

1990/91



NRA

National Rivers Authority

Guardians of
the Water Environment

National Rivers Authority

Establishment The National Rivers Authority (NRA) came into being following Royal Assent of the Water Act 1989 on 10th July 1989. It fully took up its statutory duties at vesting on 1st September 1989.

Status The Authority is a non-departmental public body. Its sponsor in Government is the Department of the Environment, and it also has important policy links with the Ministry of Agriculture, Fisheries and Food (MAFF) and the Welsh Office. The Authority is generally regarded as the strongest Environmental Protection Agency in Europe and has established itself as the 'Guardian of the Water Environment'.

Statutory duties and powers The Authority has statutory duties and powers arising from the Water Act 1989 and other legislation concerned with the management of water resources, pollution control, flood defence, fisheries, recreation, conservation and navigation throughout England and Wales. It is also the Competent Authority for a number of European Community Environmental Directives.

Organisation The Authority has a Head Office located in London and Bristol, and ten Regions. The Head Office is primarily concerned with policy development and performance monitoring, and the Regions with policy implementation and day to day operations.

Management The Authority has a Board of 15 members appointed by the Secretaries of State and the Minister of Agriculture, Fisheries and Food. Each Region has three statutory Regional Committees and a Regional Advisory Board.

Resources In 1990/91 the Authority had a cash expenditure of £377m and employed over 7,000 staff. 69% of the Authority's income came from charging schemes and 31% from Government grants.

Mission statement "The National Rivers Authority will protect and improve the water environment. This will be achieved through effective management of water resources and by substantial reductions in pollution. The Authority aims to provide effective defences for people and property against flooding from rivers and the sea. In discharging its duties it will operate openly and balance the interests of all who benefit from and use rivers, groundwaters, estuaries and coastal waters. The Authority will be businesslike, efficient and caring towards its employees."

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ANNUAL REPORT AND ACCOUNTS

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This is the second Annual Report and Accounts of the National Rivers Authority (NRA). It covers the period 1st April 1990 to 31st March 1991, which was the Authority's first complete financial year of operation.

Members of the National Rivers Authority on 31st March 1991

Chairman	Lord Crickhowell
Chief Executive	Dr. John Bowman CBE *
Members appointed by the Secretary of State for the Environment	Mr. Peter Brandt Mr. Peter Coverdale OBE Lady Digby DBE DL Sir Hugh Fish CBE *** Mr. David Kinnersley *** Mr. Julian Taylor Lord Mason *** Mrs. Karen Morgan Mr. Wyndham Rogers Coltman OBE Mr. John Wheatley **
Member appointed by the Secretary of State for Wales	Professor Ronald Edwards
Members appointed by the Minister of Agriculture, Fisheries, and Food	Mr. Dennis Mitchell Mr. John Norris CBE

* Until 21st June 1991.

** Appointed Acting Chief Executive 24th June 1991.

*** Retired on June 30th 1991.

Lord Gregson joined the Board from 1st July, 1991.

The Annual Report and Annual Accounts for 1990/91 have been prepared by the National Rivers Authority for submission to the Secretaries of State* for the Environment and for Wales, and to the Minister of Agriculture, Fisheries and Food, as required under Section 150 and Schedule 1 Part II of the Water Act 1989. A Welsh language version of the report is also available.

* Throughout this document the words 'Secretary of State' refer to the Secretaries of State for the Environment and for Wales.

ENVIRONMENT AGENCY



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Additional copies are available in English and Welsh
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NRA

*To the Secretaries of State
and the Minister of Agriculture,
Fisheries and Food*

National Rivers Authority

*National Rivers Authority,
30-34, Albert Embankment,
London SE1 7TL*

We have the honour on behalf of the National Rivers Authority of submitting our second Annual Report and Accounts for the financial year commencing 1st April 1990 to 31st March 1991. The period represents the first full year of our operations funded by our own charging schemes and by grants from the Department of the Environment, the Ministry of Agriculture, Fisheries and Food and the Welsh Office.

Chairman Lord Crickhowell

Crickhowell

Chief Executive Mr John Wheatley

John Wheatley

7th November 1991

Laid before Parliament under Section 187 of the Water Resources Act 1991

FINANCIAL SUMMARY

Analysis of Receipts and Payments for the year to 31st March, 1991

Receipts: Where the money came from

	OPERATIONAL RECEIPTS* (£m.)	GRANTS (£m.)	TOTAL (£m.)	Percentage of Total Receipts
WATER RESOURCES	68.1	0.0	68.1	16.7
POLLUTION CONTROL	5.0	55.0	60.0	14.7
FLOOD DEFENCE	193.7	23.7	217.4	53.2
FISHERIES	7.2	9.8	17.0	4.2
RECREATION & CONSERVATION	0.5	2.8	3.3	0.8
NAVIGATION	3.6	6.2	9.8	2.4
CAPITAL RESTRUCTURING	3.2	14.1	17.3	4.2
UNFUNDED PENSIONS	0.0	10.3	10.3	2.5
EXCEPTIONAL ITEMS	0.0	5.8	5.8	1.4
TOTAL	281.3	127.7	409.0	100.0

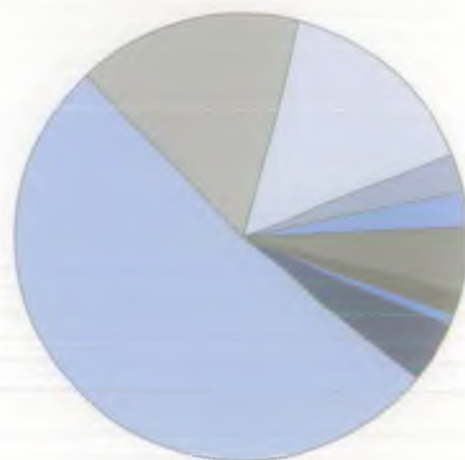
GRANTS BY SOURCE	(£m.)
DoE Grant-in-aid	104.0
MAFF grant	23.2
Welsh Office	0.4
ERDF	0.1
TOTAL	127.7

NOTE: MAFF, Welsh Office, and, ERDF Grants (£23.7m in total) apply exclusively to Flood Defence activities.

DoE Grant-in-aid is used to fund other functions (as above) but does not apply to Water Resources.



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



Payments: Where the money was spent

	PAYMENTS (£m.)	NET CASH SURPLUS/ DEFICIT (£m.)
WATER RESOURCES	56.4	11.7
POLLUTION CONTROL	60.5	-0.5
FLOOD DEFENCE	196.1	21.3
FISHERIES	16.4	0.6
RECREATION & CONSERVATION	2.8	0.5
NAVIGATION	7.2	2.6
CAPITAL RESTRUCTURING	17.1	0.2
UNFUNDED PENSIONS	10.3	0.0
FUNDS RETURNED TO GOVT.	4.5	-4.5
EXCEPTIONAL ITEMS	5.8	0.0
TOTAL	377.1	31.9

NET CASH SURPLUS

£31.9m.

Water Resources	15.0
Pollution Control	16.0
Flood Defence	52.0
Fisheries	4.4
Recreation & Conservation	0.7
Navigation	1.9
Capital Restructuring	4.5
Unfunded Pensions	2.7
Other	2.8
Total	100.0

The Authority's key achievements during the year may be summarised under each core function activity heading as follows:

Water Resources

- Ameliorated water shortage problems during a second successive drought year.
- Investigated the reasons for low flows in 20 priority catchments and identified solutions at 9 sites.
- Introduced new abstraction licensing procedures and almost doubled the number of licence inspections undertaken compared to last year.
- Developed proposals for a new framework for charging for abstractions and undertook preliminary modelling of the impact of possible schemes.
- Developed resource protection activities particularly in relation to Nitrate Sensitive Areas and Groundwater protection.
- Published our first Section 143 report setting out future water resources demands from 1991 to the year 2011.

Pollution Control

- Completed the 1990 Water Quality Survey and initial work on developing Water Quality Objectives.
- Published and undertook public consultation about a major review on Discharge Consent and Compliance Policies (the Kinnersley report).
- Undertook public consultation about a charging for discharges scheme aimed at making polluters contribute towards the cost of protecting the water environment and introduced a consent application fee.
- Produced a major report on blue-green algae and advised owners and users about the occurrence of toxic blooms.
- Dealt with over 28,000 reported pollution incidents, took over 350,000 water samples, and measured over 5,000,000 determinands.
- Secured almost 500 prosecutions, with fines totalling over £400,000. This included 17 prosecutions against the Water Service PLCs for breaching their discharge consents.

- Carried out litter campaigns and clearances along watercourses and took the first litter prosecution under the Water Act 1989.

- Signed a Memorandum of Understanding with HMIP about Integrated Pollution Control (IPC) and the monitoring of discharges into controlled waters.

Flood Defence

- Completed Phase 1 of the Authority's sea defence survey covering the NRA's defences and commenced work on subsequent phases covering other organisations' defences.
- Introduced a new national 3 colour coded flood warning system across England and Wales.
- Issued over 500 flood warnings to the police and dealt with major flooding emergencies in Yorkshire and along the South coast.
- Introduced a new charging scheme for land drainage consent applications.
- Constructed over 180km of new defences and increased capital expenditure programmes by £22.6m to improve flood defences generally.

Fisheries

- Prepared the groundwork for a new licensing and charging scheme for fishing rod licences, involving extensive public consultation prior to Ministerial approval.
- Reared almost 7.5 million fish and stocked out almost 6 million fish to maintain, improve and develop fisheries.
- Built over 60 fish passes and other fishery improvement structures.

Recreation

- Carried out over 100 collaborative projects with other national bodies, local authorities, private sector organisations and clubs.

Conservation

- Surveyed almost 6,000km of river wildlife habitats and incorporated conservation works into over 400 capital works schemes.
- Carried out more collaborative conservation projects with local authorities, wildlife trusts, and other environmental organisations.
- Held a conference on archaeological matters in relation to the water environment, and published its proceedings.

Navigation

- Checked over 300,000 craft licences and achieved 95 percent compliance.
- Provided additional and improved facilities for boat users including locks, lay-bys, moorings and water supply points.

General

Liaison with Government and Parliament

- Maintained close relations with Government; provided evidence to several Parliamentary Committees and the Royal Commission on Environmental Pollution.

Forward Planning

- Reviewed internal planning systems and prepared our second Corporate Plan.

Buildings and Facilities

- Completed the fitting out of new laboratories. Moved part of Head Office to Bristol.

Research and Development

- Completed 52 R&D projects to improve our operational performance.

Information Systems

- Formulated an IS strategy and began work on three priority software applications including an Integrated Personnel and Accounting System.

Publicity and Promotion

- Maintained strong public support and frequent media coverage of NRA activities.



I am delighted to be able to report that after successfully establishing itself as the 'Guardian of the Water Environment', the NRA has continued to develop and mature as Europe's strongest environmental protection agency.

We have achieved most of the key objectives in our first Corporate Plan. For example, we have begun to tackle some of the exceedingly complex long term problems facing the water environment such as low flows caused by over-abstraction and problems caused by diffuse pollution sources.

We undertook a major review of sea defences around the coast of England and Wales. When completed this will form the foundation for future investment in the construction and maintenance of new defences.

We developed proposals to simplify the very complex fishing rod licensing and charging arrangements we inherited from the Regional Water Authorities.

Our relations with Government and individual Ministers and their officials have continued to be very constructive. The additional grant-in-aid we received during the year was of major significance in enabling us to take forward high priority initiatives.

We have now produced our second Corporate Plan and begun to implement our IS strategy. In due course we will reap the benefits from introducing new information technology in terms of increased efficiency and effectiveness. New charging schemes for charging for discharges and other activities will also increasingly reduce our dependence on Government grants.

Many other examples of our successes and achievements are described in later sections of this report. They have only been possible because of the commitment, enthusiasm and energy of all our employees and the growing partnership between Head Office and Regions.

The year has not been without its difficulties, however. At Head Office we had to operate with a skeletal staff who had to cope not only with the strains of the work overload but also with the move of offices, homes and families to Bristol. These problems were compounded by weaknesses in the top management arrangements, which we have had to tackle and overcome. They were the subject of discussions between the Board and the Chief Executive towards the end of 1990; and, when in April 1991 it became clear that satisfactory progress had not been made, we undertook a major overhaul of structures and approach which involved the Chief Executive and included the creation of a new post of Operations Director. Shortly afterwards, an internal inquiry chaired by a Board member, Mr. John Wheatley, revealed that during the same period there had been serious shortcomings in the management of the fitting - out of the Head Office. As an immediate consequence of these events an agreement was reached which led to the departure of Dr. Bowman, our Chief Executive, and the appointment of John Wheatley as Acting Chief Executive. That appointment has subsequently been confirmed and under Mr. Wheatley's direction the programme of management improvement has accelerated and very great progress has been made.

Any organisation would prefer to do without management difficulties at this level involving, as they did, a change of Chief Executive; but I am pleased that all these problems were identified internally, and that appropriate action was promptly taken and immediately reported, first to Government and then to the National Audit Office. These events have proved our ability to respond when faced with difficulties and to be open about what we do even when things do not go as well as we would like. As Chairman, I am particularly grateful to my Board colleagues for their immensely helpful support during this period, and particularly to Mr. John Wheatley who took over his responsibilities unexpectedly and at short notice, and who will hand over to his successor, next year, an NRA well able to tackle its formidable task.

Lord Crickhowell
7th November 1991



Crickhowell

REPORT OF THE BOARD AND REGIONAL COMMITTEES

The Board

The Board met on a monthly basis in London and at various locations in England and Wales in order to gain first hand knowledge of the issues and projects affecting Regional operations. Individual Board members were also involved in a number of Board sub-committees, chaired Regional Advisory Boards and attended Statutory Regional Committees.

We have considered almost 150 papers and reports, almost double the number considered last year, covering a wide range of topics. At each meeting we also received reports summarising corporate performance and Regional activities and developments.

We have approved our second corporate plan, and agreed R and D programmes and an international affairs policy. We also reviewed the roles of the Board, Head Office and Regions. We made an input to the Government's White Paper on the Environment, and considered the implications of the 1990 Environmental Protection Act and our relations with HMIP over discharges to controlled waters.

We have received regular reports about water resources and the drought and discussed long term water resource planning, the development of a new abstraction charging scheme, and the nitrate sensitive areas pilot study.

We have received regular reports about water quality problems caused by blue-green algae. We also commented on the Municipal Waste Water Directive, approved the Kinnersley report on discharge consent and compliance policies, agreed a Memorandum of Understanding with HMIP, and approved a charging for discharges scheme.

Following the 1990 storms, including the Towyn flooding incident in North Wales, we commissioned a new survey of the status of sea defences around England and Wales. We also approved the annual flood defence medium term plan, through which, with the benefit of increasing MAFF grant, we are spending more than ever before on improving flood defences.

In relation to fisheries, recreation, conservation and navigation, we decided to undertake public consultation about introducing a new rod licensing and charging scheme, submitted views to the National Parks Review, considered the issue of rights of way over water, and decided to play an active role in managing navigation upstream of the proposed Tees barrage.

We have approved our Annual Accounts, agreed new charges and budgets, and an Internal Audit plan. We also considered Senior Managers salaries, the NRA pension fund, insurance policy, and approved expenditure under the Financial Memorandum Scheme of Delegation.

Regional Committees

Our Regional Advisory Boards and statutory Regional Committees are playing an increasingly important role in advising the Authority on issues of both national and regional importance. For example, they all contributed to this year's corporate and regional planning and provided consultation about various draft national policies. Board discussions and decisions have been standard items on their agenda. All our Committees, which generally met quarterly, have fulfilled their terms of reference to report annually to the Authority on their activities, by reviewing their activities in each Region's annual review; these reviews have been used to compile this Annual Report.

Regional Advisory Boards

Regional Advisory Boards generally met on a monthly basis and have continued to give excellent advice to our Regional General Managers and provide a vital communication link between the Regions and the Board, and between the three statutory Regional Committees.

Regional Rivers Advisory Committees

Most RRACs considered the following national issues — drought, low flows, blue-green algae, charging for discharges, draft policy statements on conservation, recreation, and archaeology, a draft canoe code, barrages, and litter campaigns. In addition to their quarterly meetings, special meetings to discuss specific policy issues and Regional and Corporate Plans were held in some Regions. Site visits, teach-ins and seminars, along with regular reports on prosecutions were common to most Committees.

All RRACs have considered many regional issues. For example, Wessex RRAC discussed proposals for oil development in Poole Bay; North West RRAC visited the NW Water Sandon dock project, and discussed proposals for a barrage across the Mersey and an extension of Liverpool Airport to the Mersey estuary; Severn-Trent RRAC reviewed water quality planning along the River Trent; Thames RRAC discussed proposals by Thames Water Utilities for a new reservoir near Abingdon; Yorkshire RRAC considered low flows and strategies for the achievement of water quality objectives for all the Region's catchments; and, Anglian RRAC welcomed the River Cam pilot catchment management plan.

Regional Flood Defence Committees

All Regional Flood Defence Committees approved specific schemes, medium term plans and capital programmes, agreed levies for their Region, and carried out inspections of flood defences. Most Committees discussed the following national issues — National Sea Defence Survey, charging for land drainage consents, development control in floodplains, Corporate plan, IS strategy, new national flood warning scheme.

Amongst regional issues considered were specific schemes such as the Maidenhead Flood Alleviation project, proposals for tidal power generation in the Severn Estuary, the Thames and Foss Barriers, the Tees and other barrage proposals, Lymington Tidal Defences, and the £450m ten - year capital programme in Anglian Region.

Regional Fisheries Advisory Committees

Nearly all Regional Fisheries Advisory Committees conducted inspections of specific fisheries. Some Committees reviewed enforcement and fishery byelaws. Annual licence fees and net allocations were also approved. Most Committees considered the following national issues — Corporate plan, new rod licensing arrangements, water quality and pollution problems, low flows, SVC and other fish diseases, the decline in sea trout stocks, and Bass nursery areas.

Examples of Regional issues discussed were as follows: The Welsh RFAC discussed a brown trout strategy and acidification of fisheries; the North West RFAC considered the protracted negotiations over Sea Fisheries byelaws for the North West and North Wales, and a net allocation case referred to the local Ombudsman; the South West RFAC commented on the Torridge Catchment Management plan; the Northumbria RFAC has encouraged the development of local Fishery Improvement Associations and considered the Tees barrage and NE coastal fishery; the Severn-Trent RFAC considered fish propagation facilities and the Severn elver fishery; and, the Anglian RFAC reviewed commercial eel fishing and discussed de-watering of watercourses by IDBs.

CHIEF EXECUTIVE'S REVIEW

In this, the first full year of our operations, it is obvious to everyone who reads the detail of this Report that very considerable progress has been made. The combined efforts of the staff and the NRA Board throughout England and Wales, have reflected not only the many successes but, also, the increasing momentum in getting to grips with long standing problems.

One example is our dedication to improving the quality of the water environment. The number of successful prosecutions for serious pollution offences has increased to nearly 500. But we do not prosecute for its own sake but as part of a wider process of enforcement and education. Already the message is being understood, and great efforts are being made by industry, farmers and the public services to improve the quality of management and provide the means for effective pollution control. Increased co-operation and understanding with Her Majesty's Inspectorate of Pollution (HMIP) is yet another welcome development.

The major long term work which we have begun is concerned with the planning of water resources needed in the next century. The imbalance between the west and east of the country in rainfall and demand for water needs urgent attention. The lead times for corrective measures can be long, and anticipating necessary action is essential. In the shorter term, we are tackling the most serious of the low river flows by investigating causes, identifying solutions and taking action.

In the flood defence field, many major projects have been completed which have given greatly enhanced protection to thousands of people and property. In this important work, we are co-operating closely with the Ministry of Agriculture, Fisheries and Food (MAFF), continuing the long established work of our predecessors.

Although our major work in pollution control, water resources and flood defence is at the heart of our business, our activities in fisheries, recreation, conservation and navigation also have a major impact on the water environment. In so many ways they are indicators of the effectiveness of all of our work, and, when the resources which we devote to these interests are taken into account, the investment represents exceptionally good value for money.

The hot summer of 1990 reduced river flows, increased fish fatalities and placed our fisheries work under considerable strain. The monitoring of stocks and re-stocking and a need to improve habitat became even more urgent.

Our co-operative efforts with organisations concerned with sport and recreation are producing good returns. Improving access to water areas, resolving disputes between recreational users and collaborating in development projects all highlight our positive approach.

In all our work, we take conservation interests into account and there are many examples of improved flood defence works which illustrate the benefits to wildlife habitats and the countryside. Here too, our co-operative and liaison work with specialist interest groups enables us to benefit from the vast resources of voluntary and professional abilities through all our statutory committees to whom we owe such a debt.



In Anglian, Thames and Southern Regions we have statutory navigational interests. The close relationships with flood defence and water resources emphasise the necessary integration of these functions. We have major developments on the Thames and on the Tees, and in all our Regions the navigable sections of waterways pose particular problems which are tackled as part of our responsibilities for the wider water environment.

Our research and development programme is essential to all our work and it is clear from a study of the detailed topics that we are determined to provide a soundly researched basis on which our progress can be planned. The emphasis on research in water quality is obvious, but the significance for flood defence should not be under-estimated.

Throughout the NRA, at Head Office and in the Regions, staff provide essential services in finance, personnel, planning, legal, secretarial, external and public relations and security; all contribute to the success of our enterprise.

In all this work it is essential that the management of all our operations should be of the highest quality. The situation explained in Lord Crickhowell's statement has emphasised the need for improvement, not only in the details of procedures and in management skills, but also in a fundamentally sound approach to management and a recognition of its significance throughout the organisation.

I began this review with reference to the combined efforts of the staff and NRA Board. I finish with a heartfelt tribute to the 7,000 staff who do so much, many of them during all hours of the day and night, under difficult and dangerous conditions, to achieve the real improvement which we all seek.

Mr. John Wheatley
7th November 1991

A handwritten signature in blue ink that reads "John Wheatley". The signature is written in a cursive style with a horizontal line underneath.


Rainfall and Water Levels

Another drought year was experienced throughout England and Wales with even less rainfall than last year. A dry warm summer with little rain led to the continuation of low river flows and below average groundwater levels. Although reservoir levels were adequate in early summer, groundwater reserves were significantly low. Both resources suffered severe depletion in the absence of rainfall as the season progressed. By early August, historic all-time low flows and groundwater levels were recorded in some areas, particularly in the southern and eastern parts of England.

Resource Management

Our operational experiences from last year's drought proved invaluable, and limited water resources were successfully managed with minimum inconvenience to water users through conservation measures, water releases governed by reservoir operating agreements (including the first ever releases from the new Roadford reservoir in South West Region), timely use of our water transfer and augmentation schemes, media campaigns, greater policing of abstractions, and the drilling of emergency boreholes to augment river flows. Whilst fewer Drought Orders were applied for by the water undertakers compared to last year, some conservation measures were unavoidable and spray irrigation restrictions and hosepipe bans were required for long periods in some Regions, particularly in parts of East and Southern England where it was necessary to prolong the restrictions even through the wetter winter period.

