive 90/415/EEC and Article 5 of Council Directive 87/217/EEC;
 - (b) to institute, as respects waters for which water quality objectives are established in relation to concentrations of substances listed in column (1) of the Schedule to the Surface Waters (Dangerous Substances) (Classification) Regulations 1992 ("the 1992 Regulations"), the sampling and testing procedures prescribed in regulation 3 of those Regulations in order to comply with the Community obligations arising from Council Directive 90/415/EEC; and

- (c) to institute, as respects any discharges to which Article 5 of Council Directive 87/217/EEC applies, at regular intervals, the sampling and analysis procedures and methods described in Part A of the Annex to that Directive.
2. In performing the duty imposed by paragraph 1(b) above, the Authority shall establish whether waters to which the classification DS3 applies satisfy or, as the case may be, continue to satisfy the requirements of that classification.
3. - (1) The Authority shall, in the circumstances referred to in sub-paragraph (2) below, refer to the Secretary of State for determination in accordance with paragraph 4 of Schedule 10 to the Act any application for a consent under Chapter II of Part III of the Act for the discharge to any controlled waters other than ground waters of any effluent or other matter which contains a substance listed in column (1) of the Schedule to the 1992 regulations.
- (2) The circumstances referred to in sub-paragraph (1) above are that -
- (a) the Authority is of the opinion that, if consent to the discharge were granted, the waters to which the discharge would be made, or other waters likely to be affected by the discharge, would be likely to contain concentrations of the substance which, when averaged with such concentrations of that substance as are or are likely to be present in those waters in the calendar year in question, would be likely to exceed the concentration specified in relation to that substance in the relevant water quality objectives established under section 83 of the Act; or
- (b) the premises from which the discharge is proposed to be made consist of or include "new plant" within the meaning given by Article 2(g) of Council Directive 86/280/EEC.
- (3) In this paragraph and in paragraphs 4 and 5 below, "the Secretary of State" means -
- (a) in respect of waters in or adjacent to England, the Secretary of State for the Environment; and
- (b) in respect of waters in or adjacent to Wales, the Secretary of State for Wales.
4. - (1) The Authority shall, as soon as it has reason to believe (whether from the results of the analysis of samples taken pursuant to the 1992 Regulations or otherwise) that relevant territorial waters, coastal waters or inland freshwaters fail to satisfy the requirements for DS3, notify the Secretary of State accordingly and provide him with all relevant information as to the nature and circumstances of the contravention and the steps which the Authority has taken or proposes to take with a view to restoring the quality of the waters in question.
- (2) Where the Authority is of the opinion, as respects any waters in relation to which it has notified the Secretary of State as mentioned in sub-paragraph (1) above, that the steps so mentioned are unlikely to secure the restoration, within 12 months from the date of the notification, of the quality of the waters to that required for the relevant classification, it shall provide the Secretary of State with such information as will enable him, where appropriate, to determine in relation to any relevant discharge to those waters of a substance listed in column (1) of the Schedule to the 1992 Regulations an appropriate emission standard in accordance with Council Directives 86/280/EEC and 90/415/EEC.
5. - (1) The Authority shall send to the Secretary of State on or before 30 April 1994 an inventory of consents granted or deemed to have been granted on or before 31 December 1992 under Chapter II of Part III of the Act for the discharge of effluent or other matter containing any of the substances listed in column (1) of the Schedule to the 1992 Regulations.
- (2) The Authority shall send to the Secretary of State on or before 30 April in 1994 and in each subsequent year information of the descriptions specified in sub-paragraph (3) below as respects -
- (a) waters to which in the preceding calendar year discharges of effluent or other matter containing any of the substances listed in column (1) of the Schedule to the 1992 Regulations have been made; and
- (b) waters affected by any such discharges.
- (3) The information required to be provided by sub-paragraph (2) above shall comprise -
- (a) particulars in relation to the discharges referred to in that sub-paragraph of the monitoring, sampling and analysis undertaken in the preceding calendar year pursuant to the 1992 Regulations; and
- (b) particulars of consents granted by the Authority in that year under Chapter II of Part III of the Act and of variations of any such consents, or of consents deemed to have been granted under that Chapter.
- (4) The information required to be provided by sub-paragraph (2) above shall be submitted on forms supplied by, or otherwise in the form required by, the Secretary of State.

Signed by authority of the Secretary of State for the Environment *J Vaughan*
An Assistant Secretary in the Department of the Environment 19 March 1993

Signed by authority of the Secretary of State for Wales *A H H Jones*
An Assistant Secretary in the Welsh Office 19 March 1993

Appendix 5 corporate publications and publicity material

HEAD OFFICE

Books

The Law of the National Rivers Authority
by William Howarth

Brochures

NRA Corporate Strategy
NRA Water Quality Strategy
NRA Water Resources Strategy
NRA Flood Defence Strategy
NRA Fisheries Strategy
NRA Recreation Strategy
NRA Conservation Strategy
NRA Navigation Strategy
NRA R&D Strategy
NRA Corporate Plan 1993/94
Fisheries Statistics 1990
Fisheries Statistics 1991
Fisheries Statistics 1992
Fisheries Technical Report 1 -
Sea Trout in England & Wales
Fisheries Technical Report 2 -
Sea Trout Catch Statistics
Fisheries Technical Report 3 -
Sea Trout Literature Review
Fisheries Technical Report 4 -
Sea Trout Gene Banks
Section 142 Fisheries Contributions -
A Second Consultation Document
Toxic Blue-Green Algae: The Report of the
National Rivers Authority
Discharge Consents and Compliance Policy:
A Blueprint for the Future Under Section
143(2)(a) Water Act 1989
Discharge Consents and Compliance
The Quality of Rivers Canals and Estuaries
in England and Wales (1990 survey)
The Quality of Rivers and Canals in
England and Wales (1990 to 1992)
Proposals for Statutory Water
Quality Objectives
The Influence of Agriculture on the Quality
of Natural Waters in England and Wales.
Bathing Water Quality in England
& Wales 1990
Bathing Water Quality in England
& Wales 1991
Bathing Water Quality in England
& Wales 1992

