
**ANNUAL
REPORT &
ACCOUNTS
1989/90**



NRA

National Rivers Authority

Guardians of
the Water Environment



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ANNUAL REPORT & ACCOUNTS 1989/90

*Front cover: Day's Lock,
(Thames Region)*

This, the first Annual Report of the National Rivers Authority (NRA), covers the period from 1st April 1989 to 31st March 1990. Between 1st April 1989 and 9th July 1989 the Authority did not exist. For that period, the activities reported are those of the NRA Advisory Committee and shadow NRA regional units of the former Regional Water Authorities. The Authority was established by the Water Act on 10th July 1989 and fully took up its statutory duties on its vesting day on 1st September 1989.

Members of the National Rivers Authority on 31st March 1990

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 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*

*** Also member of the National Rivers Authority Advisory Committee (NRAAC)
between July 1988 and July 1989**

The Annual Report and Annual Accounts for 1989/90 have been prepared by the National Rivers Authority for submission to the Secretaries of State* for the Environment and for Wales, and the Minister of Agriculture, Fisheries and Food, as required under Section 150 and Schedule 1 part II of the 1989 Water Act. A Welsh version of this report is also available.

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

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NRA

National Rivers Authority

National Rivers Authority

30-34 Albert Embankment

London SE1 7TL

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

We have the honour on behalf of the National Rivers Authority of submitting our first Annual Report and Accounts for the year ending 31st March 1990. Although the financial information presented covers the period from the 1st April 1989 until 31st March 1990, between 1st April 1989 and 31st August 1989 the data presented includes that of the shadow NRA Regional Units funded by the former Regional Water Authorities, and that of the National Rivers Authority Advisory Committee which was funded directly from the Department of the Environment.

Chairman

Lord Crickhowell

Chief Executive

Dr J C Bowman CBE

16th August 1990

Laid before Parliament under Section 150 of the 1989 Water Act.

KEY ACHIEVEMENTS

Launch of the Authority The NRA was

launched and developed as a new independent public watchdog to safeguard the water environment.

Emergencies Emergency control

rooms and associated communication facilities and procedures to provide responses to emergency incidents were established and effectively operated.

Enforcement Policy A national

enforcement policy for pollution incidents was introduced and rigorously applied.

Discharge Consent and Compliance

A review of discharge consent and compliance policies was undertaken.

Toxic Algal Blooms Toxic blue-green

algal blooms were detected and monitored and the owners of controlled waters informed of their presence.

Low Flows Investigations to produce

solutions to low flow problems in the top 20 priority catchments were started.

River and Tidal Flooding An effective

response was made to flooding emergencies along the South coast and Severn Valley, and the NRA assisted in the response to flooding at Towyn in North Wales.

Sea Defences A national review of the

status of sea defences around the coast of England and Wales was initiated.

New Offices and Laboratory Facilities

Assets and staff were transferred from ten dissimilar Regions and integrated into a national management framework involving the development and opening of new offices, laboratories and other operational facilities.

Regional Committees Statutory

committees were established in each Region and chairmen and members were appointed as appropriate.

Forward Planning A system of

strategic and corporate planning was established and the Authority's first Corporate Plan and an Information Systems Strategy were produced.

Research and Development

A management framework and national programme of R&D with particular emphasis on water quality and pollution control has been developed.

Liaison with Government Evidence

was given to the House of Commons Environment and other Committees, and contributions were made to environmental legislation and the Government's White Paper on the environment.

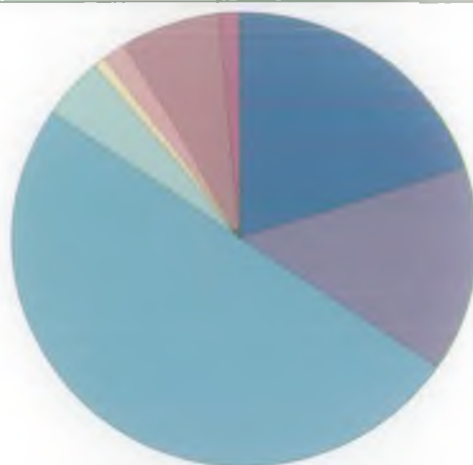
Corporate Identity and Public Image

A corporate identity and strong public image were established through effective media relations.