Abstraction Licensing and Charging



New policies and operational procedures for the consistent determination, variation, revocation and policing of abstraction licences were introduced, and more abstraction licence inspectors appointed. In accordance with the Water Act of 1989, a requirement to license and charge all abstractors with abstractions over twenty cubic metres per day, some of whom have never been charged before, was successfully implemented. More abstraction licences were checked and more prosecutions for licence breaches were secured than ever before. Most historical rights of abstraction and licences of entitlement were determined during the year. We have begun initial work on developing a new nationally consistent water abstraction charging scheme for introduction in April 1993. Detailed public consultation will take place in 1992.

Alleviation of Low Flows

All 20 rivers on our list of priority catchments with low flows were investigated and solutions to improve flows were identified for nine including the Rivers Lowther, Misbourne, Pang, Piddle, Sleas, Ver, Wey, and Battlefield and Letcombe brooks. Solutions for a further 7 (Rivers Allen, Darent, Worfe, Wey, Hiz, Wallop brook, and Upper Waveney) have been prepared while the remaining 4 (River Wharfe (2 sites), Dover Beck, Hoffer brook) were found not to warrant urgent attention.

The solutions and remedial actions identified include revoking or varying existing abstraction licences, constructing river flow augmentation schemes, constructing new river channels or lining river beds. Investigations were also started at a further twenty sites where low flow problems have been identified.

We have made it clear that river flows will not be improved overnight and that in most cases it may take several years. The cost of the work is likely to vary from little or nothing, where minor changes to operating practices will suffice, to perhaps £10 million or more where a combination of methods including licence revocations and physical works are employed. Where possible, income from our water abstraction charging schemes will be used to provide the required funding.

Water Resource Planning

In March 1991 we published our first Water Act 1989 Section 143 Report entitled "Demands and Resources of Water Undertakers in England and Wales". It outlines preliminary demand forecasts for each water supply

company from 1990 to 2011, the total reliable yield available to each company, and major areas of surplus and shortage. We also commissioned consultants to carry out a project to assess present and future demands for water and identify strategic development options to meet potential abstraction deficiencies. The results of both these projects will contribute to the formulation of a sustainable national strategy for the management and development of water resources.

Our Regions have continued to liaise closely with the water undertakers about future water resource plans both for new abstractions, and, in a number of Regions including Thames, Anglian, and Southern, major reservoir proposals. Consultations concerning water resource planning were held with the Office of Water Services, the Water Services Association, the Water Companies Association and other relevant bodies.

Source Protection

Ten pilot Nitrate Sensitive Areas (NSAs) were recommended by the NRA, and formally designated by MAFF, with the objective of investigating the effects of modified farming practices upon the levels of nitrates in groundwater sources. First year uptake of the voluntary scheme covered 52 percent of the targeted agricultural land and subsequent indications point to much stronger uptake in the second year. The NSAs are to be monitored over a 5 year period.

In addition to making recommendations for areas to be designated as NSAs, it is the NRA's responsibility to monitor nitrate levels at abstraction points in each NSA and also, where available, to sample other surface and borehole locations within the designated areas.

Recently proposed EC Directives concerning both Nitrates from diffuse sources and Urban Waste Water Treatment will add further momentum to the policy of controlling nutrient levels.

A national policy framework concerning the protection of groundwater has been developed and is at an advanced stage of completion. The policy relies for implementation on a series of vulnerability and protection zone maps. Statements of policy are expected to guide not only the NRA but also to influence the policies and guide the decisions of the many Government departments and public agencies whose own actions can influence the protection of groundwater. It is expected that the proposals will be available for discussion in late 1991.

Hydrometrics

The collection, validation, storage and dissemination of information on rainfall, groundwater levels and river flows is a major activity of the NRA. Key data has continued to be reported to the Institute of Hydrology and the Meteorological Office and in-house processing and archiving has been maintained at previously established levels. During the year, new rainfall and flow gauging stations were constructed and old ones re-commissioned in various Regions, including those on the Rivers Dart, Torridge, Test, Foulness, Crimpe, Wharfe and Hillfarrance Brook.



Pollution Incidents and Prosecutions

The public are becoming more aware of river and coastal pollution and more incidents were reported to us than last year. We recorded and responded to over five hundred major incidents during the year of which the largest incident was the Severn estuary oil spill. In tackling pollution incidents we have liaised closely with the fire, police and other emergency services, and, for incidents occurring in coastal waters, the Department of Transport Marine Pollution Control Unit.

As a result of the 1990 Environmental Protection Act which raised the maximum level of fines in Magistrates Courts for pollution offences to £20,000, courts have begun to impose higher levels of fines on offenders. During the year we secured nearly 500 successful prosecutions resulting in a total of £400,000 fines.

Discharge Consents and Compliance

A major review of discharge control measures was conducted under the chairmanship of Mr David Kinnersley, an NRA Board Member. It resulted in the publication of "Discharge Consent and Compliance Policy : A Blueprint for the Future" which recommended changes to the system of granting and enforcing NRA consents for discharges. Amongst its key recommendations was the introduction of "absolute limits" for discharges from sewage treatment works. Procedures are now being developed to implement the Kinnersley report.

We have continued to monitor the discharges from the sewage treatment works of the Water Service PLC's and taken more tripartite samples than last year. Their overall discharge compliance was 93 percent. We prosecuted PLCs on 17 occasions for exceeding their discharge consents.



Charging for Discharges

We announced, and undertook public consultation on, a new charging for discharges scheme with consent application fees and annual charges for effluent discharges to controlled waters based on the volume, content and nature of receiving water where the effluent is discharged. Eventually the scheme is expected to raise £41m a year to recover the costs of our consenting and discharge monitoring work, and transfer the burden of costs from the taxpayer to the discharger. The first stage of the scheme, the consent application fee, was approved by the Secretary of State and introduced in October 1990.

1st July 1991 is the start date for the annual charge. In order to introduce the scheme major effort was put into validating consent databases, modelling alternative charging models, installing new billing systems, and promoting the scheme.

Integrated Pollution Control

The passage of the Environmental Protection Bill through Parliament was closely monitored by the Authority. We successfully proposed several amendments to secure our interests in the resulting Act, including important arrangements under which HMIP authorisations for prescribed processes which discharge into controlled waters are subject to conditions set by the NRA. Authorisations shall not be granted if in the NRA's view water quality objectives would not be met. Whilst we welcomed the Act and the principle of Integrated Pollution Control, the practical application of IPC by HMIP and ourselves in the authorisation of discharges to controlled waters is complicated. In order to resolve such difficulties a Memorandum of Understanding, providing a framework for working arrangements in the field, was drawn up and agreed by HMIP and the NRA in December.

1990 Water Quality Survey and Water Quality Objectives

Fieldwork and analysis associated with the quinquennial 1990 River Water Quality Survey was completed. Preliminary results suggest that there has been an overall small net decline in river water quality across England and Wales during 1990 compared with the 1985 survey. The length of Class 1A rivers has declined and the length of Class 3 and 4 rivers increased. The full results of the survey are to be published in late 1991. The survey will also provide new, nationally consistent, baseline information for classifying controlled waters and for establishing statutory Water Quality Objectives (WQOs) from 1992 onwards. The NRA will, in 1991, submit proposals to the DoE on how these might be formulated and set by the Secretary of State.

Bathing Water Quality and other EC Directives

On behalf of the DoE we have monitored the water quality of the 407 designated EC bathing waters around England and Wales. During 1990, 77 percent were found to comply with the EC Bathing Water Directive. In liaison with a number of other bodies we are jointly funding a research project into the epidemiology of illness resulting from the use of bathing waters. A major report on bathing waters is to be published during 1991. As part of our other work for the DoE, during the year we also submitted reports on the results of our monitoring of the water environment in connection with the Dangerous Substances, Titanium Dioxide, Freshwater fish, Shellfish, and other EC Environmental Directives. We advised the DoE and have closely monitored the development of the Urban Waste Water Treatment Directive.

Blue-Green Algae

Following problems experienced in 1989, and with increased public and media interest, we undertook a major monitoring programme at over 500 inland waters to determine the extent of the blue/green algae presence. Fortunately the incidence of toxic blue-green algal blooms was lower than last year.



We also introduced procedures and issued warning letters to alert riparian owners and water - users about the problem. A number of general alerts were issued, and a leaflet produced to explain the role of the NRA in monitoring blue-green algae, which also contained the advice of the Department of Health and MAFF regarding the effects of toxic algae on humans and animals. It was widely distributed to all local authority Environmental Health Officers, medical advisers and organisations involved with water - based recreational activities.

More recently we published a major report on the phenomenon of blue-green algae which resulted from the work of our task force which we established last year in order to investigate the problem and to recommend solutions. The task force's report has been well received by the UK water industry and environmental scientists at home and abroad.

Farm Pollution and Litter Campaigns

We have continued to undertake pollution prevention campaigns with particular emphasis being placed on reducing farm waste and litter pollution of our watercourses. Farm Waste campaigns have concentrated on raising farmers' awareness of the 1991 Silage, Slurry, and Agricultural Fuel Oil Regulations, and reducing accidental spillage of pesticides and other substances.

Litter campaigns were conducted in liaison with volunteers, schools and the Tidy Britain Group. Welsh Region launched their "Clean Rivers Cup" and secured the first successful prosecution for the dumping of litter into a watercourse under the Water Act 1989. We have also partly funded environmental clean - up initiatives including the "Stream Care" project in collaboration with the Mersey Basin Campaign to encourage community - based clean ups, and "Water Watch" to reduce floating litter and debris in the Manchester area.

Automated Sampling and Monitoring Devices

We have continued to pioneer the development and use of automatic instrumentation for remote - sensing and transmission of information about river pollution. Two remote mobile monitoring systems "Sherlock" and "Merlin" have been successfully developed and tested and will be brought into operation on a national scale next year. Laboratory and field trials were also conducted on the use of five prototype multipurpose handheld meters which we also intend to use to increase the efficiency and effectiveness of our sampling programmes. We are also developing equipment for use in our marine craft for sampling coastal waters.

Laboratories

During the year the amount of analytical work over and above routine monitoring has increased significantly due to the taking of more tripartite samples, the 1990 River Quality Survey, investigating more pollution incidents, additional work in relation to Red List substances arising from the Paris Commission and North Sea Conferences, and the need to analyse samples for more determinands owing to EC and other legislation. To illustrate the scale, our officers took over one - third of a million water quality samples from which our chemists measured over 5 million determinands.

The development of our national laboratory network continued with the opening of new laboratories at Canterbury, Exeter, Fobney near Reading, and Warrington, and the extension of a number of existing facilities in Leeds and Washington. Laboratory staffing levels have increased accordingly, to run these facilities. The operation of our own facilities is reducing our dependence on contract analysis with the Water Service PLCs. A national laboratory purchasing agreement was prepared and tender documents issued to prospective suppliers of chemicals and consumables. The benefits of the new arrangements should be realised early next year.

Major Flooding Incidents

Over 500 flood warnings were issued to the police during 1990/91. Severe storms and high rainfall in January caused flooding in many areas, particularly along the Rivers Severn, Trent, and Soar. Flood levels did not reach those of the previous year but the area affected was greater. Fallen trees presented additional difficulties and exacerbated flooding problems in several Regions. More than 100 trees fell in the River Derwent alone.

During late February the worst flooding for many years occurred in the Vale of York, with Boroughbridge particularly badly affected. 200mm of rain fell in 48 hours resulting in 230 properties being flooded. However, many more would have been damaged were it not for the many flood defences which kept flood waters at bay. Force 9 gales and high tides buffeted the South Coast at Shoreham by Sea and Lancing where the shingle bank defences had to be maintained by importing 3,500 cubic metres of shingle by lorry to prevent flooding at several locations.



Flood Forecasting and Warning Systems

Two new 24 hour emergency control rooms were opened in the Thames and Wessex Regions to improve our emergency communications and responses. In order to improve the consistency and interpretation of flood warnings a national three colour - coded system (where yellow, amber and red phases indicate an increasing likelihood and impact of a flood event in riverine and coastal areas), was successfully introduced in all Regions. The 'Neptune' flood warning system in the Mersey estuary has been improved and extended along the North Wales coast.

Fluvial Defences


Many major projects were completed during the year, the largest being a £20m flood alleviation scheme on the River Brent. The scheme covers a 15km stretch of river giving protection to nearly 1,000 properties and reduces the risk of flooding to a number of major roads. The lowering of a massive steel radial gate into place on a new 150m dam on the River Kenwyn at Truro was one of the concluding phases of a £1.5m scheme to retain flood water in a 19 acre storage lake. A £5m scheme was commenced along the River Tame in the Midlands and a £2.5m scheme at Monmouth was completed during 1990/91. Stage 2 of the Ashford Flood Alleviation Scheme which will provide a flood detention area for the River Stour was commenced.

During the year we submitted applications to various authorities for planning permission for the proposed Maidenhead, Windsor and Eton flood alleviation scheme for the construction of a flood relief channel on the River Thames — the biggest fluvial flood protection scheme ever undertaken in the UK.

Tidal Defences and Barriers

The Thames and Barking Barriers were operated 6 times during the year when high spring tides coincided with tidal surges from the North Sea. The River Hull Tidal Surge Barrier was lowered on a number of occasions in similar circumstances, while, in York, the River Foss Barrier was operated to isolate the River Foss from the floodwaters of the River Ouse.

Sea Defences



Following the Towyn flooding incident in North Wales last year, and concern about global warming and rising sea levels, the fieldwork and analysis for our Sea Defence Survey around the coast of England and Wales was completed for all NRA - owned defences and work progressed on those under the ownership of others. Findings were discussed with MAFF and an initial report produced containing recommendations for maintaining the integrity of existing defences and for constructing new ones. Phase 1 of the survey covering NRA - owned defences revealed that 86 percent of structures were in a good condition with 12 percent requiring moderate remedial work and only 2 percent requiring significant works. All such works are included in the on - going capital programme.

The NRA's largest Regional capital works programme (£22m) was undertaken in Anglian Region where defences were repaired or new defences constructed at various sites along the Region's coastline. One noteworthy sea defence project involved the movement of 50,000 tonnes of rocks from Norway to the sea defences at Chapel St Leonards in Lincolnshire where expenditure of £1.85m has led to the protection of existing defences and the recovery of beaches in the area through dissipation of wave energy.

Regulatory Activities

On 1st January 1991 the NRA introduced a £50 charge for Land Drainage Consent applications under Section 28 and 29 of the 1976 Land Drainage Act. It is expected this charging scheme will recover £0.25m of the costs the NRA incurs to assess applications by riparian owners for consents to carry out works which may impede river flows or increase the risk of flooding.

We have continued to place considerable emphasis on advising local authorities about the potential risks of undertaking development in flood plains, both, as part of the revision of Structure and Local Plans, and, whenever we were consulted about individual planning applications. We provided advice for over 95,000 planning applications during the year.

Catches

The weather was a significant influence on catches during the year. The low rainfall resulted in low river flows for much of the season and catches were adversely affected in many Regions. However, despite the generally adverse conditions, above average catches were still recorded in some fisheries. Overall salmon catch statistics were slightly higher than those of the previous year. Salmon were recorded in the Trent and in the Thames providing evidence, of some encouragement, of the continued recovery of these rivers' game fisheries. Sea-trout catches were down by 36 percent overall which is an alarming decline and research is now underway to determine the cause of the decline in stocks. Eel and elver catches were lower than previous years whilst coarse fish catches were generally good. Salmon and migratory trout catch statistics for 1989/90 were compiled by MAFF for a joint publication with the NRA.

Fatalities and Disease

The hot summer caused more fatalities of which the largest recorded was the loss of 100 salmon in the Severn estuary at very low tide. Regrettably, over 15,000 coarse fish fry died in the River Perry in Shropshire due to a farm silage and slurry pollution incident. The first incidence of crayfish plague on the River Arrow, in Herefordshire, was notified and liaison took place with MAFF on "spring viraemia" of carp.

Regulation and Enforcement

Fishing licence arrangements were reviewed during the year in preparation for the introduction of a new national scheme involving extensive public consultation prior to final Ministerial approval. The intention is to introduce a new licensing and charging scheme for fishing rod licences in early 1992.



Existing byelaws were maintained and reviewed and new proposals considered. A new fishery byelaw prohibiting netting around the mouth of the River Esk at Whitby was introduced, and a new commercial eel fishing licence was introduced in Wessex and Severn-Trent Regions. In order to protect fish stocks, the Authority purchased the historic salmon pool fishery on the River Exe. Net Limitation Orders were introduced on the Rivers Taw and Torridge. Revised close seasons for freshwater fish and eels were introduced in Severn Trent and Yorkshire. New freshwater fisheries and sea fisheries byelaws were formulated by a number of Regions and amendments submitted to MAFF for approval. A review of the regulation of commercial eel fishing was carried out in Anglian Region.


Increased enforcement activity, assisted by more honorary bailiffs and by two new in-shore coastal patrol vessels, was deployed to prevent poaching, byelaw infringement and fishing licence evasion. Increased challenges, higher licence compliance, more offence reports and gear confiscation resulted, and almost 4,000 successful prosecutions were secured. Two offenders received a four-month prison sentence, suspended for one year, for illegal netting in the River Esk, and a hotelier was prosecuted for handling illegally caught salmon.

Monitoring and Surveying

We have continued to develop and undertake rolling-programmes of scientific fishery surveys such as the annual juvenile salmonid survey throughout England and Wales. Other ad hoc surveys, numerous fish rescues, and special studies, particularly in relation to water quality changes and the effect of drought conditions on fish migration, have also been carried out. In addition to traditional techniques including fish counters, traps, and netting, more technologically sophisticated echo-sounding and boom mounted electro-fishing equipment is being evaluated and, in order to comply with Health and Safety legislation, a new Code of Practice for safety in electro-fishing operations was introduced.

Rearing and Stocking

Despite hot weather and drought conditions our coarse and game fish hatchery and rearing facilities generally exceeded their fish production targets with over seven million fish being reared. Plans have been prepared to extend or improve a number of rearing facilities, for example at Brampton, Calverton, Endsleigh, Leyland and Witcheswell.



Almost six million fish were stocked out, and many rivers received substantial numbers of fish in rehabilitation and migration exercises. Examples include the release of coarse fish to the River Tame in the Midlands and barbel into the River Taff in Wales; transfer of eels to the River Avon in the Midlands; introduction of 200,000 brown trout into rivers and tributaries in Yorkshire; 20,500 salmon parr into the River Esk; and the transfer of salmon eggs from the River Fowey in Cornwall in preparation for introduction to the River Thames. The effectiveness of salmon smolt and other fish stocking is being assessed by micro-tagging and various trapping and re-capture techniques.

Habitat Improvement

Despite improvements to fish stocks in many areas, a number of problem catchments have been identified and intensive work started to rehabilitate the fisheries.

Notable examples include five year programmes for the Rivers Taw and Torridge in Devon. Gravel deposited on river banks has been returned to the rivers and existing spawning beds raked and cleaned. A limited programme of artificial propagation has been carried out which will be monitored closely. Other measures, aimed at improving the water quality, include a "Farm Campaign" which has persuaded farmers to modify drainage and effluent systems thereby reducing pollution levels.

In order to reverse declining salmon runs on the famous salmon rivers of Hampshire – the Test and Itchen – work has been undertaken to improve spawning beds. Local genetic stock has been reared in the Kielder hatchery and 400,000 fry were re-introduced to the rivers during the year.

Over 60 fishery habitat improvement structures were constructed during the year, almost twice as many as last year, including new fish passes to assist upstream salmonid migration to spawning beds on the Rivers Thames, Tone, Chew, Teme, Camel, Bela, Ribble, Eastern Cleddau and Taff. A new coarse fish haven to protect fish stocks from flood flows has been constructed in an ox-bow lake connected to the River Swale in Yorkshire. In order to mitigate the effects of acid run off on resident fish stocks, over 20 tonnes of limestone granules was put into the River Twrch in the upper Severn. This was the first time this has been done in the UK.

Code of Practice

The NRA attended the DoE Standing Committee on the Water Act 1989 Code of Practice, and has commenced work on drawing up an inventory of the existing and potential use and management of all NRA controlled land for recreation. New recreation facilities are being identified and have been included in river and sea flood defence schemes such as the Maidenhead Flood Relief Scheme and Burnham projects to comply with the Code. An internal Code of Practice which will provide guidance for NRA bailiffs about canoeing and fisheries has been formulated.

NRA Site Management

A new management agreement for the Canolfan Tryweryn National White Water Centre, which will host the 1995 World White Water Championships, was agreed with the Welsh Canoe Association and Merionnydd District Council. Landscaping and other improvements to riverside picnic sites were made in Thames Region. This included the provision of Tourist Information Centres at four lock sites that are visited by very large numbers of the public on foot as well as those on boats. Fishing platforms for disabled anglers were installed along the River Ancholme. A research project has been commissioned to determine recreation demands and suggest priorities for the Authority's future recreation work.

Liaison and Advice

The Authority has liaised with Sports Councils and numerous recreation user groups, and advice has been given to local authorities on planning applications which may have impacted on existing water recreation. A recreation strategy has been developed for the River Thames, and, in Yorkshire, a regular liaison link has been established with the Sports Council and progress made in establishing better access for canoeing in waterways used by anglers. A dispute between the canoeing and sailing clubs on the River Dee at Chester was resolved and it was agreed to construct a moveable 'oversail' on Chester Weir, to enable the club to continue with its annual canoe slalom event. Severn-Trent's "Riverline" telephone information service for anglers, which has continued to prove very popular, has been upgraded.



Collaborative Projects

Over 100 recreation projects were carried out of which more than half were in collaboration with other agencies. Work on footpaths was carried out along the Rivers Manifold and Dove in co-operation with the Peak District National Park. A walkway along the River Teme has been developed with the Sandwell Valley project. A River Wye project officer is being co-funded by the NRA and a number of other bodies. A three year project, jointly funded with the Countryside Commission, was established to coordinate the activities of local authorities and others to ensure that the Thames Path National Trail is developed. Riverside walks are being developed with a number of local authorities. Southern Region extended the Medway Project by 50 per cent. to cover the length of river from Maidstone to Rochester. Commercial sponsorship has been generated and agreement obtained from joint sponsors to undertake a major capital works programme for the restoration of footpaths.

Surveys and Appraisals

A rolling - programme of river corridor surveys has been started together with preparatory work to ensure conservation is considered in all NRA activities. For example, 540km of surveys were completed in Severn Trent Region, some by the use of low flying helicopters to produce a video library of certain watercourses. Nationally, almost 6,000kms of river corridor were surveyed.

A major review of water level management was launched in the Wessex Region to address a reported decline in the birdlife population of the internationally important Somerset Levels and Moors SSSI and ESA.

Wildlife Databases

A major report was published on the wildfowl and winter wader population of the Lincolnshire Coast. Together with a coastal wildlife and botanical database, it will be of great value in the planning of sea defences in Anglian Region. South West, Wessex, Yorkshire and Southern Regions have continued to establish, update and develop their databases. A conservation sites register has been developed in Anglian Region including data from a wide range of organisations such as county trusts, county councils, English Heritage and English Nature. Such registers, which have also been established in Northumbria and other Regions, are of increasing value for screening and evaluating licence consent and planning applications.