Bathing Water Quality in England
& Wales 1993
Water Pollution Incidents in England
& Wales 1991
Water Pollution Incidents in England
& Wales 1992
Discharges of Waste Under the
EC Titanium Dioxide Directives
Quality of the Humber Estuary 1980-1990
Abandoned Mines and the
Water Environment
Contaminated Land and the
Water Environment
Implementation of the EC Shellfish
Waters Directive
The Disposal of Sheep Dip Waste Effects
on Water Quality
Water Resources Development Strategy:
A Discussion Document
Water: Nature's Precious Resource
(March 1994)
Proposed Scheme of Abstraction
Charges 1993/94
A Fair Assessment -
A Discussion Document
Groundwater Protection Policy Document
Low Flows and Water Resources
NRA Response to Using Water Wisely -
A Consultation Published by the
DoE/Welsh Office July 1992
R&D Annual Review - 1991
R&D Annual Review - 1992
R&D Annual Review - 1993
R&D Programme 1993/94
R&D Report 1 - Diversion and Entrapment
of Fish at Water Intakes and Outfalls
R&D Report 2 - Manual of Standard
Methods for Microbiological Analysis
R&D Report 3 - Expert Systems for Water
Resources Management
R&D Report 4 - Airborne Remote Sensing
of Coastal Waters
Development of Environmental Economics
for the NRA - R&D Report 6
The Implications of Climate Change for
the National Rivers Authority -
R&D Report 12
Conservation Technical Handbook 1 -
River Corridor Surveys

Conservation Technical Handbook 2 -
River Corridor Surveys
Graduate Recruitment Brochure

Leaflets

Groundwater Protection
Summary Document
Abstraction Licensing and Water Resources
Scheme of Abstraction Charges
Chlorinated Solvents and Water
National RiverWatch
Farm Pollution
Water Wisdom
Blue Green Algae
R&D Newsletters 1 & 2
List of R&D Outputs
Weather Radar and Flood Warning Services
Canoeists Leaflet
Environmental Policy Leaflet
National Rod Fishing Licences

Newsletters

Riverline (staff newsletter)

Displays

Innovation in the R&D Programme

ANGLIAN

Catchment Management Plans

Ely/Ouse Catchment Management Plan
Gipping/Stour Catchment Management Plan
Louth Coastal Catchment Management Plan
The River Cam Catchment Management Plan
Lower Nene Catchment Management Plan
Yare Catchment Management Plan
Upper Nene Catchment Management Plan

Leaflets

Information Wallet Folder
24 Hours a Day
Directory of Addresses
Protecting the Water Environment
The Anglian Region/Facts at a Glance
Contacting the NRA
Tide Tables Volume 1 -
Lincolnshire and Humberside
Tide Tables Volume 2 -
Norfolk, Suffolk and Essex
Authority Consents

Development in Flood Risk Areas
 Protecting and Improving the Water
 Environment - Model Policies
 Fisheries Byelaws
 The Denver Complex/The Ely Ouse Essex
 Water Transfer Scheme
 Jaywick Sea Defence Scheme
 Happisburgh to Winterton Sea Defences
 Hunstanton and Heacham Sea Defences
 Thames Tidal Defences
 The Colne Barrier
 Ipswich Flood Defences
 Ouse Washes Barrier Banks Improvements
 Woodbridge and Melton Flood Defences
 Aldeburgh Sea Defences
 Kings Lynn Tidal Defences
 Sea Defence Management Study
 Battling the Tide -
 Flood Defences in Anglian Region
 East Anglian Salt Marshes
 Welland and Glen River System
 The 1953 East Coast Floods
 Water Resources - Abstraction Register
 Drought in Anglia - Autumn 1992
 Managing Water Resources
 Water in the Thetford Area
 Lodes-Granta Groundwater Scheme
 Clay Sea Defences
 Monitoring the Coast for Sea Defences
 Farm Pollution - The Safe Way with Silage
 Blue-Green Algae
 Water Pollution - Causes and Control
 River Pollution and How to Avoid It
 Water Quality - Discharge Consents
 Water Quality - Marine Monitoring
 Chlorinated Solvents and Water
 Waterways - A Code of Conduct
 Roy of the Rivers
 Navigation in the Anglian Region
 Map - Navigation in the Anglian Region
 Navigation Notes - Advice to Boat Owners
 Navigation - The Anglian Experience
 Guide to Fishing Clubs - Great Ouse, Cam
 and Fenland Waters
 Guide to Freshwater Fishing in
 Norfolk and Suffolk
 Guide to Fishing Clubs - Northern Area
 A Brief History of the River Stour
 Navigation - 1705 to Present Day
 River Nene Navigation Guide
 The Great Ouse Fact File
 Land Drainage and Flood Defence Byelaws
 Flood Protection at Felixstowe
 Conservation in the Anglian Region
 The Drought of 1988-1992 in Anglia

1994/95 Regional Plan Summary
 Ouse Washes Summer Flood Control

Videos

Watercarers - An Educational Video
 Liquid Asset - Water Resources

Posters

Water Resources
 NRA (Anglian Region) Colouring Chart
 NRA Educational Wallchart
 Wildlife on the Riverbank

NORTHUMBRIA & YORKSHIRE

Catchment Management Plans

River Aire Catchment Management Plan
 River Tyne Consultation Report
 River Coquet Consultation Report

Brochures

Regional Brochure
 Angling Guide
 Developers Guide
 Regional Plan Summary
 River Litter Monitoring Brochure
 The Implications of Climate Change for the
 NRA
 A Guide to Identifying Freshwater
 Crayfish in England & Ireland
 Fish Eating Birds
 Guidance Notes for Local
 Planning Authorities
 York Flood Defences
 Catch 1993/94
 Who's Who in Northumbria and
 Yorkshire Region
 Who's Who in Southern Yorkshire Area
 Who's Who in Northumbria Area
 Who's Who in Dales Area
 Pollution Prevention Action Pack
 Rivers Swale and Ure -
 Conservation within the Catchment
 Yorkshire Region brochure (all functions)
 Humber Strategy - Goole Sector Flood
 Alleviation Scheme

Leaflets

Buyer Beware Poached Salmon
 Control of Pollution Regulations
 Farm Pollution
 Kielder Salmon Hatchery
 Marine Monitoring
 River Canoeists
 River Pollution
 River Tees

River Tweed
 River Tyne
 Rod Fishing Byelaws
 Silage Pollution
 The Tees - an Improving River
 Understanding the Drought
 Wise Water Ways
 River Little Monitoring Project
 Watersports in Tyne and Wear
 Catchment Management Planning Leaflet -
 River Derwent
 Catchment Management Planning
 Leaflet - General
 Education Resources Pack for Teachers
 Roy of the Rivers
 River Ouse in York
 Foss Barrier
 Water Weed Control
 Fisheries Byelaws
 Yorkshire's Waterways
 Groundwater Protection Policy -
 Regional Appendix