Operations

Native grass and wild flower mixes, tree planting, pond and riffle creation, wildfowl scrapes, reed beds, and hedge - planting are becoming commonplace features integrated into flood defence and other operational works in England and Wales. For example, in Welsh Region, habitat creation was undertaken around the Bala sluices, and wetland scrapes created next to the Foryd sea defence embankment to benefit waders and wildfowl using an adjacent SSSI. In Thames Region, ten landscape contracts were implemented to reinstate and enhance land in local authority ownership which has been affected by flood defence projects. A major landscaping scheme was completed on the New Mill Dam on the River Kenwyn near Truro.

Collaborative Projects

The Authority is increasingly carrying out more collaborative projects. For example, we have undertaken pond enlargement on the Dyfed Wildlife Trust Dowrog Common Reserve to provide new habitats for fen plant communities and dragon flies; re-instated flood meadows on the River Sapiston in liaison with the Suffolk Wildlife Trust; and, completed a major tree - planting scheme along the River Gipping valley in conjunction with Suffolk County Council.

In Severn-Trent Region a "Project Riverlife" and two "Project Kingfishers" as well as several smaller projects were undertaken in Nottingham, Derby, Birmingham and Shrewsbury in conjunction with City and District Councils. A wildlife pool and wetland for school children was created in conjunction with the Warwickshire Nature Conservation Trust, and the Serpentine Lake at Stamford Hall was restored in conjunction with English Heritage.

At Easington Lagoons in Yorkshire, an NRA - funded warden has protected the only Little Tern breeding colony in the Region so successfully from would-be egg collectors and predators that there has been a thirty fold increase in the success of fledgings. A nature reserve was also developed on washland at Rawcliffe and Clifton Ings as part of the development of a long - term footpath.

A joint NRA and RSPB survey of breeding waders was conducted along the lower Hampshire Avon valley. A water retaining structure and shallow scrapes were created at Amble Marshes at the head of the Camel Estuary in response to a request from the Cornwall Bird Watching and Preservation Society to improve the conservation value of the Walmsley Bird Sanctuary.



Otters

During the year we participated in and funded aspects of the "National Rivers and Otters Project" co-ordinated by the Royal Society of Nature Conservation. Specific initiatives included the second - half of a programme to improve otter habitat on the River Usk which was completed, and, in a number of artificial holts, positive signs of otter occupation were noticed within 6 months of construction. We have also participated in the Wessex Otter Conservation Project, set up in conjunction with English Nature and the Royal Society for Nature Conservation, which has completed a review of existing records and has begun surveying in Dorset. We also took part in a collaborative survey with the Surrey Wildlife Trust of the River Wey to help restore otter populations.

Promotion and Liaison

In addition to our liaison with specialist interest groups, we have actively promoted environmental awareness to the public and to specific organisations. One such example is the provision of conservation training to MAFF engineers on river corridor surveys, as part of a national initiative in conjunction with the Field Studies Council. Numerous pamphlets have been produced including a Wessex Region river corridor survey leaflet and a River Thames Environment handbook. We have also improved our internal liaison in order to improve the efficiency of our conservation work and to ensure that conservation is integrated into all our activities.

Built Heritage

During the year we produced a draft policy statement on Archaeology, and, following expert advice from the Society for the Protection of Ancient Buildings, conservation works have been completed on a Authority owned water-powered corn mill at Pickering. In liaison with English Heritage, we also organised a successful conference entitled "Cultural Heritage And The NRA" to discuss archaeological matters in relation to the water environment.

Licensing and Enforcement

In Anglian Region, block registration arrangements for boating clubs and youth organisations affiliated to national organisations were encouraged and have proved successful. Craft registrations increased by 6 percent, following a 10 percent increase in charges, which generated 16 percent more income to cover increased expenditure on navigation improvements. In Thames Region, target standards of service for navigation were reviewed, and, in Southern Region, extended registration into off-river marinas and rent rises increased income to the Medway navigation.

The enforcement of navigation legislation was increased during the year by navigation staff, and, special patrolling, craft inspection and speeding checks were undertaken. Over 100 successful prosecutions were secured in Thames and Anglian Regions for non-registration, speeding, and other byelaw infringements. The arbitration of waterway - user disputes, river traffic management, and the securing of waterway - user rights were also routinely undertaken by navigation staff.

Maintenance and Improvement

In Thames Region, 14 capital schemes were progressed including boat lay-bys, bank protection in lock cuts, and lock house refurbishment; and, 11 major capital schemes were completed at a number of lock sites. In Anglian Region, new or improved landing stages and moorings were completed, new mooring bollards installed, and a sewage disposal pump-out facility constructed on the River Nene. The operation of Orton Lock was electrified and 6 lockable water supply points purchased. Lock repair, refurbishment and automation projects were completed, and new moorings and landing stages developed on the Little and Great Ouse systems. The Forty Foot Navigation and connecting locks were re-opened. A number of lock restoration projects were completed in Southern Region on the River Medway. Minimal disruption to traffic occurred with all these lock closure and maintenance programmes. The north training wall light in the Dee Estuary was refurbished during the year.

Promotion and Liaison

Thames Region had a successful stand at the Earls Court International Boat Show in London which attracted large public interest. Anglian Region produced three navigation-related brochures "The Anglian Experience", "Navigation Notes" and "A Navigation Code of Conduct". The Region also supported special charity events, promoted block registration arrangements for clubs and attempted to deter speeding by issuing press releases relating to fines imposed upon owners of speeding boats. For Thames navigation staff, Henley Regatta was the biggest event of the year where, for the first time, traffic management and scheduled river closures on a tidal flow basis were introduced with the agreement of the organisers of the Regatta.

New Developments

With the agreement, and on behalf of the Teeside Development Corporation, the NRA has assumed the duties of Harbour Master upstream of the proposed Tees barrage. Initial discussions were held with British Waterways about rationalising navigation access, licensing, byelaws, and charging arrangements to develop a nationally consistent navigation policy for controlled waters. Welsh Region have had initial negotiations with British Steel over the maintenance and operation of the tidal Dee navigation, and Southern Region reached agreement with ARC Ltd over the construction of a marine-dredged aggregate facility at Rye Harbour. Southern Region also commenced an in-depth study of all aspects of Rye Harbour to enable it to define a Management Plan for the future. Consideration was given to introducing navigation byelaws along part of the River Wye by Welsh Region.

Office and Committee Services

Various accommodation moves were completed throughout the NRA involving offices, depots and laboratories. Other refurbishments were carried out and new maintenance and security programmes instigated. A suitable site in Bristol for the relocation of Head Office was secured. New area offices were opened at Tewkesbury by HRH The Princess Royal, at Lichfield by the Earl of Lichfield, and at Blandford by Nicholas Baker M.P. Office and depot facilities were also opened at Warwick by the NRA's new Chief Executive Mr. John Wheatley, and the Chairman, Lord Crickhowell, officially opened a number of new facilities. At the end of the year, work was well advanced on establishing the new Head Office building in Bristol.

Other activities included improving telephone communication networks, an evaluation of general office equipment needs, updating reprographic, printing and filing systems, reviewing insurance arrangements and implementing energy conservation and waste paper recycling schemes.

Efficient secretariat services have been provided for the Board and Regional Boards and Committees. New procedures were introduced for dealing with Parliamentary Questions. Procedures for dealing with public enquiries and customer complaints were agreed with Government Departments, the Office of Water Services and Drinking Water Inspectorate.

Legal Services

The Authority stepped up its enforcement activities and undertook an increased number of actions prosecuted in the courts. In total, over 4,800 cases were prosecuted leading to the imposition of fines approaching £600,000 for offenders. The Authority recovered a significant proportion of its costs.

One important task was the monitoring of the Environmental Protection Bill through its Parliamentary stages and the gaining of important changes in the area of Integrated Pollution Control in the Act. The Authority has also monitored the progress of the Water Consolidation Bills, and Planning and Compensation Bill. Public consultations were undertaken in connection with new Sea Fisheries Byelaws in Wales.

The Authority has been represented and protected its interests in a number of Public Inquiries, eg Colne Barrier and Batheaston (Bath) by-pass, and successfully petitioned against a number of Private Bills eg Avon Weir, Aire and Calder Navigation Bill, and River Usk Barrage Bill. Legal advice has also been provided in connection with claims and appeals relating to licences and consents. The Authority has also commented on Structure Plan reviews.

Outstanding conveyancing transactions, after separation from the Regional Water Authorities, were completed and legal support was provided for capital schemes — for example for the Maidenhead, Windsor and Eton flood alleviation scheme. More legal advice has been given in the formulation of new policies (eg charging for discharges) and in-house legal training provided to many staff.

Estates Management

All Regions carried out reviews of leases, licences and lettings and associated rents and fees. This work was assisted by the development and completion of computerised property terriers in a number of Regions. The Authority's increasing flood defence capital programme has resulted in additional work to purchase land or negotiate access agreements and payment of compensation for property owners affected by certain schemes.

Planning

Forward planning has continued apace during the year through the development of draft core function and support service strategies and some interim output and performance measures. Catchment management plans have been produced for Marsh Dykes, Lower Colne and the River Stort in Thames Region; for several

catchments in Southern Region; and in a number of other Regions including the River Torridge in Devon, and the River Cam in Anglian. Emergency plans have been reviewed and updated in the light of new experience. During the year we also commented on more planning applications than ever before.

Public Relations

Media coverage has continued to rise reflecting growing public interest in the NRA's work. Public relations were also enhanced during the year through a number of public consultation meetings to discuss specific policy issues and environmental problems and the NRA's approach to solving them. New brochures, leaflets, information sheets, and other publications continue to be produced and have been in great demand. We attended various shows and exhibitions throughout the country including the National Garden Festival at Gateshead where 100,000 members of the public visited our stand. A Welsh language policy for the NRA and the AAC Welsh logo were successfully launched during the year.

External Affairs

The Authority has continued to liaise closely with other organisations about subjects of mutual interest. The Chairman or senior officers have received Ministers from several UK and overseas Government departments. Our Regions have also received overseas delegations from Taiwan, Norway, USA, and USSR. A number of officers have given presentations at overseas conferences and meetings, and have been members of international working parties.

The Chairman and senior officers have also met officials from the Nature Conservancy Council (now English Nature), Royal Commission on Environmental Pollution, Association of District Councils, Sports Council, National Farmers Union, British Waterways Board, and Forestry Commission. Discussions have also been held with the Generale des Eaux and Agence de Bassin, in Paris. Southern Region has signed a twinning agreement with the L'Agence de L'eau Artois Picardie.

Presentations and speeches have been given at a number of major conferences both in the UK and abroad, for example, at events organised by the Financial Times, Institution of Civil Engineers, Association of Drainage Authorities, Salmon Trust, and Institute of Fisheries Management.

Finance

Accounting

Considerable effort during the year was focused on formulating national accounting policies, practices and procedures to improve resource utilisation. Pending national systems, a number of Regions updated their billing systems to improve credit control. Improvements to national and regional financial reporting procedures were made to improve financial management information for budget holders. Work has proceeded on developing an Integrated Accounting System and a special project team was established. Initial work on the feasibility of establishing a national Financial Services Centre was also undertaken. Emphasis has also been placed on enhancing the Authority's Treasury function to improve cash management and capital and pension funds investment activities. Insurance policies have been reviewed and insurance and brokerage facilities were re-tendered and a new contract let.

Audit

Following structural review during the year, Internal Audit is now placed to provide an effective management control and review service across the full spectrum of NRA activities.

Information Systems

IS Strategy

Work on the production of an IS Strategy for the Authority proceeded during the year. Phase 3 of the strategy commenced in October 1990. Amongst the areas covered were the design of strategic architecture for the hardware and software on which future IS investment would be based, an IS management controlling framework, IS standards, procedures, and planning, IS awareness and training requirements. The cost of migration and development plans to implement national systems implementation including existing interim national and regional systems, was also studied.

National Initiatives

Work commenced on a number of priority software applications during the year, including a National Communications Network for voice and data with facilities for integrating Regional private mobile radio systems and Cellular Telephone Networks; an Integrated Personnel and Accounting System; and a Water Monitoring and Archive System.

A number of these new systems are to replace Bureau arrangements with the water utility PLCs. An interim IS system for Charging for Discharges was introduced and work has continued in coordinating the provision of new joint private mobile radio systems with the water utility PLCs.

Regional Initiatives

The Regions have continued to operate existing IS facilities and to provide support to the development of priority national systems. For example South West Region successfully co-ordinated the introduction of the interim Charging for Discharges software package and its implementation across all Regions. Many Regions including Anglian, Thames, Severn-Trent, Southern and Welsh further developed Regional Data Communications facilities to establish independence from Bureau arrangements. Anglian Region has continued work on GIS, a Geographical Information System which will embrace Sea Defence Management, Catchment Planning and planning liaison. North West has piloted the Water Information System (WIS) as a possible replacement for the Regional Water Archive Systems. Anglian installed 340 new telemetry outstations, Yorkshire developed an independent data communications system and continued implementation of its Regional Telemetry System and River Flow Forecasting System, and, Wessex improved its Flood Forecasting System. South West and Wessex Regions planned the support of their new joint laboratory using the Welsh Mensar system.



Inherited R&D Programmes

The NRA continued to fund a number of research and development (R&D) projects which it inherited upon vesting. These projects, inherited from the DoE, the former Regional Water Authorities and their collectively-funded programme at the Water Research Centre were reappraised and, where necessary, redirected such that they address the NRA's business needs. Of the 83 projects transferred to the NRA 22 were successfully completed in 1990/91.

New R&D Programmes

In addition to the inherited programmes, the NRA specified and initiated 100 new projects in 1990/91. These projects were proposed and prioritised by the relevant Function Managers' Committee and were subject to a thorough investment appraisal procedure. The majority of this research, as was the case with the inherited projects, was contracted to different commercial and academic research institutions such as WRc, Natural Environment Research Council, and other institutes and consultants. The NRA has liaised closely with other research-commissioning organisations such as DoE, MAFF, NERC and the Foundation for Water Research to prevent duplication and to seek co-funding of projects of mutual interest.

R&D Framework

The framework for managing the R&D programme continued to be developed during the year. The "customer-oriented" approach of classifying the national R&D programme on a Commission basis related to the Core Function areas, with Function Managers' Committees specifying and managing their own programmes and outputs has been progressed. Further guidance has been issued to assist the effective dissemination of R&D outputs throughout the organisation, and, the computer-based R&D Information System has been enhanced to provide an effective aid to programme management.

Annual R&D Review 1990

The first Annual Review of R&D which contains information on the NRA's R&D programme was published. Included within this document were details of work completed in 1989/90 and the work programme for 1990/91. The R&D management framework was outlined together with the basis of the Commission programmes. Information was also given on project publications for 1990. It is the NRA's intention to publish a similar document summarising the 1990/91 R&D programme.

Water Quality

The R&D undertaken to support the Water Quality Core Function was addressed through 19 Topic Areas covering 92 projects, of which 42 were new initiatives in 1990/91. A significant proportion of these projects were let to the WRc and many received additional funding from the Scotland and Northern Ireland Forum for Environmental Research (SNIFFER). Whilst many of the projects are still on-going, significant outputs have included a review of ecotoxicology approaches and T_{90} values for bacteria and viruses. Major projects continue in the fields of blue-green algae, monitoring equipment, waste water disinfection, bathing water epidemiology, and, ecotoxicology.

Water Resources

Many of the projects undertaken to support the Water Resources Core Function were new starts and are covered in the five Topic Areas. Of these 12 new starts three have been completed. One of the important outputs from this R&D programme assesses the impact of climate change upon the availability and quality of water resources. On - going work programmes include the assessment of the ecological value of rivers and associated environmentally acceptable flows and research into bacterial denitrification in aquifers.

Flood Defence

The majority of the R&D projects undertaken for the Flood Defence Core Function were new starts initiated in 1990/91. As a consequence, only 11 projects have been completed, these being mainly short-term reviews. The successful completion of the project covering prioritisation and programming of river work has been followed by the full implementation of the results by many Regions. A status review was also undertaken to provide further direction to R&D in the area of flood warning. Further investigations of rainfall radar are continuing as are major projects on asset management, aquatic needs, and, coastal engineering and management.

Fisheries

In 1990/91 9 new starts were let by the NRA of which 2 have been completed. Outputs include a review of fish stock management techniques. The investigation of rare fish species is continuing as a high priority as are the issues of river quality and fishery status and hydroacoustic methods of fish survey work.

Recreation and Navigation

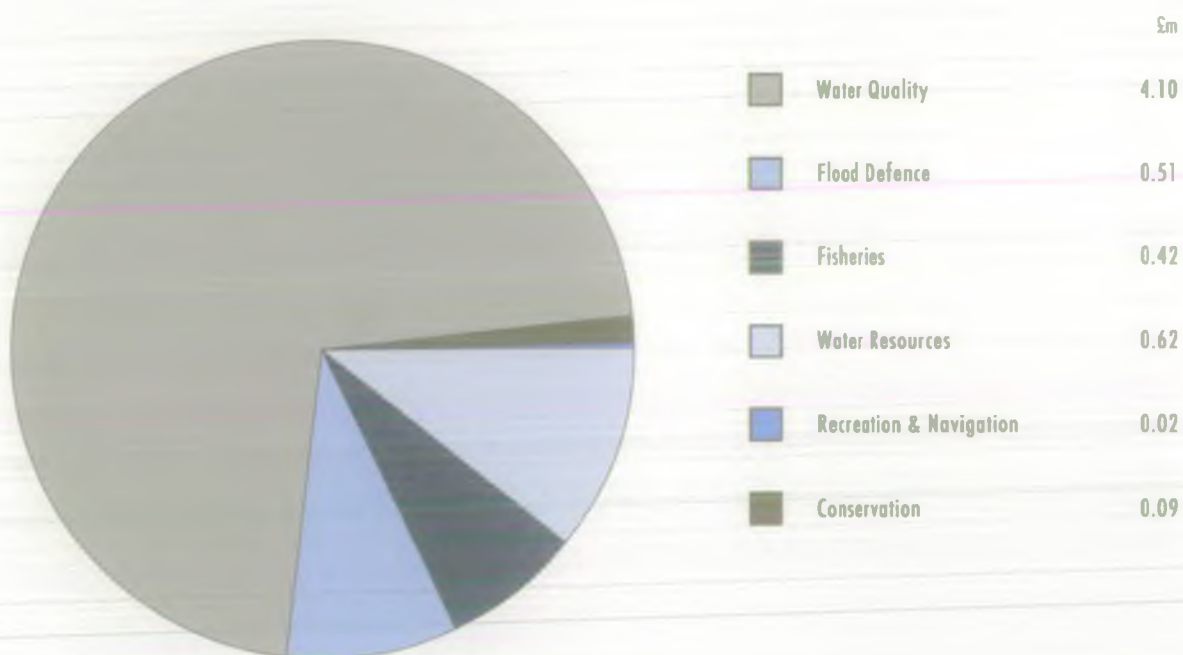
This programme is relatively small. Only two projects were initiated one of which has subsequently been completed. The primary output from this project has been the development of guidelines for assessing the causes of bank erosion on navigable waterways and the programme will be further developed to carry out field - trials in support of developing remedial measures.

Conservation

Of the six projects commenced in 1990/91, 2 have been completed and 3 are near conclusion. Two important outputs have been a review of river corridor status and a strategy for the rehabilitation of urban watercourses. Major initiatives are continuing to investigate issues such as riparian species/habitat relationships and the control of invasive riparian and aquatic weeds.

R&D Programme Expenditure

(excluding R&D management costs)



Recruitment

Recruitment has again been a key area for Personnel Management with over 850 new staff recruited. Response to advertisements has been very encouraging, emphasising the strong interest shown by the public in the Authority. However, the skills shortages in engineering and other specialist fields resulted in an initiative involving the recruitment of engineers from Denmark.

Health and Safety

The Health and Safety function has continued to have a profile due to EC/UK legislation and Regional Health and Safety initiatives. Two NRA "Codes of Practice" were issued covering Electrical Safety and Safety in Electric Fishing Operations in response to changing UK/EC legislation and a need for a consistent national approach in these areas.

A National Constitution for Regional Health and Safety Committees was produced. The National Health and Safety Audit Scheme was successfully piloted in Thames Region, with training for selected personnel in audit techniques planned for the latter half of 1991. An audit programme will follow during 1991-1992.

A National Occupational Health Specification was designed and consultants selected to carry out a review of current regional practices (phase I) and develop a national policy and supporting documentation (phase II).

An inaugural Annual Safety Representatives Forum was held and was positively received by all those in attendance.

Employee Communications

The National Committees established for staff (NJSC) and craft and industrial workers (NJICC) have met regularly during the year. Revisions to the national agreements were negotiated and the National Committees have also provided an important forum for national officials and representatives from Regions to be kept abreast of developments affecting employment with the NRA. Similar Committees are operating at Regional level.

The evaluation of senior management jobs has been completed and the NRA has tabled proposals to carry out a similar job evaluation exercise for NJSC staff. After a joint appraisal of different proposals put forward by consultants, agreement was reached with NALGO to proceed on a jointly administered and conducted job evaluation exercise.

For craft and industrial grades, an enabling agreement was concluded at national level to reduce working hours from 38 to 37 hours at no additional cost as part of a process of harmonising principal terms and conditions of employment. Implementation arrangements were achieved by a process of consultation and discussions at regional level, identifying revised work patterns to provide the same amount of available working hours as previously.

The majority of employment issues which arose during the year were settled within the Region concerned. However, two issues were progressed to national level: the attempt to remove the right of one Region to refer matters to external binding arbitration, and, the withdrawal of Southern Region's long service salary supplement.

Training and Development

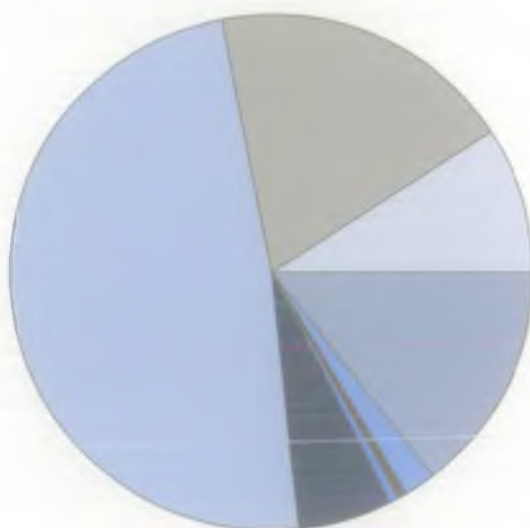
The graduate recruitment and development programme was revised to include new initiatives on induction and career development. Over 200 graduates were recruited nationally.

Many Regions have been developing training needs analyses and national guidelines have been produced. Performance appraisal was successfully introduced for all senior managers and a number of Regions have implemented management development programmes.