Water Resources
 Emergency Arrangements
 Public Water Quality Register
 Environmental Biology
 River Quality Management
 River Aire River Calder
 River Wharfe River Derwent
 River Esk River Rother
 River Don River Dearne
 River Foss - Environmental Liaison Group
 High Eske Nature Reserve
 Farm Pollution Kills River Life
 Silage
 Slurry
 Pesticides & Chemicals
 Oil Pollution
 Flood Defence General Information
 Flood Warning Service
 (Emergency Procedures)
 River Sheaf
 Humber Estuary

Newsletters

Aquarius (staff newsletter)
 The Bridge (staff newsletter)
 Watermark (staff newsletter)
 Catch Magazine (staff newsletter)

Videos

Northumbrian Salmon
 Yarm Flood Defence Scheme
 Water Safety
 River Tyne Catchment Management Plan

Humber Estuary Strategy (May 1992)
 Pollution of the River Rother (June 1992)
 River Aire Catchment Management Plan
 (Nov 1992)
 Vale of York Groundwater Scheme
 (Feb 1993)

Information Sheet

Pollution Notes for Students
 River Facts - Guardians of the
 Water Environment
 River Facts - Environmental Quality
 & Pollution Control
 River Facts - Fisheries, Recreation
 & Conservation
 River Facts - Land Drainage
 & Flood Defence
 River Facts - Water Resources
 River Information Sheets
 Fisherman's Telephone Information Service
 Canoeist's Telephone Information Service

Posters

Duties & Responsibilities of NRA
 Avoiding Farm Pollution
 Silage Pollution Kills
 Kielder Salmon Hatchery

Displays

The Good, The Bad and The Ugly
 (Farm Pollution)
 The Tees - An Improving River
 North Northumberland Otter Project
 National RiverWatch
 Emergency Hotline
 The River Tyne
 On the Water, In the Water, By the Water

NORTH WEST

Catchment Management Plans
 River Douglas Catchment Management Plan

Leaflets

Fact File - North West
 The National Rivers Authority
 About the North West Region
 Keeping You Informed
 Public Register
 On Duty Round the Clock
 Maintaining Water Courses
 River Classification
 Paying for Flood Defence
 Main River
 EC Directives and Control of
 Water Pollution

Environmental Protection and
 Pollution Control
 Windemere (Anti-Pollution guidelines
 for boat owners)
 Water Resources
 River Ribble
 River Alt
 River Lune
 Protecting and Improving Fisheries in the
 North West of England
 Catchment Management Planning
 Groundwater Resources in the Rufford Area
 Charlton Brook Flood Alleviation Scheme
 Haverigg Flood Defences
 Don't Rubbish Your Rivers

Newsletters/Magazines

Newstream (external regional newspaper)
 Splash (staff newsletter)

Videos

Flood Defence
 Fisheries
 Water Resources

SEVERN-TRENT

Catchment Management Plans

River Stour Consultation Report
 Blythe/Cole/Bourne Consultation Report
 Warwickshire Avon Consultation Report
 River Stour Final Plan

Brochures

River Tame
 Trent Catchment
 Severn Catchment
 Lea Marston
 Llyn Clywedog
 Fisheries in the Severn-Trent Region
 Careers Guide
 Teme Catchment
 Regional Water Resources Strategy

Leaflets

NRA Facts at a Glance
 Severn Bore
 Trent Aegir
 Navigation in the Severn-Trent Region
 Pollution and Its Effects
 Pollution and How to Spot It
 Pollution We're All Responsible
 Pollution Kills
 Silage Effluent
 Sheep Dip and Pollution
 Slurry Storage
 Slurry and Dirty Water Disposal

Fuel Oil
 Nitrates in Groundwater
 The Tame Catchment
 Water Abstraction
 Spray Irrigation
 Flood Defence
 Chemicals
 River Severn
 Chlorinated Solvents
 Pesticides
 Blue Green Algae
 River Trent
 Water Quality
 Shrewsbury Town - The Flooding Problem
 Chlorinated Solvents and Water
 NRA Recreation Sites
 Agricultural Activity and
 Pollution Prevention
 Who's Who in the NRA
 Clee Hill Radar
 Avon Weirs Trust
 Severn-Trent Regional Map
 River Flooding
 Catchment Management Planning
 1994/95 Regional Plan Summary
 Dredging and Archaeology

Newsletter

Source (staff newsletter)

Displays

Revised Mobile Exhibition
 Pilot Riverside Display
 Wildfowl Trust - Interpretation Boards
 Updated reception displays

Videos

Groundwater Protection

Posters

NRA General
 Oil Pollution
 Flood Warnings

SOUTHERN

Catchment Management Plans

River Itchen Catchment Management Plan,
 Consultation Report, Summary
 and final plan
 River Test Catchment Management Plan,
 Consultation Report, Leaflet and final plan
 River Medway Catchment Management
 Plan, Consultation Report, Leaflet
 and final plan
 East Sussex Rother Catchment Management
 Plan, Consultation Report and Summary

River Darent Catchment Management Plan,
Consultation Report

Brochures

Harbour of Rye Management Plan
Policy and Practice in the Protection of
Groundwater - Regional Appendix
A Guide to Bank Restoration and
River Narrowing
Fishing in the South
The Source -
A Guide to the Southern Region
Fisheries Byelaws
Guide to the Medway Navigation
Harbour of Rye
"When the Rains came..."
Rye Harbour Byelaws
Pond Pack
Boating on Sussex Rivers
Land Drainage and Sea Defence Byelaws
Hydrometry the Measurement of Water
Water for the Future in Kent

Leaflets

River Darent Action Plan
River Darent Conservation Project
Sustaining Our Resources - Southern Region
Water Resources Development Strategy
Sustaining Our Resources - Summary
Drought in the South
Irrigation of golf courses
Predicted High Tide Tables 1993
Chlorinated Solvents and Water -
How Can You Help Avoid Pollution
Protecting the River Itchen - the Arle
Groundwater Scheme
River Medway River Arun
Kentish Stour River Rother
Cuckmere River River Meon
River Ouse River Test
River Adur River Itchen
Rivers of the Isle of Wight
The Medway Navigation
Drought - The Dry Facts
The Southern Angle
The Beaches are on the Move
Flood Warning Service -
Emergency Procedures
River pollution and how to avoid it
River and effluent quality and consents
Is your farm really safe?
Are you storing animal wastes safely?
Are you disposing of animal wastes safely?
Is your oil storage safe?
Is your sheep dipping safe?
Information sheets - Education Series

Pumping Stations
Ashford Flood Alleviation Scheme
Freshwater Fish of the Southern Region
Buyer Beware of Poached Salmon
Otters
Pond Pack

Newsletters

On Stream (staff newsletter)
Newsreels for Anglers

SOUTH WESTERN

Catchment Management Plans

Hampshire Avon Catchment Management
Plan (Report & Leaflet)

Books

The Guide to Angling in South West
England 1992/93 (published by West
Country Tourist Board in co-operation
with the NRA).

Brochures

Flood Defences for Axminster
Barnstaple Tidal Defence Scheme
Truro (River Kenwyn) flood defence scheme
Exeter Flood Defence Scheme
Sea Defences for Dawlish Warren
and Teignmouth
Sea Defences Beesands and Torcross
Tidal Defences for Instow
Blandford Forum flood alleviation scheme
Lower Stour Flood Defences Christchurch
Weirs, Hatches and Silt
Development and Flood Risk
Weather Radar and Flood Warning Services
National Rod Fishing Licences
A guide to rod fishing byelaws in NRA -
Devon and Cornwall Areas
NRA North and South Wessex Areas
Fishery Byelaws 1992 -
Water Resources Act 1991
Buyer Beware!
River Canoeists and the NRA
Bridport Flood Defence Scheme
Customer Charter
Searching for Groundwater
Agriculture, Pesticides and Water
Biological Monitoring
Preventing Oil Spills Poster
Roy of the Rivers
Angling - North West
Angling - South Wessex
Water for the South West -
A consultation document
Careers

Brinkworth Brook Restoration Project
Code of Practice on Matters
Relating to Land
Freshwater Fish of the Wessex Region
Looking at the River Tone
River Pack - includes Pollution, Pond Pack,
Water, Wildlife Along Rivers
Regional Brochure
Somerset Levels & Moors

Leaflets

Cornwall Area Leaflet
Devon Area Leaflet
North Wessex Leaflet
South Wessex Leaflet
River Pollution and How to Avoid It
Oil Pollution and How to Avoid It
Chemical Pollution and How to Avoid It
Chlorinated solvent pollution and
how to avoid it
Pollution from your home and
how to avoid it
Farm Pollution - Together we can beat it
Water Quality - public register
Exeter Laboratory
Control of Pollution
(Silage, Slurry and Agricultural Fuel Oil)
Cleaning up the Culm
Blue-Green Algal Blooms
Wheal Jane - A Clear Way Forward
Water Wisdom
Silage Liquor Can Kill
Cobbacombe Cross Weather Radar Station
Pollution Prevention Guidelines
(set of seven)
Chemical Pollution and How to Avoid It.
Chlorinated Solvent Pollution and
How to Avoid It
Oil Pollution and How to Avoid It
Cleaning up the Culm
Tidal Defences for Instow
Fishing 1993 (North Devon)
Brinkworth Brook Restoration Project
Careers
Code of Practice on Matters
Relating to Land
Development Control Fact Sheets (1-14)
Fishing Leaflets - 1993 (Somerset, Avon &
Dorset, Bristol Avon)
Flood Defence Law
(Training Course Document)
Freshwater Fish of the Wessex Region
Guidelines - Oil Interceptors on Surface
Water Discharges
Guidelines - Oil Interceptors, Garages &
Filling Stations

Looking at the River Tone
 'Operation Streamclean'
 (wrong connections leaflet)
 Pollution (Extract from River Pack)
 Pond Pack
 River Corridor Surveys (limited stock)
 River Pack
 Rod Licence Leaflet
 Roy of the Rivers
 Silage Liquor
 Water (Extract from River Pack)
 Weather Radar & Flood Warning Services
 Wildlife Along Rivers
 (Extract from River Pack)

Newsletters

Waterspout (staff newsletter)

Videos

Wheal Jane - A Clear Way Forward
 Guardians of the Water Environment
 Farm Pollution - Together We Can Beat It
 Groundwater -
 Out of Sight but not Out of Mind
 Flood Defence Video

Information Sheets

Bathing Waters
 Beesands Tidal Defences
 Barbican Tidal Defences
 Water - An Introduction

Posters

Preventing Oil Spills

THAMES

Catchment Management Plans

Blackwater River Catchment Management
 Plan (Consultation Draft -
 Summary Report)
 River Kennet Catchment Management Plan
 (Final Report - Summary Leaflet)

Brochures

Guardians of the Water Environment
 (Regional Brochure)
 Thames Review
 Fobney Mead Brochure

Leaflets

Fact Files
 - Blackwater - Ray (Wiltshire)
 - Cherwell - Roding
 - Colne - Pang
 - Stort - Wye
 - Kennet - Thame

- Lee - Tidal Thames
 - Loddon - Wey
 - Mimram - Windrush
 - Mole
 - South London's Urban Rivers
 Locks and Weirs on the River Thames -
 How do they work?
 River Thames Handbook
 Cruising on the River Thames -
 A Boating Guide
 Thames Navigation -
 Improving the Flow Phase II
 Hambleden Lock
 Blue-Green Algae
 River Pollution and How to Avoid It
 Oil Pollution and How to Avoid It
 Chemical Pollution and How to Avoid It
 Chlorinated Solvent Pollution and
 How to Avoid It

The Control of Pollution (Silage, Slurry &
 Agricultural Fuel Oil) Regulations 1991
 Looking After Our Rivers
 Fact File: Pollution Control
 Your Right to the Facts
 The Thames Barrier
 Cascade - Flood Forecasting and Monitoring
 Riverside Owners Guide
 Weather Radar and Flood Warning Services
 Water Wisdom
 Who's Who in the NRA
 Water - Nature's Precious Resource
 (Summary Document)
 Pollution from your Homes and How to
 Avoid It
 Agriculture Pesticides and Water
 Biological Water Quality Monitoring
 London's Drowning
 River Flooding
 River Canoeists
 Camping Beside the River Thames
 Nature and the Freshwater River Thames
 Educational Fact Files
 - Fisheries
 - Flood Defence
 - Conservation
 - Environmental Quality
 - Navigation
 - Recreation
 - Water Resources

Newsletters

Banknotes (staff newsletter)
 Thames Review
 Newscast

Posters

Pollution Game
 Functions Poster

WELSH

Catchment Management Plans

Ogmore Catchment Management Plan
 Upper Wye Catchment Management Plan
 Cleddau Catchment Management Plan
 Menai Catchment Management Plan
 Conwy Catchment Management Plan
 Ely Catchment Management Plan
 Dee Catchment Management Plan
 Tywi Catchment Management Plan
 Taf Catchment Management Plan
 Tawe & South Gower Catchment
 Management Plan

Brochures

Regional Brochure
 Juvenile Salmonid Monitoring
 Programme Report
 River Wye Angling Guide
 Angling Guide for the Rivers Dee and
 Clwyd 1992/93
 Canoeists Guide to the River Wye