Pensions

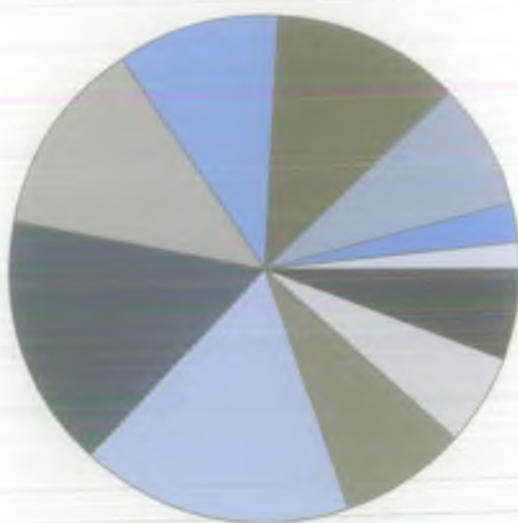
We have produced a comprehensive booklet for all employees describing our pensions scheme and the Authority's Pensions Committee have met regularly to review our financial investment strategy.

NRA Staffing by Function



	No. of Full Time Equivalents*	% of Total
Water Resources	647	9.1
Pollution Control	1,337	18.8
Flood Defence	3,464	48.7
Fisheries	412	5.8
Recreation	28	0.4
Conservation	50	0.7
Navigation	128	1.8
Support Services	1,045	14.7
Total	7,111	100.0

NRA Staffing by Office



	No. of Full Time Equivalents*	% of Total
Head Office	109	1.5
Northumbria	185	2.6
Yorkshire	570	8.0
North West	842	11.8
Welsh	736	10.4
Severn Trent	881	12.4
Anglian	1,156	16.3
Thames	1,219	17.1
Southern	573	8.1
Wessex	410	5.8
South Western	430	6.0
Total	7,111	100.0

*As at 31st March 1991

**ANNUAL ACCOUNTS
FOR THE YEAR ENDED
31ST MARCH 1991**

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ANNUAL ACCOUNTS
FOR THE YEAR ENDED
31ST MARCH 1991

1. Auditors' Report



Peat Marwick

*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 36 to 53 in accordance with Auditing Standards.

In our opinion the financial statements give a true and fair view of the state of affairs of the National Rivers Authority at 31st March 1991 and of its surplus and source and application of funds for the year then ended and have been properly prepared in accordance with paragraph 21 of Schedule 1 to the Water Act 1989 and the Accounts Notification dated 30th March 1990 given thereunder.

London

7th November 1991

KPMG PEAT MARWICK

Chartered Accountants

2. Foreword

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

The NRA was established under the Water Act 1989 as a non-departmental public body responsible for the protection and regulation of the water environment in England and Wales and has statutory powers and duties relating to flood defence, water resources, pollution control, fisheries, recreation, conservation and navigation.

Controls on the Authority's financial, staffing and related matters are effected through a Financial Memorandum issued under the provisions of the 1989 Act. The Department of the Environment, as sponsor government department for the NRA, retains the primary obligation to administer those controls. MAFF and the Welsh Office, however, have specific responsibility for policies on flood defence and fisheries in England and Wales, respectively and the NRA deals directly with them on issues affecting such functions.

Water resources and flood defence activities are funded entirely from charges, levies and, in the case of flood defence, grants from MAFF and the Welsh Office towards the cost of capital works. The pollution control, fisheries, navigation, recreation and conservation functions are financed partly through charges but primarily by means of grant-in-aid obtained from the Department of the Environment under paragraph 17 of Schedule 1 to the Act. Budgetary provision for grant-in-aid rests in Class X, Vote 2 of the Parliamentary supply estimates.

Results and Appropriations

The income and expenditure account reveals a deficit of £11.6m for the year (after transfers to reserves), £6.5m of which was attributable to grant-aided accounts, £4.4m to water resources and £0.7m to flood defence. However, the paragraph on grant-aided services below demonstrates that the deficit in cash accounting terms was only £0.3m. This was more than adequately covered by grant-in-aid of £0.8m brought forward from 1989/90. The deficit on the flood defence income and expenditure account is also fully absorbed by accumulated surpluses.

Review of Activities

Water Resources Under the Financial Memorandum, the NRA is obliged 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 1st September 1989 and 8% on such assets acquired since then).

Any cash surpluses which derive from charging current cost depreciation and rate of return and which are not needed to fund water resources capital expenditure must be used to offset the grant-in-aid requirement for grant-eligible functions. In 1990/91, income including interest amounted to £64.2m, whilst expenditure on the aforementioned basis was £62.5m. So there was a net surplus of £1.7m for the year leading to an accumulated balance of £13.3m. 1991/92 abstraction charges have been set so as to reduce this balance by £8.7m. Depreciation and rate of return exceeded capital expenditure by £2.7m and this sum is payable to the Government. On the same basis an amount of £4.4m from 1989/90 has now fallen due for repayment and has contributed by an equivalent amount to the deficit on Service Accounts for the year.

Flood Defence The flood defence function is to break even taking one year with another on income and expenditure, utilising reserves as required. The account is the aggregation of the individual accounts of Flood Defence Committees to whom the NRA is obliged to delegate its flood defence functions under section 136 of the Water Act 1989. The responsibility for decisions on levies and spending plans lies with the Committees. Total income was £183.6m including interest of £16.1m derived from investment of cash surpluses, whilst operating costs and transfers to reserves amounted to £184.3m. 1990/91, therefore, produced a deficit of £0.7m and left a closing retained surplus of £30.3m to be carried forward. Levies for 1991/92 have been fixed at levels which are expected to reduce the retained surplus by £9.7m. The NRA also received capital grants of £23.2m from MAFF, £0.4m from the Welsh Office and £0.1m from the European Regional Development Fund.

Grant-aided Services The Authority's duty for each of the grant-aided functions is to balance receipts (including grant-in-aid) with payments in each financial year. The Financial Memorandum does, however, permit the NRA to carry forward surpluses up to 2% of the original grant provisions for the year. As far as the grant-aided activities are concerned, the Authority's financial performance is measured in cash terms and the analysis of receipts and payments is particularly relevant in this respect.

The position on grant-aided functions can be summarised as follows:

	PAYMENTS	OPERATING RECEIPTS	GRANT-IN-AID REQUIREMENT
	£m	£m	£m
Pollution control	60.5	5.0	55.5
Fisheries	16.4	6.9	9.5
Navigation	7.2	1.2	6.0
Recreation and conservation	2.8	0.5	2.3
Sub-total	86.9	13.6	73.3
Exceptional items:			
Restructuring costs	17.1	2.2	14.9
Compensation for changes in emoluments	2.7	—	2.7
Head Office relocation	1.8	—	1.8
Information systems strategy	1.3	—	1.3
Unfunded pensions	10.3	—	10.3
	120.1	15.8	104.3

ANNUAL ACCOUNTS
FOR THE YEAR ENDED
31ST MARCH 1991

The increase in special fisheries and similar funds (£0.3m) during the year does not appear in the figure for fisheries operating receipts, as such funds are outside the scope of grant-in-aid. Navigation receipts exclude licence income of £2.4m, which is payable to the Treasury: the NRA receives grant-in-aid in lieu.

Outlays on compensation payments for emolument changes, the relocation of Head Office and the development of the information systems strategy have been shown as exceptional items rather than allocated to services as they are separately identified in spending plans and requirements for grant-in-aid from the Government.

A similar situation prevails over restructuring costs. The setting up of the NRA necessitated the construction of laboratories, depots, offices and the provision of equipment, for which the former regional water authorities had been responsible. It was agreed that capital works arising after vesting would be financed from grant-in-aid and, in some cases, by water services plcs. Capital restructuring costs and grant attributable thereto are shown separately in the accounting statements. The operating receipts comprise contributions from Water Services PLCs excluding £1m which will not be applied to capital works until 1991/92.

Grant due to the NRA for its activities was £104m and so there was a deficit of £0.3m in the year. This was offset against the grant surplus of £0.8m brought forward from last year to leave £0.5m in hand.

Fixed Assets During the year, gross expenditure of £74.6m was incurred on the purchase of fixed assets. The expenditure was funded through depreciation charges of £19.1m, grants and contributions of £4.6m, charges to income and expenditure account regarding disposals and the like of £0.4m, and an appropriation of £50.5m from the operating surplus. After allowing for the elimination of further intangible assets with a written down value of £12.4m from the balance sheet, there was a net increase of £37.7m in tangible assets from the opening position. £27m of the increase was to the benefit of Service Accounts, £10.7m to the flood defence function.

Working Capital Working capital decreased by only £6.3m overall, but there were distinct and complementary changes in the components. Cash in hand rose by £31.9m whilst debtors decreased by £8.8m and creditors increased by £29.5m. The increase in the Service Accounts components of working capital is largely attributable to water resources; large outstanding debtors have been cleared, cash surpluses have been generated from activities in the year and further creditor provisions have been made for rate of return payable to the Government (£4.4m) and gross refunds to abstractors (£1.3m). The major part of the favourable cash position has, however, come from the flood defence function, where there has been a particularly large increase in creditors of £15.4m and a transfer to the special asset replacement fund (£4.7m), both contributing to a lift in cash levels of £21.3m.

Research and Development The NRA has a statutory duty to make arrangements for the carrying out of research. At vesting the NRA assumed responsibility from the former Water Authorities and from DoE Water Directorate for a diverse on-going research and development programme. Work has continued on developing effective management of this programme which devotes particular attention to the water quality/pollution control area. Actual expenditure in the 12 months was £6.2m.

Future Developments Corporate Plans submitted to sponsoring Government departments continue to emphasise the need for the establishment of national policies, practices and standards. Development of these has proceeded across all functions and the highest priority area continues to be within water quality and pollution control aspects.

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 accounts.


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

Employee Involvement The Authority has National and Joint Committees for consultation with industrial and non-industrial employees.

Health and Safety The Authority has Health and Safety Committees which review and resolve all health and safety issues.

Disabled Persons Applications for employment from individuals with disabilities are considered on the same basis as other applicants, having regard to the nature of the disability and the vacant post.

Chairman Lord Crickhowell



Chief Executive Mr John Wheatley



7th November 1991

3. Statement of Accounting Policies

(a) Basis of Accounting The financial statements and accounts have been prepared in accordance with the Accounts Notification made by the Secretary of State for the Environment, the Secretary of State for Wales and the Minister of Agriculture, Fisheries and Food under Paragraph 21 of Schedule 1 of the 1989 Water Act.

The Accounts Notification charges the NRA with producing financial statements covering years ending 31st March. The Notification has not been amended from that published in last year's Annual Report & Accounts.

This year is the first period during which the NRA has had full responsibility for all operational activities across the functions for which it is statutorily responsible.

(b) Accounting Conventions The financial statements are prepared using the historic cost convention. The accounts meet the accounting and disclosure requirements of the Companies Acts and the Statements of Standard Accounting Practice so far as those requirements are appropriate.

(c) Income Income represents the total income receivable in the course of business for services provided and grant-in-aid claimable from Government departments. Grant-in-aid is receivable from DoE in respect of capital and revenue expenditure on pollution control, fisheries, navigation, recreation and conservation activities and is included under income in the Income and Expenditure Account. Specific grants and contributions for capital expenditure are deducted from the cost of fixed assets before being recorded in the accounts.

(d) Fixed Assets and Depreciation Expenditure (after deduction of grants and contributions) on intangible assets is charged to the Income and Expenditure Account in the year in which it is incurred. Intangible assets are defined as river bank, channel and related works which are of no economic use or works on structures and properties belonging to third parties where the ownership of the works undertaken does not vest in the NRA.

Other assets are included in the accounts at cost less accumulated depreciation calculated on a straight line basis. Additions are included at cost after deducting any relevant grants and contributions received. Freehold land is not depreciated. Economic lives for calculating straight line depreciation are principally:

- buildings 10-60 years;
- vehicles and mobile plant 3-20 years;
- operational structures 20-100 years;
- computers and equipment 5-10 years.

(e) *Leased Assets* Costs of operating leases are charged to Income and Expenditure Account in the year they are incurred. The costs of finance leases are treated as the purchase of the asset concerned. All obligations under finance leases were inherited from the predecessor water authorities.

(f) *Stores and Work in Progress* Stores and work in progress are valued at the lower of cost or net realisable value.

(g) *Research and Development* Research and development expenditure is charged to the Income and Expenditure Account in the year in which it is incurred.

(h) *Pensions* Under Statutory Instruments the assets and liabilities of the former water authorities superannuation fund were transferred to the NRA as administrator, a duty previously exercised by the Severn Trent Water Authority. The assets have been apportioned between new schemes, set up by former employers in the light of privatisation, and a new NRA active fund for the benefit of NRA employees. The NRA remains responsible through agents for this fund and for the remnant fund (The New Main and New Second Funds) for the payment of pensions to those no longer in water industry employment. Separate accounts are maintained.

At the request of Government the NRA has agreed to effect payment on behalf of Government of certain unfunded pensions to former water industry employees to be met from grant-in-aid.

The NRA active fund is a defined benefits scheme administered in accordance with local government pension scheme regulations. Funding policy for such schemes is determined by Government which is obliged under Section 173 of the Water Act 1989 to secure that pensions are paid. To this extent the scheme is fully funded.



ANNUAL ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1991

4. Income and Expenditure Account

For the year ended 31st March 1991

SEE NOTE	1990/91 TOTAL	1989/90 TOTAL	1990/91 SERVICE ACCOUNTS	1989/90 SERVICE ACCOUNTS	1990/91 FLOOD DEFENCE	1989/90 FLOOD DEFENCE	
		£m	£m	£m	£m	£m	£m
GROSS INCOME	1 & 2						
Income from activities		237.1	269.1	70.5	111.0	166.6	158.1
Government grant-in-aid		93.7	68.7	93.7	68.7	—	—
Sale of assets		1.2	0.8	0.3	0.5	0.9	0.3
Total income		332.0	338.6	164.5	180.2	167.5	158.4
EXPENDITURE							
Staff costs		106.5	86.2	53.2	40.3	53.3	45.9
Depreciation and expenditure on intangible assets in year		68.9	54.3	8.7	6.3	60.2	48.0
Other operating costs		119.9	120.8	70.9	79.2	49.0	41.6
Operating costs		295.3	261.3	132.8	125.8	162.5	135.5
Surplus on ordinary activities	3	36.7	77.3	31.7	54.4	5.0	22.9
Interest receivable	4	21.4	11.6	5.3	1.7	16.1	9.9
		58.1	88.9	37.0	56.1	21.1	32.8
Interest payable on long term loans		—	5.6	—	1.9	—	3.7
		58.1	83.3	37.0	54.2	21.1	29.1
Rate of return/grant-in-aid returnable to Government	6	7.8	3.4	7.8	3.4	—	—
Water resources surpluses carried forward to future years		1.7	11.6	1.7	11.6	—	—
Operating surplus	1 & 2	48.6	68.3	27.5	39.2	21.1	29.1
EXCEPTIONAL ITEMS	6						
Compensation for changes in emoluments		2.7	—	2.7	—	—	—
Head Office relocation		1.0	—	1.0	—	—	—
Information systems strategy		1.3	—	1.3	—	—	—
Surplus after exceptional items		43.6	68.3	22.5	39.2	21.1	29.1
TRANSFERS TO RESERVES							
Capital reserve: applied to purchase of fixed assets	1 & 2	50.5	43.7	33.4	31.9	17.1	11.8
Applied to special asset replacement fund	25	4.7	7.7	—	—	4.7	7.7
Surplus for the financial year		(11.6)	16.9	(10.9)	7.3	(0.7)	9.6
Retained surplus brought forward		38.3	21.4	7.3	—	31.0	21.4
Retained surplus carried forward		26.7	38.3	(3.6)	7.3	30.3	31.0

The total amount of grant-in-aid from DoE was £104m, of which £10.3m is excluded from the above statement as it relates to certain unfunded pension obligations the costs of which are also excluded from the above (see Statement of Accounting Policies, Item (h) Pensions). The notes on pages 43 to 53 form part of the accounts.

5. Balance Sheet

As at 31st March 1991

SEE NOTE	31st MARCH 1991 TOTAL	31st MARCH 1990 TOTAL	31st MARCH 1990 SERVICE ACCOUNTS	31st MARCH 1991 SERVICE ACCOUNTS	31st MARCH 1990 FLOOD DEFENCE	31st MARCH 1991 FLOOD DEFENCE	31st MARCH 1990 FLOOD DEFENCE
		£m	£m	£m	£m	£m	£m
FIXED ASSETS							
<i>Tangible assets</i>	8 & 9	402.7	365.0	165.6	138.6	237.1	226.4
CURRENT ASSETS							
Stocks	10	1.7	1.7	0.2	0.2	1.5	1.5
Work in progress	10	1.2	1.1	0.3	0.2	0.9	0.9
Debtors	11	27.8	36.6	14.5	20.6	13.3	16.0
Cash at bank and in hand		128.7	96.8	27.8	17.2	100.9	79.6
Total current assets		159.4	136.2	42.8	38.2	116.6	98.0
Creditors: amounts falling due within one year	12	87.1	57.6	44.4	30.3	42.7	27.3
Net current assets		72.3	78.6	(1.6)	7.9	73.9	70.7
Total assets less current liabilities		475.0	443.6	164.0	146.5	311.0	297.1
FINANCED BY							
Creditors: amounts falling due after more than one year	13	1.9	2.9	0.4	0.6	1.5	2.3
Provision	14	1.6	—	1.6	—	—	—
RESERVES							
Capital	14	402.7	365.0	165.6	138.6	237.1	226.4
Retained surplus from income and expenditure account	1 & 2	26.7	38.3	(3.6)	7.3	30.3	31.0
Special asset replacement fund	25	42.1	37.4	—	—	42.1	37.4
		475.0	443.6	164.0	146.5	311.0	297.1

The notes on pages 43 to 53 form part of these accounts.

The accounts were approved by the Board on 7th November 1991.

Chairman Lord Crickhowell

Crickhowell

Chief Executive Mr John Wheatley

John Wheatley

ANNUAL ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1991

6. Analysis of Receipts and Payments

For the year to 31st March 1991

	TOTAL	FLOOD DEFENCE	TOTAL ACCOUNTS	WATER SERVICE	POLLUTION CONTROL	FISHERIES	NAVIGATION	RECREATION AND CONSERVATION	COMPENSATION	
	£m	£m	£m	£m	£m	£m	£m	£m	£m	
RECEIPTS										
Precepts, levies, etc	178.7	178.7	—	—	—	—	—	—	—	
Abstraction charges, etc	63.3	—	63.3	63.3	—	—	—	—	—	
Other operating receipts	19.4	—	19.4	—	5.0	7.2	3.5	0.5	—	
Capital grants										
— MAFF	23.2	23.2	—	—	—	—	—	—	—	
— Welsh office	0.4	0.4	—	—	—	—	—	—	—	
— ERDF	0.1	0.1	—	—	—	—	—	—	—	
Interest received	19.9	15.0	4.9	4.8	—	—	0.1	—	—	
Grant-in-aid	104.0	—	104.0	—	55.0	9.8	6.2	2.8	2.7	
Total receipts	409.0	217.4	191.6	68.1	60.0	17.0	9.8	3.3	2.7	
PAYMENTS										
Revenue	227.1	103.0	124.1	47.8	51.5	13.7	4.5	2.1	2.7	
Capital — ordinary	118.1	93.1	25.0	8.6	9.0	2.7	2.7	0.7	—	
— restructuring	17.1	—	17.1	—	—	—	—	—	—	
Unfunded pensions	10.3	—	10.3	—	—	—	—	—	—	
Paid to Government re 1989-90										
— navigation licence receipts	1.1	—	1.1	—	—	—	1.1	—	—	
— required rate of return	1.8	—	1.8	1.8	—	—	—	—	—	
— grant-in-aid returnable	1.6	—	1.6	—	1.5	—	0.1	—	—	
Total payments	377.1	196.1	181.0	58.2	62.0	16.4	8.4	2.8	2.7	
SURPLUSES (DEFICITS)	31.9	21.3	10.6	9.9	(2.0)	0.6	1.4	0.5	—	
Opening balance	96.8	79.6	17.2	13.0	1.5	0.7	1.2	—	—	
Closing balance	128.7	100.9	27.8	22.9	(0.5)	1.3	2.6	0.5	—	
ANALYSIS OF CLOSING BALANCE										
Flood defence balances	100.9	100.9	—	—	—	—	—	—	—	
Water resources purposes	15.8	—	15.8	15.8	—	—	—	—	—	
Special fisheries funds	0.9	—	0.9	—	—	0.9	—	—	—	
Other special purposes	1.1	—	1.1	—	—	0.1	—	—	—	
Sub total	118.7	100.9	17.8	15.8	—	1.0	—	—	—	
Payable to Government:										
— navigation licence receipts	2.4	—	2.4	—	—	—	2.4	—	—	
— required rate of return	7.1	—	7.1	7.1	—	—	—	—	—	
— grant-in-aid returnable	0.5	—	0.5	—	(0.5)	0.3	0.2	0.5	—	
Total	128.7	100.9	27.8	22.9	(0.5)	1.3	2.6	0.5	—	

RELOCATION OF HEAD OFFICE	INFORMATION SYSTEMS STRATEGY	CAPITAL RESTRUCTURING	UNFUNDED PENSIONS
£m	£m	£m	£m

—	—	—	—
—	—	—	—
—	—	3.2	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
1.8	1.3	14.1	10.3
1.8	1.3	17.3	10.3

0.5	1.3	—	—
1.3	—	—	—
—	—	17.1	—
—	—	—	10.3
—	—	—	—
—	—	—	—
—	—	—	—
1.8	1.3	17.1	10.3

—	—	0.2	—
—	—	0.8	—
—	—	1.0	—

—	—	—	—
—	—	—	—
—	—	—	—
—	—	1.0	—
—	—	1.0	—

—	—	—	—
—	—	—	—
—	—	—	—
—	—	1.0	—

RECEIPTS
Precepts, levies, etc
Abstraction charges, etc
Other operating receipts
Capital grants
— MAFF
— Welsh office
— ERDF
Interest received
Grant-in-aid
Total receipts

PAYMENTS
Revenue
Capital — ordinary
— restructuring
Unfunded pensions
Paid to Government re 1989–90
— navigation licence receipts
— required rate of return
— grant-in-aid returnable
Total payments

SURPLUSES (DEFICITS)
Opening balance
Closing balance

ANALYSIS OF CLOSING BALANCE
Flood defence balances
Water resources purposes
Special fisheries funds
Other special purposes
Sub total

Payable to Government:
— navigation licence receipts
— required rate of return
— grant-in-aid returnable
Total

This statement reflects cash receipts and payments during the period and records the nature of the NRA and DoE relationship which is on a cash accounting basis for the purpose of establishing entitlement to grant-in-aid. The term capital restructuring refers to expenditure on fixed assets necessary to set up the NRA as a separate entity from the former water authorities. The costs of such assets arising after 1st September 1989 have been funded through grant-in-aid from DoE and contributions from the water services companies.



ANNUAL ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1991

7. Source and Application of Funds

For the year ended 31st March 1991

	1990/91 TOTAL	1989/90 TOTAL	1990/91 SERVICE ACCOUNTS	1989/90 SERVICE ACCOUNTS	1990/91 FLOOD DEFENCE	1989/90 FLOOD DEFENCE
	£m	£m	£m	£m	£m	£m
SOURCE OF FUNDS						
Surplus after exceptional items	43.6	68.3	22.5	39.2	21.1	29.1
Adjustments for items not involving the movements of funds:						
Depreciation and expenditure on intangible assets in year	68.9	54.3	8.7	6.3	60.2	48.0
Provisions and disposals	1.9	0.3	2.0	1.2	(0.1)	(0.9)
Total generated from operations	114.4	122.9	33.2	46.7	81.2	76.2
FUNDS FROM OTHER SOURCES						
Capital grants and contributions (fixed assets)	4.6	1.7	3.9	0.5	0.7	1.2
Capital grants and contributions (intangible assets)	24.2	19.7	—	—	24.2	19.7
Creditors due after more than one year	(1.0)	(0.1)	(0.2)	—	(0.8)	(0.1)
Total funds generated	142.2	144.2	36.9	47.2	105.3	97.0
APPLICATION OF FUNDS						
Purchase of fixed assets	74.6	62.3	46.7	40.5	27.9	21.8
Purchase of intangible assets	74.6	58.1	0.1	0.1	74.5	58.0
Depreciation charged to capital expenditure	(0.7)	(0.7)	(0.4)	(0.7)	(0.3)	—
Increase (decrease) in working capital	(6.3)	24.5	(9.5)	7.3	3.2	17.2
COMPONENTS OF INCREASE IN WORKING CAPITAL						
Stocks	—	0.4	—	(0.4)	—	0.8
Work in progress	0.1	0.8	0.1	0.2	—	0.6
Debtors	(8.8)	17.1	(6.1)	13.1	(2.7)	4.0
Creditors	(29.5)	(35.3)	(14.1)	(26.5)	(15.4)	(8.8)
Movement in liquid funds	(38.2)	(17.0)	(20.1)	(13.6)	(18.1)	(3.4)
Cash at bank and in hand	31.9	41.5	10.6	20.9	21.3	20.6
Increase (decrease) in working capital	(6.3)	24.5	(9.5)	7.3	3.2	17.2

NB The item for provisions and disposals comprises the provision against the Clywedog operating agreement (£1.6m), which is more fully described in note 14, and the written down values of assets taken out of commission.

The notes on pages 43 to 53 form part of these accounts.

8. Notes to the Financial Statements

The term "Service Accounts" incorporates water resources, pollution control, fisheries, navigation, recreation and conservation accounts.

1. Analysis of Income, Expenditure and Surpluses by Service Accounts

	TOTAL	WATER RESOURCES	POLLUTION CONTROL	NAVIGATION	FISHERIES	CONSERVATION & RECREATION	CAPITAL RESTRUCTURING	EXCEPTIONAL ITEMS
	£m	£m	£m	£m	£m	£m	£m	£m
INCOME								
Abstraction charges	58.3	58.3	—	—	—	—	—	—
Grant-in-aid	93.7	—	55.0	6.2	9.8	2.8	14.1	5.8
Sales of assets	0.3	0.2	0.1	—	—	—	—	—
Tolls	0.2	—	—	0.2	—	—	—	—
Fishing licence duties	6.7	—	—	—	6.7	—	—	—
Charges	1.2	—	0.8	—	—	0.4	—	—
Interest receivable	5.3	5.1	0.1	0.1	—	—	—	—
Other income	4.1	0.6	1.9	0.7	0.9	—	—	—
Total income	169.8	64.2	57.9	7.2	17.4	3.2	14.1	5.8
EXPENDITURE								
Manpower costs	53.2	16.7	24.2	2.9	7.9	1.5	—	—
Contracted services	40.8	22.6	14.7	0.7	2.0	0.8	—	—
Materials	9.1	2.9	4.2	0.2	1.4	0.4	—	—
Depreciation & expenditure on intangible assets in year	8.7	3.6	3.2	0.7	1.0	0.2	—	—
Other	21.0	7.9	8.4	0.7	3.3	0.7	—	—
Total expenditure	132.8	53.7	54.7	5.2	15.6	3.6	—	—
Operating surplus for year	37.0	10.5	3.2	2.0	1.8	(0.4)	14.1	5.8
Less Government required rate of return and current cost depreciation	—	8.8						
Water resources surpluses carried forward to future years	1.7	1.7						
Rate of return/grant-in-aid returnable to Government	7.8							
Exceptional items:								
Compensation for changes in emoluments	2.7							
Head Office relocation	1.0							
Information systems strategy	1.3							
Surplus after exceptional items	22.5							
Transfer to capital reserve:								
Applied to purchase of fixed assets	33.4							
Deficit for the year	(10.9)							
Retained surplus brought forward 1st April 1990	7.3							
Retained surplus carried forward 31st March 1991	(3.6)							

Expenditure on restructuring assets funded by grant-in-aid and contributions from water services plc's has been classified by beneficiary service in Note 8 as follows:

	£m
Water resources	3.1
Pollution control	9.5
Fisheries	0.6
Navigation	0.1
Conservation	0.1
Recreation	0.1
Flood defence	4.8

Total 18.3

ANNUAL ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1991

2. Analysis of Flood Defence Income and Expenditure

TOTAL	£m
INCOME	
Local authority levies	152.6
General drainage charges	2.5
MAFF/Welsh Office grants	0.1
Internal drainage boards	5.9
Contributions from beneficiaries	0.3
Sales of assets	0.9
Interest receivable	16.1
Other income	5.2
Total income	183.6
EXPENDITURE	
Manpower costs	53.3
Contracted services	20.6
Materials	10.1
Depreciation and expenditure on intangible assets in year	60.2
Internal drainage boards	1.1
Other	17.2
Total expenditure	162.5
Operating surplus for year	21.1
Transfers to reserves:	
— applied to purchase of fixed assets	17.1
— applied to special asset replacement fund	4.7
Deficit for the year	(0.7)
Retained surplus brought forward 1st April 1990	31.0
Retained surplus carried forward 31st March 1991	30.3

3. Surplus on Operating Activities

	1990/91 £m	1989/90 £m
The operating surplus is arrived at after charging:		
Auditors' remuneration	0.2	0.2
Research and development	6.2	4.5
Hire of plant and machinery	3.0	3.6
Employees' travelling, transport costs, subsistence and hospitality	8.9	6.9
Water charges	0.1	0.1

4. Interest Receivable

£21.4m interest receivable is predominantly the sum obtained from short-term fixed interest deposits.

5. Interest Payable

No interest was payable during the year. Interest of £5.6m payable in the previous year related to loan debt which did not pass to NRA on 1st September 1989.

6. Exceptional Items

The Authority inherited varying conditions of service for its senior managers from the former regional water authorities and was set the task of standardising those conditions. Achievement of the task involved compensating some managers for permanent changes in their emoluments. Compensation and associated employers' statutory liabilities amounted to £2.7m.

Following the decision to move its expanding Head Office from London to the Bristol area, the NRA has made payments of £0.5m on revenue account in the course of relocating staff and occupying additional premises on a temporary basis. Payments totalling £1.3m have been incurred on capital account in fitting out permanent accommodation near Bristol, which is to be occupied from July 1991. After the end of the financial year, the Authority held an internal inquiry into the design and fitting out of the new Head Office in Bristol. Following consideration of the subsequent findings, the Board decided to include a creditor provision for grant-in-aid of £0.75m repayable to the DoE.

The NRA has embarked on the development of an information systems strategy which is intended to improve efficiency across all functions and departments. Phase 3 of the strategy, involving payments of £1.3m, was commissioned during the year to investigate such issues as standards and procedures resourcing, strategic technologies and supporting architecture, and IS education and training.

7. Grant-in-aid re Pension Payments

£10.3m was received from DoE by way of grant-in-aid to pay certain unfunded pension obligations arising from the water industry reorganisation. The costs of these obligations and the related grant-in-aid are excluded from the income and expenditure summary.



ANNUAL ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1991

8. Analysis of Tangible Fixed Assets by Service

	WATER RESOURCES	POLLUTION CONTROL	FISHERIES	RECREATION	CONSERVATION	NAVIGATION	SERVICE ACCOUNTS TOTAL	FLOOD DEFENCE	GRAND TOTAL
	£m	£m	£m	£m	£m	£m	£m	£m	£m
COST/VALUATION									
At 1st April 1990	84.2	41.7	13.9	2.5	0.5	35.5	178.3	311.6	489.9
Additions and reclassification of usage	12.6	19.8	3.5	0.4	0.3	2.9	39.5	35.1	74.6
Disposals	(1.0)	(0.3)	(0.2)	—	—	(0.1)	(1.6)	(35.2)	(36.8)
Grants and contributions	(0.5)	(1.9)	(0.2)	(0.1)	(0.1)	—	(2.8)	(1.8)	(4.6)
At 31st March 1991	95.3	59.3	17.0	2.8	0.7	38.3	213.4	309.7	523.1
DEPRECIATION									
At 1st April 1990	21.5	8.5	3.0	0.4	0.1	6.2	39.7	85.2	124.9
Charge for year	3.5	3.6	1.0	0.1	—	0.7	8.9	10.2	19.1
Disposals	(0.3)	(0.3)	(0.2)	—	—	—	(0.8)	(22.8)	(23.6)
At 31st March 1991	24.7	11.8	3.8	0.5	0.1	6.9	47.8	72.6	120.4
Net Fixed Assets	70.6	47.5	13.2	2.3	0.6	31.4	165.6	237.1	402.7

Fixed assets are analysed here by beneficiary service, whereas purchases are entered in the statements on source and application of funds and reserves (Note 14) respectively according to sources of funding. The link between the three records is established as follows:

	Analysis of Tangible Assets			Reserves/Source and Application of Funds		
	SERVICE ACCOUNTS	FLOOD DEFENCE	TOTAL	SERVICE ACCOUNTS	FLOOD DEFENCE	TOTAL
	£m	£m	£m	£m	£m	£m
Gross purchases	39.5	35.1	74.6	46.7	27.9	74.6
Grants and contributions	(2.8)	(1.8)	(4.6)	(3.9)	(0.7)	(4.6)
	36.7	33.3	70.0	42.8	27.2	70.0
Reclassifications						
—net purchases in year	—	—	—	(6.0)	6.0	—
—depreciation and disposals	—	—	—	(0.1)	0.1	—
Net purchases	36.7	33.3	70.0	36.7	33.3	70.0

Net expenditure on intangible assets in the year was calculated as follows:

	SERVICE ACCOUNTS	FLOOD DEFENCE	TOTAL
	£m	£m	£m
Gross expenditure	0.1	74.5	74.6
Grants and contributions	—	(24.2)	(24.2)
Net expenditure on intangible assets in year	0.1	50.3	50.4

9. Analysis of Tangible Fixed Assets by Category

	LAND AND BUILDINGS	PLANT AND MACHINERY	FIXTURES AND FITTINGS	ASSETS UNDER CONSTRUCTION	TOTAL
	£m	£m	£m	£m	£m
COST					
At 1st April 1990	332.1	95.3	28.5	34.0	489.9
Additions	33.6	21.2	14.9	4.9	74.6
Disposals	(31.9)	(4.3)	(0.3)	(0.3)	(36.8)
Grants and contributions	—	(0.2)	—	(4.4)	(4.6)
<i>At 31st March 1991</i>	<i>333.8</i>	<i>112.0</i>	<i>43.1</i>	<i>34.2</i>	<i>523.1</i>
DEPRECIATION					
At 1st April 1990	73.9	41.1	9.9	—	124.9
Provided during the year	5.2	9.5	4.4	—	19.1
Disposals	(19.9)	(3.6)	(0.1)	—	(23.6)
<i>At 31st March 1991</i>	<i>59.2</i>	<i>47.0</i>	<i>14.2</i>	<i>—</i>	<i>120.4</i>
NET BOOK VALUE					
<i>At 1st April 1990</i>	<i>258.2</i>	<i>54.2</i>	<i>18.6</i>	<i>34.0</i>	<i>365.0</i>
<i>At 31st March 1991</i>	<i>274.6</i>	<i>65.0</i>	<i>28.9</i>	<i>34.2</i>	<i>402.7</i>



ANNUAL ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1991

10. Stocks and Work in Progress

	1990/91	1989/90
	£m	£m
Stocks and stores	1.7	1.7
Work in progress	1.2	1.1

11. Debtors

	1990/91	1989/90
	£m	£m
Trade debtors	2.9	2.1
Other debtors	18.5	26.3
Water resources account debtors	1.5	1.9
Prepayments and accrued income	4.9	6.3
	27.8	36.6

12. Creditors: Amounts Falling Due Within One Year

	1990/91	1989/90
	£m	£m
Finance leases	0.5	0.6
Trade creditors	16.4	9.1
Other creditors	34.8	21.5
Tax and social security	2.4	0.2
Customer deposits and receipts in advance	2.8	1.6
Accruals	5.2	6.6
Water resources account creditors	14.8	13.5
Returnable to Government:		
— rate of return/grant-in-aid	7.8	3.4
— navigation licence income	2.4	1.1
	87.1	57.6

13. Creditors: Amounts Falling Due After More than One Year

	1990/91	1989/90
	£m	£m
Finance leases	0.9	2.0
Other creditors	0.7	0.7
Customer deposits and receipts in advance	0.3	0.2
	1.9	2.9

14. Reserves and Retained Surpluses and Provisions

a) Movements in Reserves and Retained Surpluses

	SERVICE ACCOUNTS	FLOOD DEFENCE	TOTAL
	£m	£m	£m
BALANCE AS AT 1ST APRIL 1990			
Capital	138.6	226.4	365.0
Retained surplus	7.3	31.0	38.3
Special asset replacement fund	—	37.4	37.4
	145.9	294.8	440.7
MOVEMENT IN THE YEAR			
Capital — purchase of fixed assets	46.7	27.9	74.6
— grants and contributions	(3.9)	(0.7)	(4.6)
— depreciation	(9.1)	(10.0)	(19.1)
— disposals	(0.3)	(0.2)	(0.5)
— other	—	0.1	0.1
Transfer to Capital Reserve	33.4	17.1	50.5
— loss on Ardingley Reservoir	(0.4)	—	(0.4)
— reclassification of asset usage	(6.0)	6.0	—
— intangible assets written off	—	(12.4)	(12.4)
Deficit in year	(10.9)	(0.7)	(11.6)
Special asset replacement fund	—	4.7	4.7
	16.1	14.7	30.8
BALANCES AS AT 31ST MARCH 1991			
Capital	165.6	237.1	402.7
Retained surplus	(3.6)	30.3	26.7
Special asset replacement fund	—	42.1	42.1
Totals	162.0	309.5	471.5

The net written down value of Ardingley Reservoir (Southern Region), which was disposed of during the year, has been debited direct to capital reserve upon the authority of the Department of the Environment.

To arrive at its opening balance sheet as at 1st April 1989, the Authority reduced inherited assets of an intangible nature to nil in accordance with its depreciation policy. During 1990/91, however, further intangible assets were identified in asset records and their aggregate value of £12.4m has been written off to capital reserve in the year.

b) Provisions

A provision of £1.6m has been created to cover the NRA's liability for contributions towards infrastructure maintenance under the Clywedog operating agreement with Severn Trent plc. It relates to the water resources function and it will be utilised once the timing and costs of necessary works have been finally determined.

ANNUAL ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1991

15. Insurance

Apart from statutory insurance requirements and certain risks covered with the approval of the Department of the Environment, the NRA is self insuring.

16. Corporation Tax

The NRA is exempt from Corporation Tax.

17. Information Regarding Board Members

	1990/91	1989/90
(1) Members' emoluments	£k	£k
Total Board members' emoluments including employers' pension contributions	260	176
(2) The emoluments of: the Chairman	46	31
the highest paid member	66	41
(3) Scale of members' emoluments		
£0- 5,000	—	1
£ 5,001-10,000	3	11
£10,001-15,000	9	1
£15,001-20,000	1	—
£30,001-35,000	—	1
£40,001-45,000	—	1
£45,001-50,000	1	—
£65,001-70,000	1	—

(4) During the year, Board members incurred travelling, subsistence and hospitality expenditure of £42k.

(The 1989/90 information relates to part of the year only.)

18. Information Regarding Employees

	1990/91	1989/90
	£m	£m
Salaries and wages	78.4	73.6
Social security costs	7.0	6.5
Pension costs (excludes amounts referred to in note 7)	8.8	5.9
Employee costs	94.2	86.0

Emoluments of senior employees, excluding pension costs

£30,001-35,000	41	50
£35,001-40,000	47	16
£40,001-45,000	19	10
£45,001-50,000	9	—
£50,001-55,000	1	5
£55,001-60,000	4	—

(The 1989/90 statistics relate to part of the year only.)

The average number of full-time equivalent employees was 6,858 in 1990/91 (5,863 in 1989/90).

19. Finance Leases

Existing finance leases were part of the Schemes of Transfer and commitments to payments are:

	1990/91	1989/90
	£m	£m
Within 1 year	0.5	20.6
Between 1 and 2 years	0.4	0.5
Between 2 and 5 years	0.5	1.5
	1.4	2.6

The capital value of assets held under finance leases as at 31st March 1991 was £1.0m (at 31st March 1990, £1.7m).

20. Leasing Commitments — Operating Leases

The NRA was committed to the following payments during the next financial year in respect of operating leases:

	LAND AND BUILDINGS	OTHER
	£m	£m
Leases expiring:		
Within 2 to 5 years	0.1	0.3
After 5 years	1.1	0.1
	1.2	0.4

21. Contingent Liabilities

The NRA is guarantor for bridging loans obtained by staff who are compulsorily relocated. The value of such loans extant at 31st March was £1.7m.

22. Capital Commitments

	1990/91	1989/90
	£m	£m
Contracted for but not provided in the financial statements	13.6	24.3
Authorised but not yet contracted for	37.6	57.5

23. Water Resources Account — Rate of Return

In its charges to abstractors, the NRA is required to provide for a 2% rate of return on the net current cost value of water resources assets which were transferred to it on 1st September 1989 and an 8% return on assets purchased subsequently. The value of the total return was £4.6m in 1990/91. Charges must also provide for a return on water resources assets equivalent to current cost depreciation. This amounted to £4.2m for the year.

24. Water Resources Account by Region for the year ended 31st March 1991

	TOTAL	ANGLIAN	NORTHUMBRIA	NORTH WEST	SEVERN TRENT	SOUTHERN	SOUTH WEST	THAMES	WELSH	WESSEX	YORKSHIRE
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Balance as at 1st April 1990	11.6	0.7	5.3	(0.1)	2.9	(0.2)	1.1	(1.6)	3.1	0.1	0.3
Income	64.2	10.1	10.8	4.4	11.6	5.0	3.1	6.8	7.1	2.5	2.8
	75.8	10.8	16.1	4.3	14.5	4.8	4.2	5.2	10.2	2.6	3.1
Expenditure	62.5	10.5	9.2	4.2	11.1	5.2	3.2	6.3	8.0	2.6	2.2
Balance as at 31st March 1991	13.3	0.3	6.9	0.1	3.4	(0.4)	1.0	(1.1)	2.2	—	0.9

Each Region of the NRA maintains its own water resources account and implements charging schemes and expenditure plans which are determined from local circumstances and approved by the Board.

This table shows the water resources income and expenditure account by Region. Expenditure includes current cost depreciation and rate of return.

25. Special Asset Replacement Fund

The sum identified of £42.1m relates to the Thames Barrier and is set aside against the need for major capital works in the future.

26. Flood Defence Capital Grants

During the year, the Welsh Office and MAFF paid capital grants of £23.6m relating to both the current and prior periods.

27. Flood Defence Accounts

The Flood Defence Service Revenue Account in Note 28 demonstrates that, in accordance with paragraph 16 of Schedule 1 to the Water Act 1989, revenue raised in a Local Flood Defence District has been spent only in discharging the Authority's functions in that District (or for certain other purposes specified in the Act). The sums against retained surplus on Income and Expenditure Account are calculated in accordance with Section 47 of the Land Drainage Act 1976. Under that Section a surplus or deficit arising in a Flood Defence District in any one financial year must be extinguished within the two ensuing financial years by applying it to that District's qualifying expenses.

Other movements represent the additions to capital reserves excluding those arising from the transfers from the Income and Expenditure Account.