Leaflets

Clean Rivers Cup
 Silage is Deadly
 Oil, Chemicals and Pesticides
 Rod Fishing Byelaws
 Buyer Beware of Poached Salmon
 Rewards for Tagged Fish
 Safeguard the Environment -
 a guide for developers
 Dee Stock Assessment Programme
 River Ebbw Catchment
 Whitland Flood Alleviation Scheme
 Conservation & Rivers
 Pollution Prevention Using Risk Assessment
 River Dee Water Protection Zone
 Consultation Document
 The Use and Design of Oil Separators in
 Surface Water Drainage
 Above Ground Oil Storage Tanks
 Working at Demolition and
 Construction Sites
 General Guide to the Prevention of
 Pollution of Controlled Waters
 Disposal of Sewage where no Mains
 Drainage is Available
 Restoration of the River Pelenna

Newsletters

Pont (staff newsletter)

Videos

As Nature Intended
Acid Waters in Wales
Guarding the Dee
Flood Defence
Rearing of Salmon & Sea Trout
Restoration of the River Pelenna

Display Panels

NRA Welsh Region

Is Your Farm Pollution Proof?

The River Llynfi

Acid Rain

Barrage Developments

Micro Tagging of Fish

Fish Tracking

Flood Defence

Water Resources

Catchment Management Plans

Farm Management Plans

Appendix 6 r&d projects completed and outputs produced

Project No. Output Ref. Title

Commission A: Water Quality

016	Project Record 016/8/N	Investigation of partitioning between water and sediment		Note 94	Microbiological techniques - Faecal Streptococci
017	Note 201 Project Record 023/12/T	The effects of partitioning on toxicity Ecotoxicological effects		Note 95	Microbiological techniques - Salmonellae
023	Note 82	Toxicity of common pollutants to freshwater aquatic life - A review of ammonia, arsenic, cadmium, chromium, copper, cyanide, nickel, phenol and zinc on indigenous species		Note 96	Microbiological techniques - Cytopathic culturable enteric viruses
	Note 93	Predicting the toxicity of ammonia to freshwater fish		Note 97	Microbiological techniques - Thermophilic campylobacters
	Project Record 023/12/T	Ecotoxicological effects		Note 98	Microbiological techniques - Staphylococci
037	Note 165	Development of microbiological standards	113	Note 99	Microbiological techniques - Leptospira
053	Note 200	Flue gas desulphurization effluents: Priorities for Environmental Quality Standard development	117	Note 100	Microbiological techniques - Storage and pre-treatment of samples
	Note 216	Proposed Environmental Quality Standards for sheep dip chemicals in water: Chlorfenvinphos, Coumaphos, Diazinon, Fenchlorphos, Flumethrin and Propetamphos	208	Project Record 113/10/ST	Diffuse pollution from land - Use practices
	Note 230	An assessment of the Environmental Quality Standards for inorganic nutrients necessary to prevent eutrophication (nuisance growth of algae)	220	Project Record 117/2/A	Environments of larger UK rivers
057	Project Record 057/8/W	Analytical quality control and method development	224	Report 11	The disposal of sheep dip waste - Effects on water quality
061	Note 170	The development of the <i>Gammarus pulex</i> feeding rate bioassay	230	Project Record 220/3/T	Organisations involved in monitoring instrumentation standards and evaluations
	Note 171	The development of the biochemical Glutathione - S - Transferase (GST) assay	230	Note 48	Mixing zone case study
	Note 172	The development of an estuarine toxicity test using an indigenous mysid	231	Project Record	Mixing zone case study
	Project Record 061/6/T	Biological methods for water quality assessment	239	Note 239	Measures for protecting upland water quality - Assessment of forestry buffer strips
	Note 173	A preliminary evaluation of the sheet valve activity monitor	268	Project Record 230/16/W	Measures for protecting upland water quality - Assessment of forestry buffer strips
062	Notes 93 - 100	Technical support documentation for the NRA Manual of standard methods for microbiological analysis	302	Project Record 231/6/SW	Efficacy and environmental effects of peracetic acid as a sewage disinfectant
	Note 93	Microbiological techniques - Coliform bacteria and <i>Escherichia coli</i>	330	Note 241	Codes of practice for data handling - Version 1
			337	Note 137	Maintenance of slurry tanks
			361	Note 166	Water quality in estuaries and coastal waters - A review of NRA research requirements
			364	Note 242	Distribution of PCDDs and PCDFs in surface freshwater systems
			369	Project Record 330/4/A	Distribution of PCDDs and PCDFs in surface freshwater systems
				Note 121	Combined distribution method for estuary modelling
				Note 183	Analysis, storage and archiving of water quality data
				Project Record 364/1/A	Is biomanipulation a useful technique in lake management?
				Note 198	Statistical analysis of relationships between chemical and biological river quality data

379	Note 246	The use of in situ assays to assess river quality
381	Project Review 381/6/T	Pollution potential of contaminated sites - A test methodology and assessment procedure based on leachability
392		Sources and fates of synthetic organics in rivers
408	FR 384	UPM applications methodology: Final Report
410	Note 237	Review of pollution emergency arrangements and remedial measures
	Project Record 411/3/Y	Correlation between enterovirus and faecal indicator organisms: Detailed statistical analysis
	Note 159	A review of the water quality implications of conifer harvesting in the UK
		2. Unpublished results from ITE clearfelling studies and management options
423	Note 248	Classification options for trophic status
439	Note 222	Analytical method for the determination of triazine pesticides in sandstone aquifer materials
	Note 223	Analytical method for the determination of uron and carbamate pesticides in sandstone and chalk aquifer materials
	Note 231	Multiresidue method for the analysis of twenty pesticides in rainwater, groundwater and riverwater
463	Note 210	Definition study for the implementation of toxicity-based consents
471	Project Record 471/1/ST	Development of a quality system for water quality monitoring instrumentation
	Note 245	Development of a quality system for water quality monitoring instrumentation - Outline laboratory quality manual: Calibration and testing

Commission B: Water Resources

128	Project Record 128/8/A	Groundwater storage in British aquifers: Chalk (2 vols)
	Note 169	Groundwater storage in British aquifers: Chalk
248	Project Record 248/4/A	Economics of water resource management
	Note 128	Economics of water resource management
282	Project Record 282/1/WX	Ecologically acceptable flows - Assessment of instream flow incremental methodology
	Note 185	Ecologically acceptable flows - Assessment of instream flow incremental methodology

321	Note 174	Sources, pathways and sinks of litter within riverine and marine environments
	Project Record 321/8/W	Sources, pathways and sinks of litter within riverine and marine environments
413	Project Record 413/3/A	Demand for irrigation water (R&D Report 14 to be published in 1994/95)
419	Note 184	River bed lining - State of the art review