ANNUAL ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1991

28. Flood Defence Service Revenue Account for year ended 31st March 1991

	ANGLIAN			NORTHUMBRIA			SEVERN TRENT			SOUTHERN		
	Welland & Nene	Lincoln	Essex	Norfolk & Suffolk	Great Ouse	NORTHUMBRIA	NORTH WEST	Isle of Wight	Hampshire	Sussex	Kenil	
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
INCOME												
Local authority levies	3.0	4.5	8.5	4.9	5.2	2.1	16.4	17.6	0.1	1.5	5.4	7.2
General drainage charges	0.2	0.6	0.5	0.6	0.6	—	—	—	—	—	—	—
MAFF/Welsh Office grants	—	—	—	—	—	—	—	—	—	—	—	—
Internal drainage boards	0.6	1.4	—	0.4	1.6	—	—	0.4	—	—	0.1	0.6
Contributions from beneficiaries	—	0.2	—	—	—	—	—	0.1	—	—	—	—
Interest receivable	0.2	0.4	0.6	0.1	1.1	0.2	1.1	1.4	0.1	0.2	0.1	0.4
Other income	0.3	0.1	0.1	0.2	0.2	—	0.7	0.5	—	—	0.2	0.6
Total income	4.3	7.2	9.7	6.2	8.7	2.3	18.2	20.0	0.2	1.7	5.8	8.8
EXPENDITURE												
Main river:												
Inland waters	1.1	0.9	0.9	0.6	1.9	0.9	6.0	6.6	0.1	0.3	1.2	1.5
Tidal waters	—	—	—	—	—	0.2	0.4	0.4	—	—	0.4	0.3
Sea defence	0.2	0.4	1.8	1.0	0.3	—	0.1	—	—	0.2	0.9	1.7
Flood warning	—	—	—	—	—	—	0.2	—	0.1	0.1	0.1	0.1
Other works	0.3	0.1	0.1	0.2	0.1	—	—	1.7	—	—	0.2	0.4
Land and properties	—	—	—	—	—	—	—	—	—	—	—	—
Policy, management and administration etc	1.0	1.3	1.4	1.2	1.6	0.4	5.8	3.3	0.1	0.4	1.2	1.9
Depreciation and expenditure on intangible assets	1.3	3.7	3.9	3.3	3.0	0.2	3.0	4.4	0.1	1.1	1.5	3.5
Internal drainage boards	—	0.1	—	0.1	0.3	—	—	0.3	—	—	—	0.1
Total expenditure	3.9	6.5	8.1	6.4	7.2	1.7	15.5	16.7	0.4	2.1	5.5	9.5
Surplus (deficit) of income over expenditure	0.4	0.7	1.6	(0.2)	1.5	0.6	2.7	3.3	(0.2)	(0.4)	0.3	(0.7)
Balances at 1st April 1990												
Capital reserves	1.4	2.6	5.1	2.4	4.1	0.3	7.7	13.3	0.1	0.3	1.3	2.3
Retained surplus from Income and Expenditure Account	0.6	0.4	1.9	(0.1)	4.8	0.2	2.3	4.8	0.4	1.1	0.2	2.7
Special Asset Replacement Fund	—	—	—	—	—	—	—	—	—	—	—	—
Other movements	—	0.1	0.1	0.1	0.1	0.7	0.8	0.4	0.1	0.3	0.5	0.6
Analysis of reserves movements	2.4	3.8	8.7	2.2	10.5	1.8	13.5	21.8	0.4	1.3	2.3	4.9
Balances at 31st March 1991												
Capital reserves	2.3	3.7	5.4	2.6	5.2	1.3	10.5	18.3	0.1	0.5	1.9	3.2
Retained surplus from Income and Expenditure Account	0.1	0.1	3.3	(0.4)	5.3	0.5	3.0	3.5	0.3	0.8	0.4	1.7
Special Asset Replacement Fund	—	—	—	—	—	—	—	—	—	—	—	—
Analysis of closing reserves	2.4	3.8	8.7	2.2	10.5	1.8	13.5	21.8	0.4	1.3	2.3	4.9

	WELSH					WESSEX					YORKSHIRE		TOTAL	
	SOUTH WEST	THAMES	Dee & Clwyd	Gwynedd	Wye	Usk	Glomorgan	SW Wales	Bristol & Avon	Avon & Dorset	Somerset			
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	
INCOME														
Local authority levies	5.5	43.8	1.8	1.4	0.8	1.1	2.0	1.6	1.5	2.5	3.3	10.9	152.6	
General drainage charges	—	—	—	—	—	—	—	—	—	—	—	—	2.5	
MAFF/Welsh Office grants	—	0.1	—	—	—	—	—	—	—	—	—	—	0.1	
Internal drainage boards	—	—	—	—	—	0.2	—	—	—	—	0.2	0.4	5.9	
Contributions from beneficiaries	—	—	—	—	—	—	—	—	—	—	—	—	0.3	
Interest receivable	—	8.5	—	—	—	0.1	0.2	0.1	0.2	0.2	0.3	0.6	16.1	
Other income	0.1	1.0	—	0.1	0.1	—	—	0.1	0.1	0.3	0.4	1.0	6.1	
Total income	5.6	53.4	1.8	1.5	0.9	1.4	2.2	1.8	1.8	3.0	4.2	12.9	183.6	
EXPENDITURE														
Main river:														
Inland waters	0.6	14.7	0.9	0.5	0.3	0.3	0.8	0.6	0.6	0.6	0.9	1.1	43.9	
Tidal waters	0.1	4.7	0.1	0.2	—	0.2	—	—	0.1	0.1	0.3	0.6	8.1	
Sea defence	—	—	—	0.1	—	0.1	—	—	—	0.1	0.1	—	7.0	
Flood warning	0.1	0.6	—	—	—	—	—	0.1	—	—	—	0.5	1.9	
Other works	1.1	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.6	1.6	7.9	
Land and properties	—	0.8	—	—	—	—	—	—	—	—	—	0.2	1.0	
Policy, management and administration etc	0.8	4.5	0.5	0.4	0.3	0.3	0.7	0.5	0.5	0.5	0.9	1.9	31.4	
Depreciation and expenditure on intangible assets	2.4	18.0	0.2	0.1	0.4	0.4	0.6	0.3	0.5	1.3	0.9	6.1	60.2	
Internal drainage boards	—	—	—	—	—	—	—	—	—	—	—	0.2	1.1	
Total expenditure	5.1	43.6	1.9	1.5	1.2	1.4	2.2	1.6	1.8	2.8	3.7	12.2	162.5	
Surplus (deficit) of income over expenditure	0.5	9.8	(0.1)	—	(0.3)	—	—	0.2	—	0.2	0.5	0.7	21.1	
Balances at 1st April 1990														
Capital reserves	2.7	156.4	0.6	0.6	0.6	0.6	0.6	0.6	3.9	2.1	3.5	13.3	226.4	
Retained surplus from Income and Expenditure Account	(0.2)	4.1	0.2	(0.1)	(0.1)	0.4	1.4	0.3	1.2	0.8	1.5	2.2	31.0	
Special Asset Replacement Fund	—	37.4	—	—	—	—	—	—	—	—	—	—	37.4	
Other movements	1.3	(6.9)	(0.3)	(0.4)	(0.2)	0.5	1.0	(0.6)	(0.7)	(1.9)	(2.1)	0.1	(6.4)	
Analysis of reserves movements	4.3	200.8	0.4	0.1	—	1.5	3.0	0.5	4.4	1.2	3.4	16.3	309.5	
Balances at 31st March 1991														
Capital reserves	4.0	154.6	0.3	0.1	0.4	1.1	1.6	0.1	3.4	0.2	2.1	14.2	237.1	
Retained surplus from Income and Expenditure Account	0.3	4.1	0.1	—	(0.4)	0.4	1.4	0.4	1.0	1.0	1.3	2.1	30.3	
Special Asset Replacement Fund	—	42.1	—	—	—	—	—	—	—	—	—	—	42.1	
Analysis of closing reserves	4.3	200.8	0.4	0.1	—	1.5	3.0	0.5	4.4	1.2	3.4	16.3	309.5	

Appendix 1 — The Authority's Head Office and the Board as at 31st March, 1991

Head Office

National Rivers Authority
30-34 Albert Embankment
London SE1 7TL
Tel: 071 820 0101
Fax: 071 820 1603

National Rivers Authority
Rivers House
Waterside Drive
Almondsbury
Bristol BS12 4UD
Tel: (0454) 624400
Fax: (0454) 624409

The Board

Chairman

Lord Crickhowell

Members

Dr John C Bowman CBE (Chief Executive)
Mr Peter Brandt
Mr Peter Coverdale OBE
Sir Hugh Fish CBE
Lady Digby DBE DL
Professor Ronald W Edwards
Mr David Kinnersley
Lord Mason
Mr Dennis Mitchell

Mr John H M Norris CBE

Mr R Julian F Taylor

Mr Wyndham J Rogers-Coltman OBE

Mr John Wheatley

Mrs Karen Morgan

Board Secretariat

Secretary to the Authority

Mrs Margaret Evans

Head of Administration and Committee Management

Miss Lynda Cecil

Committee Clerk

Ms Julianna Fejér



Directors and Heads of Function

Corporate Affairs Directorate

Mrs M Evans (Director of Corporate Affairs)
Miss L Cecil (Head of Administration and Committee Management)
Mr H G Pearce (Head of Corporate Planning)
Mr R Page (Head of Public Relations)

Chief Scientist's Directorate

Dr R J Pentreath (Chief Scientist)
Mr M E Bramley (Head of Research and Development)
Mr P Chave (Head of Water Quality)

Personnel Directorate

Mr P J Humphreys (Personnel Director)
Mr I L Graham (Head of Employee Relations)
Mr E R Hawkins (Head of Training)
Mr P Parkinson (Head of Health and Safety)

Finance Directorate

Mr C Savory (Finance Director)
Mr L F Gray (Head of Financial Management)
Mr S Egan (Head of Audit)
Mr R Gall (Head of Business Services)

Technical Directorate

Dr C J Swinnerton (Technical Director)
Dr I Crofts (Head of Information Systems)
Dr K O'Grady (Head of Fisheries, Recreation, Conservation and Navigation)
Mr J D Sherriff (Head of Water Resources)
Mr I Whittle (Head of Flood Defence)

Biographical notes on the National Rivers Authority Board Members

Lord Crickhowell, age 57 Chairman

Created life peer in 1987. As Nicholas Edwards was MP for Pembroke from 1970-87 and Secretary of State for Wales from 1979-87. 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.

Dr John C Bowman CBE, age 57 Chief Executive

Secretary to Natural Environment Research Council 1981-89. Formerly Professor of Animal Production and Director of Farms, University of Reading and Director of Centre for Agricultural Strategy.

Peter Brandt, age 60

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

J Peter Coverdale OBE, age 61

Deputy Chairman Yorkshire Water Authority 1983-88, Chairman Regional Land Drainage Committee 1983-89, Member Executive Committee, National Association of Drainage Authorities. Companion of Institution of Water and Environmental Management, Member of Yorkshire and Humberside Agricultural Lands Tribunal. Chairman of Yorkshire Regional Advisory Board.

Lady Digby DBE DL, age 57

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 since 1986; appointed DBE for services to the Arts, 1991. Chairman of Wessex Regional Advisory Board.

Professor Ronald Edwards, age 60

Professor Emeritus, University of Wales; Member Welsh Water Authority 1973-89; Deputy Chairman 1983-89. Chairman National Parks Review Panel 1989-91. Chairman of the Secretary of State for Wales' Special Committee for Wales and of the Welsh Regional Advisory Board.

Sir Hugh Fish CBE, age 68

Chairman Natural Environment Research Council 1984-88 (Member 1976-84). Former Chief Executive, Member and Chief Scientist Thames Water Authority. Chairman Water Technology Transfer Ltd.

David Kinnersley, age 64

Since 1983, international adviser on water institutions including special consultant to Secretary of State on formation of National Rivers Authority. Research Fellow, Nuffield College, Oxford 1983/84. Previous career appointments in water management since 1964, including first Chief Executive, North West Water Authority.

Lord Mason, age 67

Formerly Roy Mason, MP for Barnsley 1953-87. Post Master General; Minister of Power; President Board of Trade. Secretary of State for Defence 1974-76, N Ireland 1976-79. Opposition spokesman on Agriculture, Fisheries and Food 1979-81. Chairman of Anglers Co-operative Association. President York's Salmon and Trout Association.

Dennis Mitchell, age 60

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

Karen Morgan, age 45

Managing Director Marine Logic; Director and Vice-Chairman Southdown Building Society; Member of Board of Governors, Bristol Polytechnic. Chairman of the Southern Regional Advisory Board.

John H M Norris CBE DL, age 60

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

Wyndham J Rogers-Coltman OBE, age 58

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; 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 1984-89. Chairman of Northumbria Regional Advisory Board.

R Julian F Taylor, age 61

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

John Wheatley, age 63

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.



Appendix 2 — Regional Offices and Regional Committees

ANGLIAN REGION

Regional Headquarters

Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 0ZR
Tel: (0733) 371811
Fax: (0733) 231840

Regional General Manager

Dr K Bond

Regional Board Member

Mr P Brandt

Regional Management Team

Finance & Common Services Manager –
Mr R Hyde
Flood Defence & Operations Manager –
Mr C Mason
Environment & Fisheries Manager –
Mr A Tetlow
Public Relations Officer –
Mr J Dodd

Regional Fisheries Advisory Committee

Mr P Tombleson OBE (Chairman)
Mr S Alden
Mr S Amos
Mr K Ball
Mr L Cass
Mr C Clare
Mr M Foster
Mr C Groome
Mr M Labern
Mr D Lloyd
Mr J Martin
Mr P Peachey-Edwards
Mr C Rollinson
Mr A Wheeler

Regional Flood Defence Committee

Mr J Martin (Chairman)
Mr J Clarke (to 31.7.90)
Dr M George (from 1.8.90)
Mr J Childs
Mr H Duffield
Mr J Ellis
Mr D Fisher
Mr F Gales
Mr R Gibson
Mr W Grant
Mr C Groome
Mr W Hanson (to 30.4.90)
Mrs S Marler (from 4.7.90)
Mr D Riddington (from 1.8.90)
Mr J Horrell
Mr D Hoyes
Mr R Lord
Mr A Northen
Mr F Rockcliffe
Mr F Thornton
Mr P Tombleson OBE

Regional Rivers Advisory Committee

Mr C Groome (Chairman)
Mrs S Ashford
Mr N Boast
Dr J Carmichael
Mr D Clarke
Mr H Darbon
Mrs N Field

Dr D George
Hon R Godber
Mr J Green
Mr P Horton
Mr D Latham
Mr J Loveys
Mr C Lumber
Mr J Martin
Mr P Moorhouse
Mr J Pilling
Mr A Prater
Mr G Searle
Mr D Sisman
Mr P Tombleson OBE

NORTHUMBRIA REGION

Regional Headquarters

Eldon House
Regent Centre
Gosforth
Newcastle-upon-Tyne
NE3 3UD
Tel: (091) 213 0266
Fax: (091) 284 5069

Regional General Manager

Mr D Rainbow

Regional Board Member

Mr W J Rogers-Coltman OBE

Regional Management Team

Business Services Manager –
Mr P Darling
Environmental Quality Manager –
Mr M Colley
Fisheries, Recreation and Conservation Manager –
Mr A Champion
Flood Defence Manager –
Mr C Birks
Water Resources Manager –
Dr J Mawdsley
Personnel Manager –
Mr W Adams
Public Relations Manager –
Mr J Ritson

Regional Fisheries Advisory Committee

Mr P Tennant (Chairman)
Mr J Browne-Swinburne
Dr T Crisp
Mr J Evans-Freke
Mr J Fry JP
Dr S Haile
Mr D Hall
Mr D Heselton
Mr K Hewitson
Mr R Kirton-Darling
Dr M Owen
Mr E Pratt
Mr E Thomas
Mr C Warwick
Mr E Wrangham
Mr K Young

Regional Flood Defence Committee

Mr E Wrangham (Chairman)
Cllr G Anderson
Mr I Armstrong
Cllr Mrs S Armstrong
Cllr D Bates
Mr J Browne-Swinburne
Cllr A Campbell
Cllr R Dunn
Mr J Gibson
Cllr F Gill

Cllr K Hall
Mr J Hall
Mr R Howell
Hon A Joicey
Cllr S Nugent
Mr P Tennant
Cllr E Walker

Regional Rivers Advisory Committee

Mr J Browne-Swinburne (Chairman)
Mr M Bird JP
Dr J Carrick
Cllr J Coulthard
Mr D Dunlop
Mr J Foster
Mr K Hale
Mrs J Johnson
Prof M Newson
Cllr D Nicholson
Mr E Palmer
Mr R Pepper
Lord Ralph Percy
Mr H Sanderson
Mr P Tennant
Mr H Watson
Mr E Wrangham
Mrs P Wynne

NORTH WEST REGION

Regional Headquarters

Richard Fairclough House
Knutsford Road
Warrington
WA4 1HG
Tel: (0925) 53999
Fax: (0925) 415961

Regional General Manager

Dr C Harpley

Regional Board Member

Mr R J F Taylor

Regional Management Team

Environmental Quality Manager –
Dr J Leeming
Flood Defence Manager –
Dr P Walsh
Water Resources Manager –
Mr F Brassington
Fisheries, Conservation & Recreation Manager –
Mr C Newton
Finance Manager –
Mr M Maitland
Administrative Manager –
Mr G Ager

Regional Fisheries Advisory Committee

Mr T Barnes OBE
Mr R Bailey
Dr R Broughton
Mr A Brown
Mr F Bunting
Mr J Croft
Mr E Ecroyd
Mr J Fell
Mr C Holland
Mr B Irving
Mr K Lambert
Mr E Le Cren
Mr J Lovell
Mr P Neal
Mr J Robinson (to 31/7/90)
Mr W Wannop OBE (from 1/8/90)
Mr R Weston

Regional Flood Defence Committee

Mr W Wannop OBE (Chairman)
Mr J Robinson (Chairman to 31/07/90)
Mr R Addison
Mr T Barnes OBE
Mr N Bennett (11/90 to 2/91)
Mr J Brentnall (to 31/7/90)
Mr K Bury (from 1/8/90)
Mr F Dolphin
Mr V Earnshaw (from 1/3/91)
Mr J Eason (to 29/10/90)
Mr P Entwistle (from 1/8/90)
Mr J Gardner (to 31/7/90)
Mr S Hill (from 1/8/90)
Mr J Hilton
Mr B O'Hare
Mr G Roper
Mr R Slack
Mr A Spenser (to 28/2/91)
Mr R Urnevitch
Mr B Wallsworth (from 1/3/91)
Mr R Weston

Regional Rivers Advisory Committee

Mr R Weston (Chairman)
Mr T Barnes OBE
Mr I Bonner
Mr D Cochrane
Dr V Collinge (from 12/90)
Mr J Crowther JP
Mr G Hammersley
Mr E Harper
Dr S Jones
Mrs W Kolbe (from 12/90)
Mr J Lucas
Mr R Pickup
Mr R Pocock
Mr A Richardson OBE DL
Mr J Robinson (to 31/7/90)
Dr M Rose
Mr R Sharland
Mrs A Tait (to 30/11/90)
Sir J Tavare
Mr R Tyson
Mr W Wannop OBE (from 1/8/90)
Mr A Wright

SEVERN-TRENT REGION

Regional Headquarters

Sapphire East
550 Streetsbrook Road
Solihull
B91 1QT
Tel: (021) 711 2324
Fax: (021) 722 5824

Regional General Manager

Dr G Mance

Regional Board Member

Mr J Wheatley

Regional Management Team

Catchment Planning Manager –
Dr A Skinner

Environmental Quality Manager –
Dr B Waters
Flood Defence Manager –
Dr R Bailey
Fisheries, Conservation & Recreation Manager –
Mrs K Bryan
Business Services Manager –
Mr G Litterick

Regional Fisheries Advisory Committee

Mr F Jennings (Chairman)
Dr P Bottomley
Mr W Casey
Mr G Chambers
Mr T Clowes
Mr B Crawford
Mr K Fisher
Mr W Hardy
Mr G Hawthorne
Mr H Howarth
Mr A Jones
Mr D Morgan
Mr D Orton
Dr A Richards
Mr R Sparrow
Mr A Stephens
Dr H Tebbutt
Mr R Williams

Regional Flood Defence Committee

Mr G Hawthorne (Chairman)
Mr B Booth
Mr G Bullock
Mr J Carter
Mr J Chamberlayne
Mr D Chapman
Mr J Curley
Mr J Dainty
Mr D Dale
Mr M Eagleton
Mr A Fraser
Mrs J Gilman
Mr J Griffiths
Mr F Jennings
Mr R Prosser
Mr R Scannell
Mr D Sherriff
Mr B Singh
Dr H Tebbutt
Mr J Wardle MBE JP

Regional Rivers Advisory Committee

Dr H Tebbutt (Chairman)
Cllr P Beeby
Mr J Betteridge
Mrs V Gillespie MBE
Mr D Grigg
Lord Guernsey
Mr G Hawthorne
Mr F Jennings
Cllr D Jones
Cllr Sir Richard Knowles
Cllr Mrs Merritt
Mr P Mitchell
Mr C Nicholson
Mr D Pryor
Mr W Scott
Mr S Sim
Mr J Thompson
Mr F Walmsley
Mr M White

SOUTHERN REGION

Regional Headquarters

Guildbourne House
Chatsworth Road
Worthing
West Sussex
BN11 1LD
Tel: (0903) 820692
Fax: (0903) 821832
Regional General Manager
Mr G Davies

Regional Board Member

Mrs K Morgan

Regional Management Team

Environmental Manager –
Mr M Beard
Flood Defence Manager –
Mr G West
Resources Manager –
Mr P Herbertson
Finance Manager –
Mr K Hodgson
Secretary –
Mr T King

Regional Fisheries Advisory Committee

Mr A Humbert (Chairman)
Mr B Aldrich
Mr D Brunwin
Mr A Costen
Dr J Cotton
Mr M Drummond
Mr I Gay
Dr B Lindsay
Mr C Neame
Mr J Parkman
Mr J Potter
Mr F Reader
Mr B Stott
Maj J Thomas

Regional Flood Defence Committee

Mr C Neame (Chairman)
Dr T Bines
Mr M Drummond
Mr I Hammond
Lt Col G Hart
Maj T Holden
Mr A Humbert
Mr S Leyland
Mr R Millard
Mr D Monnington
Mr M Odling
Mr S Ranger
Mr H Richards
Mr T Sobey
Mr C Tandy
Mr C Whaley
Mr D Whyberd

Regional Rivers Advisory Committee

Mr M Drummond (Chairman)
Mr H Barnhoorn
Dr M Clarke
Mr C Dempster
Maj I Duffin
Mr D Gibson
Mr H Harris
Mr D Harvey
Mrs E Haselden
Mr B Hewett
Mr A Humbert
Ms L Leeson
Mr D Martin
Mr C Neame
Mr E Pipe
Mr C Saunders-Davies
Mr B Tarling
Mrs S Whitley
Mr J Wilkinson
Mr B Williams

SOUTH WEST REGION

Regional Headquarters

Manley House
Kestrel Way
Exeter
EX2 7LQ
Tel: (0392) 444000
Fax: (0392) 444238

Regional General Manager

Mr G H Bielby

Regional Board Member

Mr D Mitchell

Regional Management Team

Environmental Protection Manager – Mr C Davies
 Engineering Manager – Mr G Bull
 Finance Manager – Mr D Horwood
 Secretary & Solicitor – Mr Q Gray

Regional Fisheries Advisory Committee

Mrs A Voss-Bark (Chairman)
 Lt Col G Badham
 Mr A Baker
 Lord Clinton
 Mr S Day
 Mr P Edwards
 Miss J Edwards
 Prof C Kennedy
 Mr G Manning
 Mr H Maund
 Mr M Mountjoy
 Mr T Mutton
 Mr R Retailick
 Mr J Stevens
 Mr M Weaver
 Mr B Wilson

Regional Flood Defence Committee

Mr G Manning (Chairman)
 Mr J Bell
 Mr P Butler (from 1/7/90)
 Mr B Costello
 Mr P Edwards
 Mr M Hughes (from 1/7/90)
 Mr T Laity
 Lt Col Sir Arscott
 Molesworth St Aubyn
 Br Mbe
 Mr H Northcott
 Mr R Sampson (to 30/6/90)
 Mr R Stratton
 Mr R Taylor
 Mrs A Voss-Bark
 Mr R Westlake (to 30/6/90)
 Fl Lt B Wills-Pope

Regional Rivers Advisory Committee

Mr P Edwards (Chairman)
 Mr P Barson
 Dr P Beale
 Mr R Bull
 Mr R Chappell
 Mr A Coulter
 Mr W Dickens
 Lt Col W Elliot
 Mr F Gomm
 Mr E Hughes
 Mr G Manning
 Dr F McAllister
 Mr E Newton
 Dr M Pemberton
 Mr J Philp
 Miss C Steel
 Mrs J Thomson
 Mr P Tuckett
 Mr M Turner
 Mrs A Voss-Bark

THAMES REGION**Regional Headquarters**

Kings Meadow House
 Kings Meadow Road
 Reading
 RG1 8DQ
 Tel: (0734) 535000
 Fax: (0734) 500388

Regional General Manager

Mr L D Jones

Regional Board Member

Mr J H M Norris CBE

Regional Management Team

Environmental Quality Manager – Mr I Adams
 Fisheries, Recreation & Conservation Manager – Mr A Birtles
 Regional Flood Defence Manager – Mr S Darby
 Technical Services Manager – Mr J Dickinson
 Finance & General Services Manager – Mr G King
 Catchment Control Manager – Dr G Phillips

Regional Fisheries Advisory Committee

Mr H Parry (Chairman)
 Dr J Alabaster
 Mr M Davies OBE
 Prof J George
 Mr M Gregory OBE LLB
 Mr A Hodges
 Dr D Jamieson
 Mr B Knights
 Mr D Komrower
 Mr G Lee
 Mr T Mansbridge
 Mr A Meddle
 Mr D Wales
 Mr A Williams
 Mrs J Wykes