Commission C: Flood Defence

252	Report 13	Design of straight and meandering compound channels - Interim guidelines on hand calculation methodology.
266	Project Record 266/3/A	Revetment systems and materials
	Note 116	Revetment systems and materials
289	Project Record 289/2/T	Flood defence emergency response national levels of service
298	Note 225	Evaluation of FRONTIERS and local radar rainfall forecasts for use in flood forecasting models
300	P-126	Design and operation of trash screens - interim guidance notes
342	Project Record 342/4/A	Stabilization of soil embankments - Soil nailing (promotional video)
	Project Record 342/5/A	Stabilization of soil embankments - Soil nailing
	Note 162	Stabilization of soil embankments - Soil nailing
344	Note 189	Aquatic weed control operations - Phase 1 report: existing practice
345	Note 213	Public perception of rivers and flood defence - Flooding and flood defences in York
	Project Record 345/2/T	Public perception of rivers and flood defence - Flooding and flood defences in York
373	Report 7	Improving Efficiency and Effectiveness in Flood Defence Operational Management - Review of R&D (1990-1993).
382	Project Record 382/3/A	Armourstone foundations - Phase 1
386	Project Record 386/4/A	Rehabilitation of coastal structures - Phase 1
431	Project Record 431/3/A	Emergency sealing of breaches - Phase 1
435	Project Record 435/2/NW	Economic appraisal of non-grant aided work
	Note 187	Economic appraisal of non-grant aided work
437	Note 197	Methodology for collating tidal water level data

Commission D: Fisheries

123	Note 40	Strategic ecosystem studies of slow-flowing lowland rivers
250	Note 196	Hydroacoustic methods of fish surveys
304	(Report 5)	Fish pass design and evaluation - Phase 1
377	Note 195	Fish kills
397	Note 193	Body burdens in fish
	Project Record 397/10/ST	Body burdens in fish
438	Note 202	Genetic aspects of spring run salmon
461	Report 15	Fish-eating birds - Assessing their impact on freshwater fisheries
	Note 267	Avian piscivores - Basis for policy
	Project Record 461/8/NY	Avian piscivores - Basis for policy

Commission E: Recreation and Navigation

No outputs

Commission F: Conservation

418	Note 212	Impact assessment and acceptable conservation criteria - Area A: Conservation criteria and river flow parameters - Phase 1
	Project Record 418/3/A	Impact assessment and acceptable conservation criteria - Area A: Conservation criteria and river flow parameters - Phase 1

Commission G: Cross-Functional

253	Report 6	Development of environmental economics for the NRA
358	Report 12	The implications of climate change for the National Rivers Authority
405	Note 161	Catchment management issues: Use related standards

Technical Services Outputs

TS	Report 8	Septic tanks and small sewage treatment works - A guide to current practice and common problems
TS	Note 182	Summary report on environmental developments - 13 - January to March 1993
TS	Note 205	Summary report on environmental developments - 14 - April to June 1993
TS	Note 238	Summary report on environmental developments - 15 - July to September 1993
TS	Note 256	Summary report on environmental developments - 16 - October to December 1993
TS	Note 164	Review of advances in wastewater treatment: Part 4 - Process variants for nutrient removal and physical/chemical treatment of ammonia
TS	Note 194	Review of advances in wastewater treatment: Part 5 - Package plant variants for small works

Appendix 7 selected statistics

Please note that the reporting period for all statistics relates to the NRA financial year from 1st April 1993 to 31st March 1994

Water Resources

Rainfall*				Total Drought Orders		
Northumbria & Yorkshire	787	1,038	91	120	1	0
North West	1,472	1,308	122	109	0	0
Welsh	1,260	1,583	96	120	0	0
Severn-Trent	786	962	104	128	0	0
Anglian	637	805	107	135	0	0
Thames	861	853	125	124	1	0
Southern	801	1,013	103	130	11	0
South Western	1,005	1,392	99	137	0	0
National Weighted Average	991	1,138	111	127	13	0

* These are the best available Figures from the Met Office at each year end. Long term average used is that of 1961-90.

Total Abstraction Licence Inspections

Region	92/93	93/94
Northumbria & Yorkshire	4,209	2,213
North West	1,445	2,050
Welsh	1,508	1,665
Severn-Trent	3,343	3,219
Anglian	3,448	3,280
Thames	1,310	1,422
Southern	1,590	2,660
South Western	1,568	1,961
Total	18,421	18,470

Water Quality

Percentage of River and Canal by GQA Chemical Water Quality Class*

Region	Good Quality %				Fair Quality %				Poor Quality %		Bad Quality %	
	Class A		Class B		Class C		Class D		Class E		Class F	
	1988-1990	1991-1992	1988-1990	1991-1992	1988-1990	1991-1992	1988-1990	1991-1992	1988-1990	1991-1992	1988-1990	1991-1992
Northumbria & Yorkshire	19.9	13.2	37.8	40.5	13.4	19.3	10.3	8.4	14.4	15.8	4.2	2.9
North West	22.5	27.2	19.4	25.8	17.0	15.8	13.9	12.0	20.7	15.4	6.5	3.8
Welsh	44.4	56.2	34.7	29.6	10.8	7.7	5.6	3.2	3.4	2.8	1.1	0.6
Severn-Trent	9.3	6.7	23.5	31.7	32.4	28.0	14.9	16.9	17.9	13.5	2.0	3.2
Anglian	0.7	2.9	15.8	18.9	35.3	32.1	26.5	24.2	18.2	19.4	3.5	2.5
Thames	9.0	6.7	27.7	32.3	29.8	34.3	16.3	16.8	15.9	9.1	1.3	0.7
Southern	10.8	8.3	32.8	43.0	30.8	30.2	13.0	9.8	10.9	7.6	1.7	1.1
South Western	24.3	31.8	39.6	37.6	19.3	21.3	10.3	4.8	5.4	3.8	1.1	0.7
Total	17.7	20.8	29.3	31.8	23.6	22.6	13.9	11.8	13.0	11.0	2.5	2.0

*These figures are given on a calendar year basis.

Percentage Estuary by NWC Water Quality Class

Region	(%)				(%)			
	Good Class A		Fair Class B		Poor Class C		Bad Class D	
	1990	1993	1990	1993	1990	1993	1990	1993
Northumbria & Yorkshire	29	29	39	40	24	24	8	7
North West	49	49	23	23	13	13	15	15
Welsh	78	78	20	20	2	2	0	0
Severn-Trent	14	40	61	39	25	21	0	0
Anglian	79	71	13	18	7	3	1	8
Thames	45	45	55	55	0	0	0	0
Southern	76	77	21	21	3	2	0	0
South Western	80	77	19	22	1	1	0	0
Humber	43	43	57	57	0	0	0	0
Severn	61	61	39	39	0	0	0	0
Total	66	65	24	25	7	5	3	5

Pollution Incidents

Region	Total No of Reported Incidents		Major (Category 1) Incidents	
	1992/93	1993/94	1992/93	1993/94
Northumbria & Yorkshire	3,826	3,608	57	61
North West	4,203	4,453	83	47
Welsh	3,763	4,039	27	35
Severn-Trent	6,182	6,034	109	65
Anglian	3,393	3,368	18	7
Thames	3,513	3,504	3	5
Southern	2,211	1,745	8	6
South Western	5,163	5,082	57	37
Total	32,254	31,833	362	263

Enforcement

Region	Number of Successful Prosecutions		Total Fines (£)	
	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	64	50	144,150	176,100
North West	74	80	167,700	256,600
Welsh	52	38	91,775	74,050
Severn-Trent	79	70	139,550	172,400
Anglian	48	64	164,850	168,650
Thames	45	44	202,000	111,000
Southern	22	16	80,540	32,500
South Western	51	61	100,460	97,280
Total	435	423	1,091,025	1,088,580

Sampling and Analysis

Region	Total Number of Water samples Analysed		Total number of determinations	
	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	50,460	28,361	664,973	431,370
North West	36,336	22,487	501,590	353,305
Welsh	81,564	38,721	1,191,748	422,969
Severn-Trent	75,057	34,641	999,700	391,697
Anglian	51,107	24,506	533,955	344,343
Thames	26,142	15,833	393,237	158,208
Southern	29,947	18,290	389,160	184,385
South Western	105,788	72,969	1,424,491	807,234
National Laboratories*	NA	188,322	NA	2,201,192
Total	456,401	444,130	6,098,854	5,294,703

* In the second half of the year, the National Laboratory Service took over from the individual regional labs. Figures quoted above for regions are mainly for the first two quarters, and the National Lab figures cover the third and fourth quarters. 1992/3 figures for determinations include approximately 500,000 field determinations, which are excluded for 1993/4.

Designated EC Bathing Waters

Region	Number of Bathing Waters Complying with Directive							
	Pass (No)		Fail (No)		Total (No)		% Complying	
	92/93	93/94	92/93	93/94	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	40	46	16	10	56	56	71.4	82.1
North West	11	13	22	20	33	33	33.3	39.4
Welsh	39	42	12	9	51	51	76.5	82.4
Severn-Trent	0	0	0	0	0	0	0	0
Anglian	31	28	2	5	33	33	93.9	84.8
Thames	3	3	0	0	3	3	100.0	100.0
Southern	51	58	16	9	67	67	76.1	86.6
South Western	153	142	20	33	173	175	88.4	81.1
Total	328	332	88	86	416	418	78.8	79.4

Enquiries about Water Quality Data

Region	(Prior to Water Act) 88/89	Examinations of Water Act Register	
		92/93	93/94
Northumbria & Yorkshire	235	922	729
North West	103	359	1,625
Welsh	46	268	387
Severn-Trent	N/A	462	155
Anglian	115	670	1,036
Thames	120	536	688
Southern	32	484	184
South Western	100	642	857
Total	751	4,343	5,661

Flood Defence

Land Drainage Consents

Region	Determined (No)	
	92/93	93/94
Northumbria & Yorkshire	664	629
North West	756	848
Welsh	863	1,115
Severn-Trent	1,042	1,067
Anglian	1,162	986
Thames	594	1,088
Southern	310	285
South Western	468	532
Total	5,859	6,550

Flooding

Region	Major Flooding Incidents (Fluvial and Coastal)		Flood Warnings Issued to Police	
	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	3	32	47	80
North West	3	3	60	73
Welsh	7	4	284	152
Severn-Trent	3	4	280	345
Anglian	2	1	149	334
Thames	2	8	93	146
Southern	0	51	174	311
South Western	1	7	243	541
Total	21	110	1,330	1,982

Flood Defence Works Maintained and New/Improved Defences Constructed 1993/94

Region	Main River (km)		Estuary Defence (km)		Sea Defence (km)		Total (km)	
	Maint'd	New/Improved	Maint'd	New/Improved	Maint'd	New/Improved	Maint'd	New/Improved
Northumbria & Yorkshire	3,581	17	97	9	5	0	3,683	26
North West	4,789	6	154	2	76	5	5,019	13
Welsh	1,927	2	102	0	65	0	2,094	2
Severn-Trent	4,726	2	98	3	51	2	4,875	7
Anglian	5,363	2	665	37	339	5	6,367	44
Thames	4,665	48	567	3	0	0	5,232	51
Southern	1,942	2	231	7	129	6	2,302	15
South Western	2,160	4	402	0	21	1	2,583	5
Total	29,153	83	2,316	61	686	19	32,155	163

Planning Applications Dealt With

Region	Total	
	92/93	93/94
Northumbria & Yorkshire	10,376	7,763
North West	7,662	10,470
Welsh	8,510	8,599
Severn-Trent	7,225	12,638
Anglian	14,175	13,176
Thames	3,391	3,798
Southern	3,105	3,510
South Western	6,870	24,566
Total	61,314	84,520

Fisheries

Licences Sold

Region	Rod (No)		Commercial Instrum't (No)		Total (No)	
	92/93	93/94	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	127,070	120,600	228	163	127,298	120,763
North West	92,455	87,170	232	229	92,687	87,399
Welsh	50,870	45,375	322	336	51,192	45,711
Severn-Trent	196,393	198,321	917	836	197,246	199,157
Anglian	146,958	156,946	1,130	1,239	148,088	158,185
Thames	122,204	143,214	233	230	122,437	143,444
Southern	61,660	69,279	6	2	61,666	69,281
South Western	64,232	60,103	397	104	64,629	60,207
Total	861,842	881,008	3,465	3,139	865,243	884,147

Fisheries Prosecutions

Region	Successful Prosecutions	
	92/93	93/94
Northumbria & Yorkshire	909	590
North West	966	795
Welsh	597	387
Severn-Trent	847	1,092
Anglian	683	474
Thames	902	837
Southern	360	380
South Western	382	507
Total	5,646	5,062

Total Catches - Commercial Instruments

Region	Salmon (No)		Sea Trout (No)		Total (No)	
	92/93	93/94	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	20,124	41,620	32,069	31,814	52,193	73,434
North West	3,143	5,460	3,180	2,337	6,323	7,797
Welsh	2,895	3,318	1,646	1,686	4,541	5,004
Severn-Trent	2,117	949	0	0	2,117	949
Anglian	12	4	2,955	1,767	2,967	1,771
Thames	0	0	0	0	0	0
Southern	38	12	0	10	38	22
South Western	5,521	5,004	1,893	2,302	7,414	7,306
Total	33,850	56,367	41,743	39,916	75,593	96,283

Rod Catches statistics not available at year end. They will be published in the NRA brochure 'Fisheries Statistics 1993', which will be issued in August 1994.