Regional Flood Defence Committee

Mr M Davies OBE (Chairman)
 Mr J Anani
 Mrs E Barnes
 Mrs P Bentley
 Mr R Blanchwood
 Mrs C Broom
 Mrs D Candy
 Mr A Gray
 Mr A Hitchcock CBE
 Dr D Hoyle
 Mr T Jenkinson
 Mr J Joseph
 Mr M Kennard
 Mr A Manners
 Mr J O'Sullivan
 Mr H Parry
 Mr R Pile
 Mr A Ritchie
 Mr H Scantlebury
 Mr D Simpson
 Mrs J Venables
 Mrs J Wykes

Regional Rivers Advisory Committee

Mrs J Wykes (Chairman)
 Mr J Coates CBE DFC

Mr D Coleman
 Mr R Corp-Reader OBE
 Mr M Davies OBE
 Mr A Davis
 Mr K French
 Mr F Hodgson
 Dr R Hornby
 Mr J Ibbott
 Mr G Lee-Steer
 Mr P McIntosh
 Mr D Moss
 Mr H Parry
 Dr K Parry
 Mr D Powell
 Mr A Scott-Johnston
 Mr W Sheate
 Mr M Shefras
 Mr D Try
 Mr D Turner
 Mr A Wilcox
 Mr W Wiseman

WELSH/CYMRU REGION**Regional Headquarters**

Rivers House/
 Plas-yr-Afon
 St Mellons Business Park
 St Mellons
 Cardiff
 CF3 0LT
 Tel: (0222) 770088
 Fax: (0222) 798555

Regional General Manager

Dr J Stoner

Regional Board Member

Prof R Edwards

Regional Management Team

Fisheries, Recreation & Conservation Manager – Mr W Ayton
 Public Relations Manager – Mr G Champion
 Planning Manager – Dr A Gee
 Finance & Administration Manager – Mr W Griffiths
 Solicitor – Mr C Martin
 Personnel Manager – Ms R Richardson
 Environment & Quality Manager – Mr D Walker
 Flood Defence Manager – Mr T Widnall

Regional Fisheries Advisory Committee

Lord Moran (Chairman)
 Mr I Edwards-Jones
 Dr J Fish
 Mr W Hardy
 Mr M Johnston
 Mr M Matthews
 Mr J Mayers
 Mr M McLaggan
 Mr R Millichamp
 Mr M Morgan
 Col P Ormrod
 V. Adm Sir Iwan Raikes
 Mr A Rees
 Mr J Rhydderch
 Mr G Roberts
 Dr W Roscoe Howells
 Mrs J Spence
 Mr W Williams

Regional Flood Defence Committee

Mr M McTaggan
 Mr R ap Simon Jones
 Mr L Chase
 Cllr H Costerell
 Cllr J Davies
 Cllr F Evans
 Cllr E Griffiths
 Mr J Hughes
 Cllr J Humphreys
 Cllr B Huxley
 Cllr R Jenkins
 Mr J Llewellyn
 Mr R Millichamp
 Mr P Perkins
 Cllr D Thomas
 Cllr J Thompson
 Cllr M Vaughan
 Mr W Waters
 Cllr C Watkins

Regional Rivers Advisory Committee

Prof M Bruton
 Dr M Brooker
 Dr N Caldwell
 Cllr W Conway
 Cllr J Evans
 Cllr E Griffiths
 Mr J Harrison
 Mrs C Hayward
 Cllr J Hereford
 Dr W Howells
 Cllr G Jones
 Mr H Lewis
 Mr R Lovegrove
 Mr K Mascetti
 Mr M Morgan
 Dr A O'Connor
 Mr A Rugman
 Prof J Simpson
 Mr L Taylor
 Mr B Thomas
 Cllr J Thompson
 Mr W Walker
 Mr W Waters
 Mr H Williams

WESSEX REGION**Regional Headquarters**

Rivers House
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 Bridgewater
 Somerset
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 Tel: (0278) 457333
 Fax: (0278) 452985

Regional General Manager

Mr N Reader

Regional Board Member

Lady Digby DBE DL

Regional Management Team

Fisheries, Recreation & Conservation Manager – Mr A Barber
 Catchment Planning Manager – Mr M Booth
 Legal & Estates Manager – Miss G Griffith
 Finance & Administration Manager – Mr N Gupta
 Public Relations Manager – Mr P Hewett
 Catchment Control Manager – Mr D Palmer

Personnel Manager – Mr T Pless

Flood Defence Manager – Mr B Tinkler

Regional Fisheries Advisory Committee

Mr C Rothwell (Chairman)
 Maj J Mills OBE TD JP
 DL (Chairman to 31/08/90)
 Mr R Baker
 Mr R Corbett
 Mr D Gifford
 Mr K Hall
 Maj A Hill
 Mr P Lacey
 Mr K Lacey
 Dr M Ladle
 Mr J Mathrick
 Mr J Parker
 Maj D Rasch
 Mr M Stoodley
 Col C Tarver MBE
 Mr G Topp

Regional Flood Defence Committee

Mr R Baker (Chairman)
 Mr J Bush JP
 Mr S Chedzoy
 Mr P Cookson
 Mr G Hine
 Mr P Lacey
 Maj G Lamb
 Mr R Martin
 Maj J Mills OBE TD JP
 DL (to 31/8/90)
 Mr G Morris
 Mr D Pearce
 Mr A Phillips OBE
 R. Adm G Pritchard CB
 Mr C Rothwell
 Mr T Turvey OBE
 Mr R Willis

Regional Rivers Advisory Committee

Mr P Lacey (Chairman)
 Mr R Adlam
 Mr R Baker
 Mr E Cameron
 Capt I Campbell
 Lt Col J Cornwell
 Lady Digby DBE DL
 Mr D Gifford
 Mr K Green
 Mr M Hudson
 Mr J Little
 Capt J Loft
 Mrs N McMahon
 Maj J Mills OBE TD JP
 DL (to 31/8/90)
 Mrs I Peckham
 Miss W Pettigrew
 Mr E Potter
 Mr C Rothwell
 Mr T Rymell
 Mr C Skellett
 Mrs P Stocken
 Mr A Swindall
 Mr R Trench

YORKSHIRE REGION**Regional Headquarters**

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

Regional General Manager

Mr K W Newham

Regional Board Member

Mr J P Coverdale OBE

Regional Management Team

Flood Defence Manager – Mr B Marsden
 Environment Manager – Dr A Edwards
 Secretary & Solicitor – Mr G Greenlay
 Fisheries, Recreation & Conservation Manager – Dr D Shillcock
 Water Resources Manager – Mr R Franklin
 Finance Manager – Mr S Astley
 Information Technology Manager – Mr J Neat
 Personnel & Productivity Manager – Mr A Meredith

Regional Fisheries Advisory Committee

Mr J Fawcett (Chairman)
 Mr J Austerfield
 Mr T Collier
 Mr A Dalby
 Mr A Evans
 Mr P Hayton
 Mr W Jackson
 Mr H Mackrill
 Mr J Mitchell
 Mr A Noble
 Mr M O'Donnell
 Dr R Ormond
 Mr M Stewart
 Mr G Traves
 Mr J Whitworth

Regional Flood Defence Committee

Mr T Collier (Chairman)
 Cllr J Bramley
 Mrs J Burnett
 Cllr Mrs M Crampton
 Mr B Croft
 Mr J Fawcett
 Cllr J Goodhand
 Cllr A Miller
 Cllr Mrs E Sargent
 Cllr E Scott
 Cllr H Sheldon
 Mr J Welford
 Mr J Whitworth

Regional Rivers Advisory Committee

Mr J Whitworth (Chairman)
 Mr P Andrew
 Mr J Armitage
 Dr S Bucknall
 Mr T Collier
 Mr J Cooke
 Mr J Fawcett
 Mr C Hawkesworth
 Dr P Knights
 Ms S Marsden
 Dr W Middleton
 Cllr R Mitchell
 Mr R Pigg
 Miss M Rooker
 Dr A Shuttleworth
 Cllr C Swinglehurst
 Mr J Thompson
 Mr I White
 Mr G Wilford

Appendix 3 — Principal Professional Advisers to the Authority

Principal Bankers

National Westminster Bank plc
13 Bishopsgate, London EC2P 2AP

Auditors

KMPG Peat Marwick McLintock
1 Puddle Dock, Blackfriars
London EC4V 3PD

Legal Advisers

Macfarlanes, 10 Norwich Street
London EC4A 1BD

Pension Fund Auditors

Price Waterhouse, Livery House
169 Edmund Street
Birmingham B3 2JB

Pension Fund Investment

Queen Annes Gate Asset Management Ltd
1 Queen Anne's Gate
London SW1H 9BT

Parliamentary Agents

Dyson Bell Martin and Co
1 Dean Farrar Street
Westminster, London SW1H 0OY

Insurance Advisers

Bowrings London Ltd, Tower Place
London EC3P 3BE

Pension Fund Managers

Hartshead Pensions Asset Management Ltd
St Peter's House, Hartshead
Sheffield S1 1EU

Technical Services

Water Research Centre, PO Box 16
Henley Road, Medmenham
Bucks SL7 2HD

Appendix 4 — New Legislation, Byelaws and other Statutory Instruments affecting the NRA

EC Legislation

90/415/EEC	amending Annex II Directive 86/280/EEC on limit values and quality objectives for discharges of certain dangerous substances included in list 1 of the Annex to Directive 76/464/EEC. DoE Circular 20/90 – classification of Dangerous Substances discharged to Groundwaters. on the contained use of genetically modified micro-organisms.
90/219/EEC	on the deliberate release into the environment of genetically modified organisms.
90/220/EEC	updating annex 1 to 89/440/EEC Public Works Directive.
90/380/EEC	on the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors.
90/531/EEC	laying down the veterinary rules for the disposal and processing of animal waste, for its placing on the market and for the prevention of pathogens in feed stuffs of animal or fish origin and amending Directive 90/421/EEC.
90/667/EEC	amending 75/442 on Waste Disposal.
91/156	decision introducing a Community financial measure with a view to the eradication of infectious haematopoietic necrosis of salmonids in the Community.
90/495/EEC	on the animal health conditions governing the placing on the market of aquaculture animals and products.
91/67/EEC	

UK Legislation

Public Acts	Environmental Protection Act 1990
Private Acts	River Tees Barrage and Crossing Act 1990
	Port of Tyne Act 1990

Byelaws

Yorkshire Region	Fishery Byelaw extending a prohibited area outside Whitby harbour was confirmed on 31st January 1991.
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Statutory Instruments

Statutory Instrument Number	Description	Made	Coming into force
1013	The Nitrate Sensitive Areas (Designation) Order 1990	26 April 1990	1 June 1990
1157	The Sea Fisheries Districts (Constitution of Committees) (Variation) Order 1990	18 May 1990	30 May 1990
1187	The Nitrate Sensitive Areas (Designation) (Amendment) Order 1990	6 June 1990	7 June 1990
1354	The Northumbria Regional Flood Defence Committee (Appointed Day) Order 1990	29 June 1990	—
1355	The Southern Regional Flood Defence Committee (Appointed Day) Order 1990	29 June 1990	—
1356	The South West Regional Flood Defence Committee (Appointed Day) Order 1990	29 June 1990	—
1357	The Yorkshire Regional Flood Defence Committee (Appointed Day) Order 1990	29 June 1991	—

1629	The Trade Effluents (Prescribed Processes & Substances) (Amendment) Regulations 1990	6 Aug 1990	31 Aug 1990
1642	The Anglian Regional Flood Defence Committee (Appointed Day) Order 1990	13 July 1990	—
1643	The Anglian Regional Flood Defence Committee Order 1990	13 July 1990	1 Aug 1990
1644	The North West Regional Flood Defence Committee (Appointed Day) Order 1990	13 July 1990	—
1645	The Severn Trent Regional Flood Defence Committee (Appointed Day) Order 1990	13 July 1990	—
1646	The Wessex Regional Flood Defence Committee (Appointed Day) Order 1990	13 July 1990	—
1647	The Wessex Regional Flood Defence Committee Order 1990	13 July 1990	1 Aug 1990
1710	The Local Government Act 1985 (Thames Water Authority Regional Land Drainage Committee) (Revocation) Order 1990	18 Aug 1990	12 Sept 1990
1711	The Thames Regional Flood Defence Committee (Appointed Day) Order 1990	18 Aug 1990	—
1712	The Thames Regional Flood Defence Committee Order 1990	18 Aug 1990	12 Sept 1990
1806	The North West Regional Flood Defence Committee (Appointed Day) (No. 2) Order 1990	22 Aug 1990	—
2635	The Environmental Protection Act 1990 (Commencement No. 4) Order 1990	18 Dec 1990	—
96	The Environmental Protection Act (Commencement No. 5) Order 1991	13 Jan 1991	—
324	The Control of Pollution (Silage, Slurry and Agricultural fuel oil) Regulations 1991	22 Feb 1991	1 Sept 1991
472	The Environmental Protection (Prescribed Processes & Substances) Regulations 1991	6 March 1991	1 April 1991
476	The Litter (Relevant land of Principal Litter Authorities & Relevant Crown Land) Order 1991	6 March 1991	1 April 1991
507	The Environmental Protection (Applications, Appeals & Registers) Regulations 1991	6 March 1991	1 April 1991
513	The Environmental Protection (Authorisation of Processes) (Determination Periods) Order 1991	7 March 1991	1 April 1991
523	The Internal Drainage Boards (Finance) (Amendment) Regulations 1991	7 March 1991	1 April 1991
836	The Environmental Protection (Amendment of Regulations) Regulations 1991	27 March 1991	1 April 1992
1042	The Environmental Protection Act 1990 (Commencement No. 7) Order 1991	28 March 1991	—

Orders

North West Region	Revocation of excusal from regulation of Rod and Line fishing for freshwater fish and eels with effect from 1st January, 1991.
All Regions	Diseases of Fish Orders (SVC).

Appendix 5 — Publications and Publicity Material

National

Books

The Law of the National Rivers Authority by William Howarth. (Obtainable from the Centre for Law in Rural Areas, University College of Wales, Aberystwyth, Dyfed)

Brochures

NRA Corporate Brochure
Health and Safety Policy
Control of Substances Hazardous to Health Regulations
Introductory note on the NRA's R&D programme
National Rivers Authority Corporate Plan 1990/91
National Rivers Authority Annual Report 1989/90
Discharge Consent and Compliance Policy:
A Blueprint for the Future
Clear Waters - Priorities for the NRA after one year's work
Water Pollution from Farm Waste 1989 (jointly with MAFF), from South West Region
Fisheries Statistics 1989
Toxic Blue Green Algae: The Report of the National Rivers Authority
Demands and Resources of Water
Undertakers in England & Wales:
Preliminary Report Under Section 143(2)(a) Water Act 1989

Leaflets

COSHH
Warning: Blue Green Algal Blooms
Emergency Procedures - Flood Warning
Code of Practice on Land Use (Land Manual)
River Pollution
Public Water Quality Register
Flood Defence

Newsletter

The Water Guardians Newspaper

Videos

NRA Corporate video
RIVPACS
NRA Commercial (with animated logo)
NRA Corporate interactive video

Information sheets

NRA Fact sheets
Colour-Coded Flood Warning Service Fact Sheet
Fisheries Facts and Figures

Displays

The National Rivers Authority - general exhibition stands 'Running Water' display with interactive video

Regional

NORTHUMBRIA

Brochures

Regional Brochure
Angling Guide
Charging Discharges
Abstraction Charges
Regional Plan Summary

Leaflets

Notes on Pollution
Yarm Flood Defence Scheme
Silage Pollution
Water Pollution from Sheep Dip
River Pollution
Farm Pollution Prevention
River Information Sheets

Newsletters

Yarm (Staff Newsletter)

Videos

Regional video
Yarm Flood Defence Scheme
Northumbria Salmon

Displays

Yarm Flood Defence Scheme
Farm Pollution
National Garden Festival

Posters

Silage Pollution

Information

River Facts: pack for schools
Recorded fisherman's information service

YORKSHIRE

Brochures

Regional Brochure
Regional Members Yearbook
High Eske Nature Reserve Annual River Report
Regional Plan Summary

Leaflets

Regional Leaflet
River Wharfe
River Aire
River Sheaf
River Calder
River Derwent
River Derwent—Barmby Lock and Tidal Barrage
River Derwent - Sutton Lock
Information for River Derwent Boat users
River Esk
High Eske Nature Reserve
Schedule of Inland Waterways in Yorkshire
Yorkshire's Waterways
River Foss Flood Alleviation Scheme
Management of the River Foss
Water Quality of the Humber Estuary
Strategy for the Restoration of the River Rother -
Proceedings Conservation
Slurry; Silage; Pesticides and Chemicals
Oil Pollution Kills
Farm Pollution Kills River Life
Freshwater Crayfish Under Threat
Water Weed Control
Information Technology
Environmental Biology
River Quality Management
Fisheries Byelaws
Buyer Beware of Poached Salmon
Fish Farm booklet
Fish price list
Schedule of current fishing rod licence charges 1991/92
List of Yorkshire fishing clubs
"Where to fish in Yorkshire"
Emergency Arrangements - Regional Information
The Yorkshire Rivers Litter Monitoring Project

Newsletters

Catch Magazine

Posters

Guardians of the Water Environment (4)
Farm Pollution costs the environment and it could cost you

NORTH WEST

Brochures

Regional Brochure
Year Book
Regional Plan Summary

Leaflets

Windermere anti-pollution
Leeds and Liverpool and Lancaster Canal anti-pollution
Farming pollution
A Dirty Story for Farmers
Development of Flood Risk Implications
Farms on limestone
Farm Waste - good practices guide
Conservation and rivers
Fishing licence duties
Authority consents
Mersey measure booklet
Fisheries Facts and Figures
Is something fishy going on?
How pure is your local natural spring?
Richard Fairclough House
Flood Defence Development Advice
Proposed Scheme of Discharges literature

Newsletter

Splash (staff newsletter)

Videos

Regional
Pollution Control
Flood Defence

Posters

Boat owners using Lake Windermere

Displays

5 display units
Slide presentation packs
Conservation

Information

Education pack
River information packs

WELSH

Brochures

Guardians of the Water Environment - Welsh Version
Regional Plan Summary
Anglers Guide 1991
Juvenile Salmonid Monitoring Programme Report

Leaflets

Clean Rivers Cup
Silage is Deadly
Oil, Chemicals and Pesticides
Rod Fishing Byelaws
Buyer Beware of Poached Salmon
Rewards for Tagged Fish
Llyn Brianne Acid Water Projects
Safeguard the Environment - a guide for developers

Newsletters

Glaug-Dorlan newspaper
Pont (staff newsletter)

Videos

As Nature Intended
Acid Water in Wales
Guarding the Dee
Flood Defence Video

Displays

NRA Welsh Region
Is your farm pollution proof?
The River Llynfi

SEVERN-TRENT

Information

Regional Brochure
Regional Plan Summary
Mini Brochure

Leaflets

Water Pollution and its Effects
Pollution and How to Spot it
Silage Effluent
Farm Slurry and Pollution
Slurry Storage
Slurry and Dirty Water Disposal
Water Pollution and its Effects
Sheep Dip and Pollution
Pollution—We're all responsible
Pollution Kills
Storage of Oil – Chemical and toxic substances
Nitrates in Ground Water
Water Abstraction
The Tame Catchment
Spray Irrigation
Severn Bore 1991
Navigation in the Severn-Trent Region
Flood Defence
Fishing Guide
Facts at a Glance – Severn-Trent Region

Information

Information Folder
Quarterly Press & Public Briefing Broadsheet

ANGLIAN

Brochures

Regional Brochure
Regional Plan Summary

Leaflets

Guardians of the Water Environment
Protecting the Water Environment
The Anglian Region Facts
Contacting the NRA
The Regional Advisory Board
Kingfisher House – The Building
The Colne Barrier (2)
Lincoln Flood Alleviation
The Denver Complex
Lincolnshire Sea Defences
Clacton Sea Defence Scheme
Ouse Washes Barrier Bank (2)
Lodes-Granta Groundwater Scheme
Navigation in the Anglian Region
River Stour Navigation History
Kings Lynn Tidal Defences
Woodbridge and Melton Flood Defences
Water Resources – Abstraction Register
Managing Water Resources
Thames Tidal Defences
Blue-Green Algae
Pollution (3)
Water Resources – Abstraction Register
Managing Water Resources
Water Quality (3)
Freshwater Fishing
24 Hours a Day
Model Policies
Sea Defences (3)
1991 Tidal Tables
Development in Flood Risk Areas
Waterways – A Code of Conduct
Navigation (3)
Emergency Arrangements (2)

Posters

Lodes-Granta Groundwater Scheme
Water Resources
Wildlife on the Riverbank
NRA (Anglian) Colouring Chart

THAMES

Brochures

Regional Brochure
Regional Plan Summary
Customer Contact Manual
Fobney Mead Brochure
Thames Review

Leaflets

River Colne
River Cherwell
River Chess
River Lee
River Wey
The Tidal Thames
Traffic on the Thames
River Thames Handbook
Locks and Weirs on the River Thames – How Do They work?
Flood Defence and Land Drainage
Guide to River Thames – Lock and Weir Fishing
Protecting Your Homes – River Crane Flood Alleviation Scheme
Protecting Your Homes – Flood Alleviation Scheme for Maidenhead, Windsor and Eton
Rod Licences – What You Get For Your Money
Fisheries (4)
A Career in Technical Services with NRA

Newsletters

Banknotes (staff newsletter)
NewsCast (The Magazine for Thames Anglers)

SOUTHERN

Brochures

A Guide to Southern Region
Regional Plan Summary
Water and the Environment in Times of Drought
Water Quality Survey Map 1989
Fishing in the South
Guide to Rye Harbour Byelaws
Guide to the Medway Navigation

Leaflets

Ashford Flood Alleviation Scheme
Rivers of the Isle of Wight
River Test
River Itchen
River Meon
River Arun
River Adur
River Ouse
Eastern Rother
Cuckmere River
River Medway
Kentish Stour
Longshire Drift – The Beaches are on the Move
River Pollution and How to Avoid it
River and Effluent Quality and Consents
River Water Quality
River Water Pollution
Industrial Pollution
Farm Pollution
Bathing Water Quality
Sewage and the Environment
Emergency Control Centre – Information at the Fingertips
Land Drainage and Sea Defence Byelaws
Planning Liaison and Development
Flooding, How it Occurs and What is Done about it
The Medway Navigation
Are you Storing Animal Wastes Safely?
Are you Disposing of Animal Wastes Safely?
Is your Farm Really Safe?
Is your Sheep Dipping Safe?
Pond Pack
Abstraction Charges Scheme 1991–1992
A New Angle – A Simpler Way of Licensing Fishing
Education Pack

Newsletters

On-Stream (staff newsletter)
Southern Angle (Fisheries newsletter)

WESSEX

Brochures

Regional Brochure
Angling Guides: Bristol Avon Area, Avon and Dorset Area, Somerset Area
Regional Plan Summary