Region	Fish Kills				Fish Rescues			
	Fish Kills Total (No.)		Fish Kills Attended (No.)		Fish Rescues (No.)		Fish Saved (No. thousands)	
	92/93	93/94	92/93	93/94	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	166	230	156	150	31	53	44	38
North West	119	120	119	118	64	49	145	546
Welsh	69	80	69	56	10	81	20	43
Severn-Trent	168	139	168	139	31	39	20	47
Anglian	214	155	214	90	60	35	223	284
Thames	84	84	84	77	46	26	20	65
Southern	83	76	83	60	23	22	140	27
South Western	63	45	34	40	15	31	54	54
Total	966	929	927	730	280	336	666	1,104

Fishery Maintenance, Improvement and Development

Region	Fishery Protection Vessels Deployed		Fishery Improvement Structures Built	
	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	3	5	8	17
North West	6	7	3	3
Welsh	12	12	0	19
Severn-Trent	0	0	27	2
Anglian	0	0	28	46
Thames	3	2	14	48
Southern	1	3	1	1
South Western	11	6	13	21
Total	36	35	94	157

Fish Reared by NRA

Region	Salmonid (No)		Non-Salmonid (No)		Total (No)	
	92/93	93/94	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	1,619,190	870,000	0	0	1,619,190	870,000
North West	1,922,900	592,000	305,500	785,000	2,228,400	1,377,000
Welsh	607,500	1,820,000	0	0	607,500	1,820,000
Severn-Trent	50,000	257,000	207,000	281,386	257,000	538,386
Anglian	0	0	325,000	97,735	325,000	97,735
Thames	87,000	80,000	42,000	60,000	129,000	140,000
Southern	92,800	275,135	59,900	129,964	152,700	405,099
South Western	205,000	360,000	0	0	205,000	360,000
Total	4,584,390	4,254,135	939,400	1,354,085	5,523,790	5,608,220

Fish Stocked by NRA

Region	Salmonid (No)		Non-Salmonid (No)		Total (No)	
	92/93	93/94	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	798,566	825,000	34,285	177,920	832,851	1,002,920
North West	2,198,664	1,587,000	91,975	193,000	2,290,639	1,780,000
Welsh	630,000	1,220,000	5,000	0	635,000	1,220,000
Severn-Trent	50,000	31,118	123,900	395,672	173,900	426,790
Anglian	6,002	1,102	299,685	304,314	305,687	305,416
Thames	217,000	80,000	99,600	60,000	316,600	140,000
Southern	822,900	267,000	192,900	122,042	1,015,800	389,042
South Western	104,300	37,900	66,160	44,122	170,460	82,022
Total	4,827,432	4,049,120	913,505	1,297,070	5,740,937	5,346,190

Conservation

Capital Schemes Incorporating Conservation Work

Region	1993/94		
	Total Capital Works	No. Assessed for Conservation Input	No. Incorporating Conservation
Northumbria & Yorkshire	40	40	15
North West	39	39	39
Welsh	12	7	3
Severn-Trent	115	115	71
Anglian	78	70	70
Thames	130	115	76
Southern	23	20	18
South Western	43	43	43
Total	480	449	335

Surveys

Region	River (km)		Coast/Estuary (km)		Other (km)		Total Surveyed	
	92/93	93/94	92/93	93/94	92/93	93/94	92/93	93/94
Northumbria & Yorkshire	725	263	75	100	0	0	800	363
North West	630	259	35	0	0	0	665	259
Welsh	851	1,309	10	4	4	3	865	1,316
Severn-Trent	971	228	0	5	0	0	971	233
Anglian	2,000	1,574	600	496	400	0	3,000	2,070
Thames	763	1,134	0	0	0	0	763	1,134
Southern	352	314	0	2	0	0	352	316
South Western	1,086	302	49	250	25	0	1,160	552
Total	7,378	5,383	769	857	429	3	8,576	6,243

Navigation

Licences Issued and Enforcement

Region*	Licences In Force (No)		Licence Checks (No)		Licences Complying (No)		Licences Complying (%)	
	92/93	93/94	92/93	93/94	92/93	93/94	92/93	93/94
Anglian	5,327	6,527	3,425	4,668	3,131	4,419	91.4	94.7
Thames	31,975	33,135	748,437	757,032	746,704	755,777	99.8	99.8
Southern	2,520	2,770	6,800	4,956	6,575	4,704	96.7	94.9
Total	39,822	42,432	758,662	766,656	756,410	764,900	99.7	99.8

* Only 3 NRA regions (shown above) have major navigation responsibilities

Appendix 8 **annual report** **glossary**

BA	Broads Authority	RAB	Regional Advisory Board
BW	British Waterways	RCS	River Corridor Survey
CCW	Countryside Commission for Wales	RFAC	Regional Fisheries Advisory Committee
DoE	Department of the Environment	RFDC	Regional Flood Defence Committee
EN	English Nature	RHS	River Habitat Survey
FRCN	Fisheries, Recreation, Conservation and Navigation	RRAC	Regional Rivers Advisory Committee
FWAG	Farming and Wildlife Advisory Group	RSNC	Royal Society for Nature Conservation
HMIP	Her Majesty's Inspectorate of Pollution	RSPB	Royal Society for the Protection of Birds
JNCC	Joint Nature Conservation Committee	SERCON	System for Evaluating Rivers for Conservation
IoH	Institute of Hydrology	SNH	Scottish Natural Heritage
IAS	Integrated Accounting System	SPA	Special Protection Area
IS	Information System	SSSI	Site of Special Scientific Interest
MAFF	Ministry of Agriculture, Fisheries and Food	UWWTD	(EC) Urban Waste Water Treatment Directive
MOU	Memorandum of Understanding	WAMS	Water Archive and Monitoring System
NAO	National Audit Office	WRA	Waste Regulation Authority
NERC	Natural Environment Research Council	WS Plcs	privatised water and sewerage companies
NSA	Nitrate Sensitive Area	WQOs	Water Quality Objectives
OFWAT	The Office of Water Services		

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The NRA is committed to the principles of stewardship and sustainability. In addition to pursuing its statutory responsibilities as Guardians of the Water Environment, the NRA will aim to establish and demonstrate wise environmental practice throughout all its functions.