Leaflets

Matters relating to Land
Information for Landowners
Land Drainage Consents
Leptospirosis
Bridport Flood Alleviation Scheme
Looking at the Tone
Conservation in Capital Schemes
Careers
Is your sheep dipping safe?
Silage Liquor
Safe Disposal of Silage
River Corridor Surveys
Pollarding
Freshwater Fish of the Wessex Region

Newsletters

RRAC Newsletter
Riverwise (staff newsletter)

Videos

Rivers of Gold
NRA Update (flooding, pollution and litter)

Information

Pollution
Somerset Levels and Moors
Water Cycle
Wildlife along Rivers

SOUTH WEST

Brochures

Regional Brochure
Regional Plan Summary

Leaflets

Protecting Padstow – Padstow Tidal Defence System
Regional Communications Centre
Careers Guide
Exeter Laboratory – Careers for School Leavers
Flood Defences for Axminster
Development and Flood Risk
Danger – Sheep Dip Can Kill
Barnstaple Tidal Defence Scheme
Help Safeguard the Torridge
Buyer Beware
Help Safeguard the Taw/Torridge Estuary
Flood Defence Scheme – Truro-Kenwyn
Silage Liquor Can Kill
Water Quality Discharge Consents
Sir John Moone House

Newsletters

The Guardians (staff newsletter)

Poster and Card

Pollution Hotline
Sheep Dip Can Kill

Appendix 6 — Research Publications and Project Completions

R & D Programme

COMMISSION A – WATER QUALITY			COMMISSION D – FISHERIES			COMMISSION E – RECREATION AND NAVIGATION			COMMISSION F – CONSERVATION			COMMISSION B – WATER RESOURCES			COMMISSION C – FLOOD DEFENCE			COMMISSION F – CONSERVATION		
Development of SIMCAT	Contractor	WRc	Sediment and gravel transportation in rivers – phase 1	Newcastle University		Bank erosion on navigable waterways – phase 1	Portsmouth Polytechnic		Post-project appraisal of conservation enhancement of flood defence schemes phase 1	Alconbury Consultants		The hydrodynamics of East Anglian Fen systems	Birmingham University	Anglian	Reedbed erosion control	In-House	Anglian	Faunal richness of freshwater streams – a review	IFE	North West
Software packages for data interpretation	WRc		Prioritisation and programming of river work	Mott MacDonald		Environmental opportunities under a scenario of sea level rise	Posford Duviols		Environmental assessment methodology	University of Aberystwyth		Flood forecasting	Salford University	Anglian						
An Investigation into the use of biological information in a national river quality classification	WRc		Strategic ecosystem studies of large slow-flowing rivers	IFE		Environmental opportunities under a scenario of sea level rise	Posford Duviols		Environmental assessment methodology	University of Aberystwyth		Lark catchment research	Birmingham University	Anglian						
Environmental quality standards to protect use of surface waters.	WRc		Turbidity and plant growth in large slow-flowing rivers	IFE		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
Development of microbial standards interim report 1989 – 1990	WRc		Stream ecology in Kielder Forest	University of Newcastle Upon Tyne		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
Health effects of sea bathing	WRc		Status of rare fish	IFE		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
Health effects of sea bathing – phase 2	WRc		Literature review	WRc		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
Health effects of sea bathing – phase 2 studies at Ramsgate and Moreton 1990	WRc		Development of a fisheries classification scheme	WRc		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
Body burdens and toxicity – interim review	WRc					Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
New procedures for assessing toxicity of sediment	WRc					Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
Particle-bound contaminant Transport model	WRc					Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
The faunal richness of headwater streams	IFE					Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
COMMISSION B – WATER RESOURCES			COMMISSION D – FISHERIES			COMMISSION E – RECREATION AND NAVIGATION			COMMISSION F – CONSERVATION			COMMISSION B – WATER RESOURCES			COMMISSION C – FLOOD DEFENCE			COMMISSION F – CONSERVATION		
Satellite remote sensing of snow with special reference to snow depth and snow water equivalent	University of Bristol		Strategic ecosystem studies of large slow-flowing rivers	IFE		Bank erosion on navigable waterways – phase 1	Portsmouth Polytechnic		Post-project appraisal of conservation enhancement of flood defence schemes phase 1	Alconbury Consultants		The hydrodynamics of East Anglian Fen systems	Birmingham University	Anglian	Reedbed erosion control	In-House	Anglian	Faunal richness of freshwater streams – a review	IFE	North West
Assessment of low flow conditions – phase 1 proposed methodology	Scott Wilson Kirkpatrick		Turbidity and plant growth in large slow-flowing rivers	IFE		Environmental opportunities under a scenario of sea level rise	Posford Duviols		Environmental opportunities under a scenario of sea level rise	Posford Duviols		Flood forecasting	Salford University	Anglian						
COMMISSION C – FLOOD DEFENCE			Stream ecology in Kielder Forest	University of Newcastle Upon Tyne		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth		Lark catchment research	Birmingham University	Anglian						
Consequences of climate-induced sea level rise	Halcrow/UEA		Status of rare fish	IFE		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
Lone worker alarm – phase 1 – feasibility study. University of Bristol	Kennedy and Donkin		Literature review	WRc		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										
Sensitivity of sea defence structures to a rise in sea level	HR		Development of a fisheries classification scheme	WRc		Environmental assessment methodology	University of Aberystwyth		Environmental assessment methodology	University of Aberystwyth										

Operational Investigations

Appendix 7 — Selected Statistics

This section presents selected statistics for the financial year 1st April 1990 to 31st March 1991 as at end of September, 1991. Comparative data for 1989/90 is also presented.

WATER RESOURCES

Region	Rainfall		Annual Total as % of Long Term Average		Total Drought Orders		Total Licence Inspections	
	Annual Total (mm)		89/90	90/91	89/90	90/91	89/90	90/91
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	668	867	76	99	0	0	0	6
Yorkshire	732	745	88	89	10	16	2,810	3,200
North West	1,110	1,094	91	90	18	0	250	625
Welsh	1,262	1,181	95	88	12	0	193	115
Severn Trent	789	631	102	82	7	0	1,180	1,541
Anglian	578	442	95	72	1	3	100	950
Thames	754	499	107	71	0	0	0	0
Southern	739	633	93	80	28	45	0	2,000
Wessex	810	685	93	79	0	3	0	142
South West	1,197	1,079	100	90	20	10	60	62
Weighted overall average	860	768	95	85	Total 96	77	Total 4,593	8,641

POLLUTION CONTROL

Region	Pollution Incidents												Enforcement								Total Fines (£)	
	Total Incidents		Serious Incidents		Successful Prosecutions		Number of Incidents Infringing						Number of Successful Prosecutions									
							Cat 1		Cat 2		Cat 3		Cat 1		Cat 2		Cat 3					
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91				
Northumbria	792	1,291	41	23	5	29	23	23	531	814	238	454	4	16	1	13	0	0	4,250	31,350		
Yorkshire	2,464	2,463	180	180	34	47	180	149	2,284	880	NA	1,370	16	7	18	40	0	0	40,025	39,500		
North West	3,478	3,960	525	634	47	84	3	36	522	145	2,953	3,777	3	6	44	78	0	0	1,041,750	58,190		
Welsh	1,814	2,746	245	198	54	73	33	30	212	168	1,569	2,548	32	17	22	53	0	0	59,155	86,400		
Severn Trent	6,004	6,150	805	71	35	54	147	71	3,231	2,754	NA	3,325	35	4	0	61	0	0	36,400	49,945		
Anglian	1,731	2,009	102	113	18	33	15	20	87	100	1,629	1,889	15	25	3	6	0	0	25,250	35,050		
Thames	3,573	3,234	660	284	10	54	51	24	609	260	2,913	2,950	10	9	0	45	0	0	11,100	38,850		
Southern	1,760	1,872	40	242	12	12	12	17	233	225	1,303	1,630	2	6	10	6	0	0	5,150	30,150		
Wessex	2,521	1,800	149	1,252	44	29	22	12	1,292	1,240	749	548	9	11	35	18	0	0	29,990	25,300		
South West	2,588	3,193	506	763	50	69	36	172	471	591	2,073	2,430	38	69	12	0	0	0	19,960	33,680		
Total	26,725	28,718	3,253	3,760	309	484	522	554	9,472	7,177	13,427	20,921	164	170	145	320	0	0	1,273,030	428,415		

Category 1 = Major; Category 2 = Significant; Category 3 = Minor

Sampling and Analysis

Sampling and Analysis					River and Canal Water Quality												Total River and Canal Length Monitored (km)	
Total Number of Water Samples taken		Total Number of Determinands		Good Class 1A		Good Class 1B		Fair Class 2		Poor Class 3		Bad Class 4						
Region	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91		
Northumbria	9,509	15,738	76,065	172,466	1,730	1,671	722	726	284	308	44	80	5	3	2,785	2,788		
Yorkshire	24,275	24,417	349,484	335,150	2,267	2,255	2,114	1,982	860	915	641	708	152	174	6,034	6,034		
North West	15,844	24,704	300,000	295,487	2,442	2,409	829	840	1,463	1,512	921	875	245	264	5,900	5,900		
Welsh	24,385	28,820	784,650	948,973	2,407	2,488	1,456	1,562	663	453	255	269	21	26	4,802	4,798		
Severn Trent	50,833	75,826	640,000	912,729	893	881	2,574	2,592	2,493	2,447	629	666	89	85	6,678	6,671		
Anglian	32,980	49,071	400,000	467,493	360	358	2,192	2,170	1,543	1,577	333	335	25	13	4,453	4,453		
Thames	21,762	25,407	275,000	321,000	1,592	1,074	1,473	1,531	597	825	169	210	0	4	3,831	3,644		
Southern	23,516	24,799	276,400	304,898	545	500	731	1,043	656	514	187	150	18	18	2,137	2,225		
Wessex	26,884	38,661	369,879	425,736	600	746	782	884	784	931	90	127	19	15	2,275	2,703		
South West	24,399	55,128	760,799	899,637	420	523	998	1,077	1,002	890	330	524	37	51	2,782	3,065		
Total	254,387	362,571	4,232,277	5,083,569	13,256	12,905	13,871	14,407	10,345	10,372	3,599	3,944	611	653	41,682	42,281		

Enquiries about Water Quality Data

Designated EC Bathing Waters

Region	Pass (No)		Number of Bathing Waters Failing (No)		Total (No)		% complying		Prior to Water Act 88/89	Examinations of Water Act Register	
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91		89/90	90/91
Northumbria	20	21	12	11	32	32	63	66	25	100	140
Yorkshire	18	17	4	5	22	22	82	77	210	270	273
North West	11	10	22	23	33	33	33	30	103	122	154
Welsh	40	35	8	15	48	50	83	70	46	111	142
Severn Trent	0	0	0	0	0	0	0	0	N/A	136	275
Anglian	23	27	5	2	28	29	82	93	115	251	393
Thames	0	0	3	3	3	3	0	0	120	271	476
Southern	45	48	20	18	65	66	69	73	32	67	197
Wessex	31	39	7	0	38	39	82	100	100	136	341
South West	114	118	19	15	133	133	85	89	N/A	180*	117
Total	302	315	100	92	402	407	75	77	751	1,644	2,508

*Calendar Year

FLOOD DEFENCE

Land Drainage Consents

Region	Determined (No)		Major Flooding Incidents (Fluvial and Coastal)		Flood Warnings Issued to Police	
	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	216	265	1	2	2	17
Yorkshire	484	433	2	2	17	62
North West	469	491	12	9	145	42
Welsh	630	678	67	0	76	44
Severn Trent	457	630	5	0	296	113
Anglian	530	879	1	1	95	115
Thames	532	694	8	0	28	12
Southern	386	281	1	0	53	69
Wessex	250	256	14	0	41	3
South West	160	140	26	0	146	46
Total	4,114	4,747	137	14	899	523

Flood Defence Works Maintained/Improved

Region	Main River (km)		Flood Embankment (km)		Sea Defence (km)		Total (km)	
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	635	630	230	241	4	4	869	875
Yorkshire	546	546	942	942	16	16	1,504	1,504
North West	3,984	4,022	435	411	11	6	4,430	4,439
Welsh	707	1,107	262	81	43	29	1,012	1,217
Severn Trent	1,401	1,400	764	765	35	35	2,200	2,200
Anglian	3,520	3,520	*2,573	*2,583	160	+165	6,253	6,268
Thames	2,404	1,120	670	4	0	0	3,074	1,124
Southern	2,748	2,748	191	191	281	281	3,220	3,220
Wessex	727	1,220	570	570	5	19	1,302	1,809
South West	1,044	1,044	326	359	7	7	1,377	1,410
Total	17,716	17,357	6,963	6,147	562	562	25,241	24,066

+ estimate

* Fluvial defence/embankment plus tidal and estuary embankments.

New Defences Constructed

Region	Main River (km)		Tidal (km)		Sea Defence (km)		Total (km)		Planning Application Dealt With	
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	0	0	0	0	1	0	1	0	1,177	1,269
Yorkshire	22	19	5	4	0	0	27	23	5,019	6,839
North West	20	32	2	33	0	0	22	65	2,950	4,015
Welsh	4	1	0	0	0	0	4	1	13,854	9,843
Severn Trent	30	30	9	6	0	0	39	36	5,890	8,222
Anglian	0	4	8	22	5	5	13	31	38,780	52,290
Thames	9	6	0	1	0	0	9	7	6,409	3,969
Southern	2	3	2	3	5	6	9	12	2,953	3,094
Wessex	2	1	0	1	2	1	4	3	4,307	3,164
South West	0	8	4	2	1	0	5	10	3,442	3,150
Total	89	104	30	72	14	12	133	188	84,781	95,855

FISHERIES

Licences Sold

Region	Rod (No)		Net (No)		Total (No)	
	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	43,320	43,893	191	205	43,511	44,098
Yorkshire	102,744	104,739	61	76	102,805	104,815
North West	100,111	99,092	233	233	100,344	99,325
Welsh	82,005	77,703	515	142	82,520	77,845
Severn Trent	290,809	284,995	960	959	291,769	285,954
Anglian	229,268	240,000	938	995	230,206	240,995
Thames	220,000	210,572	212	138	220,212	210,710
Southern	126,498	82,500	6	6	126,504	82,506
Wessex	61,013	55,838	238	309	61,251	56,147
South West	25,886	27,639	98	97	25,984	27,736
Total	1,281,654	1,226,971	3,452	3,160	1,285,106	1,230,131

Licence Enforcement

Region	Successful Prosecutions		Salmon (No)		Sea Trout (No)		Total (No)	
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	167	180	1,183	1,400	1,640	1,480	2,823	2,880
Yorkshire	245	307	11	14	96	162	107	176
North West	310	630	3,927	4,837	3,139	2,190	7,066	7,027
Welsh	238	251	5,454	5,370	13,154	10,034	18,608	15,404
Severn Trent	524	588	651	357	0	0	651	357
Anglian	654	922	1	1	10	12	11	13
Thames	587	728	11	9	5	0	16	9
Southern	106	63	859	453	435	101	1,294	554
Wessex	227	202	697	517	407	98	1,104	615
South West	27	34	1,868	1,717	3,653	2,596	5,521	4,313
Total	3,085	3,905	14,662	14,675	22,539	16,673	37,201	31,348

Total Net Catches

Region	Salmon (No)		Sea Trout (No)		Total (No)	
	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	35,169	43,048	48,626	28,560	83,795	71,608
Yorkshire	6,284	8,482	22,743	15,857	29,027	24,339
North West	7,245	5,576	5,711	3,271	12,956	8,847
Welsh	5,078	4,346	6,468	3,588	11,546	7,934
Severn Trent	4,364	4,394	0	0	4,364	4,394
Anglian	4	9	3,815	2,313	3,819	2,322
Thames	0	0	0	0	0	0
Southern	79	43	165	50	244	93
Wessex	593	398	365	481	958	879
South West	10,091	5,492	3,591	2,071	13,682	7,563
Total	68,907	71,788	91,484	56,191	160,391	127,979

Fish Kills and Fish Rescues

Region	Fish Kills Total (No)		Fish Kills Attended (No)		Fish Rescues (No)		Fish Saved (No millions)	
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	26	23	21	21	2	0	0	0
Yorkshire	266	189	266	117	34	35	0.05	0.20
North West	116	119	110	119	18	25	0.04	0.31
Welsh	105	91	105	91	43	43	0.05	0.045
Severn Trent	217	212	217	212	52	68	0.12	0.06
Anglian	163	171	163	171	48	101	0.68	0.15
Thames	147	112	147	112	93	49	0.09	0.08
Southern	122	127	122	127	57	71	0.04	0.10
Wessex	50	58	40	40	9	10	0.003	0.14
South West	60	42	60	42	3	16	0.05	0.40
Total	1,272	1,144	1,251	1,052	359	418	1.12	1.405

Fisheries Maintenance, Improvement and Development

Fish Reared by NRA

Region	Fishery Protection Vessels		Fishery Improvement Structures Built		Fixed Traps Management/Scientific		Salmonid (No)		Non-Salmonid (No)		Total (No)	
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	1	1	2	4	0	0	465,500	1,000,000	0	0	465,500	1,000,000
Yorkshire	1	1	6	1	0	1	350,672	223,000	0	0	350,672	223,000
North West	5	6	1	2	3	3	2,489,374	2,935,112	0	52,000	2,489,374	2,987,112
Welsh	18	18	18	20	7	10	908,000	600,000	1,000,000	1,000,000	1,908,000	1,600,000
Severn Trent	0	0	1	1	0	0	10,155	65,000	106,772	240,000	116,927	305,000
Anglian	0	0	0	13	0	0	0	0	237,000	500,000	237,000	500,000
Thames	2	2	2	5	2	3	85,431	100,250	31,433	42,300	116,864	142,550
Southern	0	1	0	6	0	0	83,000	91,000	30,000	330,000	113,000	421,000
Wessex	7	7	3	2	0	1	0	0	25,315	10,000	25,315	10,000
South West	3	3	2	8	5	5	230,000	300,000	0	0	230,000	300,000
Total	37	39	35	62	17	23	4,622,132	5,314,362	1,430,520	2,174,300	6,052,652	7,488,662

Fish Stocked by NRA

Region	Salmonid (No)		Non-Salmonid (No)		Total (No)	
	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	465,500	500,000	0	0	465,500	500,000
Yorkshire	283,789	42,000	48,814	40,000	332,603	82,000
North West	2,551,803	1,771,000	124,149	416,000	2,675,952	2,187,000
Welsh	908,000	600,000	15,000	20,000	923,000	620,000
Severn Trent	10,155	66,500	194,492	235,000	204,647	301,500
Anglian	760	3,440	428,414	1,000,000	429,174	1,003,440
Thames	163,580	130,000	229,673	193,900	393,253	323,900
Southern	61,000	23,000	59,000	300,000	120,000	323,000
Wessex	10,995	0	43,362	211,500	54,357	211,500
South West	130,000	193,000	0	0	130,000	193,000
Total	4,585,582	3,328,940	1,142,904	2,416,400	5,728,486	5,745,340

CONSERVATION

Capital Schemes Incorporating Conservation Work

Region			River (km)		Estuary (km)		Coast		Other		Total Surveyed	
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	4	2	75	245	0	0	0	0	0	0	75	245
Yorkshire	5	12	86	349	0	30	0	30	11	50	97	459
North West	1	23	126	120	1	1	0	0	0	0	127	121
Welsh	4	4	130	139	2	13	0	1	0	0	132	153
Severn Trent	26	36	139	2,521	11	0	0	0	50	0	200	2,521
Anglian	27	250	1,153	2,000	0	75	295	300	0	0	1,448	2,375
Thames	11	88	330	352	0	0	0	0	0	0	330	352
Southern	1	3	40	14	0	0	0	3	0	0	40	17
Wessex	4	5	164	114	0	3	0	0	0	2	164	119
South West	4	2	37	127	0	5	0	0	0	23	37	155
Total	87	425	2,280	5,981	14	127	295	334	61	75	2,650	6,517

NAVIGATION

Licences Issued and Enforcement

Region	Licences in Force (No)		Licence Checks (No)		Licences Complying (No)		Licences Complying (%)	
	89/90	90/91	89/90	90/91	89/90	90/91	89/90	90/91
Northumbria	0	0	NA	NA	NA	NA	NA	NA
Yorkshire	88	105	NA	NA	NA	NA	100	100
North West	0	0	NA	NA	NA	NA	NA	NA
Welsh	0	0	NA	NA	NA	NA	NA	NA
Severn Trent	0	0	NA	NA	NA	NA	NA	NA
Anglian	5,738	6,240	2,930	3,280	2,754	3,083	94	94
Thames	34,139	34,679	346,860	348,425	326,048	331,003	94	95
Southern	2,074	2,650	10,794	12,600	10,280	12,150	95	96
Wessex	0	0	NA	NA	NA	NA	NA	NA
South West	0	0	NA	NA	NA	NA	NA	NA
Total	42,039	43,674	360,584	364,305	339,082	346,236	94	95

NRA OFFICES

Head Office - London

30-34 Albert Embankment
London SE1 7TL
Tel: (071) 820 0101

Head Office - Bristol

Rivers House
Waterside Drive
Aztec West
Almondsbury
Bristol BS12 4UD
Tel: (0454) 624 400

Wessex Region

Rivers House
East Quay
Bridgwater TA6 4YS
Tel: (0278) 457 333
24hr Emergency Line:
(0345) 078 378

Thames Region

Kings Meadow House
Kings Meadow Road
Reading RG1 8DQ
Tel: (0734) 535 000
24hr Emergency Line:
(0734) 535 000
River Pollution Line:
(0734) 535 268

Severn-Trent Region

Sapphire East
500 Streetsbrook Road
Solihull B91 1QT
Tel: (021) 711 2324
24hr Emergency Line:
(021) 711 2324

Anglian Region

Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 0ZR
Tel: (0733) 371 811
24hr Emergency Line:
(0733) 371 811

Yorkshire Region

Rivers House
21 Park Square South
Leeds LS1 2QG
Tel: (0532) 440 191
24hr Emergency Line:
(0532) 440 191

Welsh Region

Rivers House/Plas-yr-Afon
St. Mellons Business Park
St. Mellons
Cardiff CF3 0LT
Tel: (0222) 770 088
24hr Emergency Line:
(0222) 770 088

Southern Region

Guildbourne House
Chatsworth Road
Worthing BN11 1LD
Tel: (0903) 820 692
24hr Emergency Line:
(0800) 252 676

North West Region

PO Box 12
Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: (0925) 53 999
24hr Emergency Line:
(0925) 53 999

Northumbria Region

Eldon House
Regents Centre
Gosforth
Newcastle-upon-Tyne
NE3 3UD
Tel: (091) 213 0266
24hr Emergency Line:
(091) 213 0266

South West Region

Manley House
Kestrel Way
Exeter EX2 7LQ
Tel: (0392) 444 000
24hr Emergency Line:
(0800) 378 500

Northumbria _____

Yorkshire _____

North West _____

Welsh _____

Severn Trent _____

Anglian _____

Thames _____

Southern _____

Wessex _____

South West _____