FINANCIAL SUMMARY

Total Payments

	£m	%
Water Resources	65.8	19.6
Pollution Control	48.8	14.6
Flood Defence	167.5	50.0
Fisheries	15.0	4.5
Recreation & Conservation	2.5	0.7
Navigation	6.0	1.8
Capital Restructuring	24.1	7.2
Unfunded Pensions	5.6	1.6
	<u>335.3</u>	<u>100.0</u>

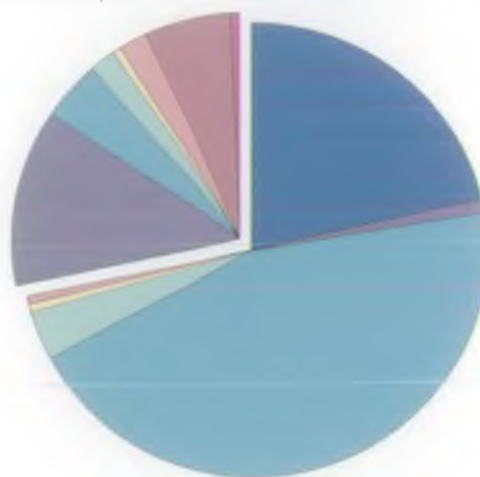


Total Receipts

(a) Operational Income	£m	%
Water Resources	82.7	21.9
Pollution Control	1.1	0.3
Flood Defence	170.3	45.2
Fisheries	7.4	2.0
Recreation & Conservation	0.2	0.1
Navigation	2.0	0.5
	<u>263.7</u>	<u>70.0</u>

(b) Grant/Environmental Service Charges (ESC)	£m	%
Water Resources	0.0	0.0
Pollution Control	49.1	13.0
Flood Defence	17.8	4.7
Fisheries	8.3	2.2
Recreation & Conservation	2.3	0.6
Navigation	5.1	1.4
Capital Restructuring	24.9	6.6
Unfunded Pensions	5.6	1.5
	<u>113.1</u>	<u>30.0</u>
	<u>376.8</u>	<u>100.0</u>

GRANTS/ESC OPERATIONAL INCOME



	£m	%
- DoE grant-in-aid	74.3	65.7
- ESC	21.0	18.6
- MAFF grant	16.8	14.8
- Welsh Office	0.6	0.5
- ERDF* grant	0.4	0.4
	<u>113.1</u>	<u>100.0</u>

Cash Surplus

* European Regional Development Fund

The Authority had a cash surplus of £41.5 million including the following:

£20.6 million to Flood Defence Account balances for future works

£11.2 million to Water Resource Account for Credit of Abstractors

£0.8 million carried forward for Capital Restructuring

£0.7 million carried forward for Fisheries purposes

£1.1 million of Navigation fees returnable to DoE

£3.4 million of Grant-in-aid repayable to DoE

CHAIRMAN'S STATEMENT



Lord Crickhowell

The task confronting everyone in the National Rivers Authority during the first months of its existence has been exceptionally challenging.

In addition to having to establish appropriate management arrangements for an entirely new public body employing nearly 6,500 people created out of ten very different regional organisations, we have had to show by our actions in the face of high public expectations that we would indeed be a vigorous and independent regulator; begin the task of establishing acceptable standards; develop a considerable number of entirely fresh policies in accordance with new statutory responsibilities; provide an effective response to a variety of emergencies; submit evidence to Select Committees of Parliament and the Royal Commission on Environmental Pollution; and establish links with the European Commission and other environmental organisations at home and abroad.

The Parliamentary and public pressures in particular have meant that we have seldom been master of our own timetable, though we have devoted much time and attention to the preparation of our first Corporate Plan and our requirements for information technology in order to establish a proper set of priorities and the means of achieving them. All these varied tasks could only have been carried out effectively as a result of a partnership between Head Office and the Regions, to which has increasingly been harnessed the invaluable advice of Regional Advisory Boards and Regional Committees.

The success that has undoubtedly been achieved in establishing the reputation of the NRA would not have been possible without the enthusiasm and commitment of employees at every level. As Chairman, I have been particularly fortunate that from the outset I have had the support of a Board and officials whose breadth of knowledge and experience is exceptional. Many of them, through their membership of the National Rivers Authority Advisory Committee, have been involved in the preparation of policy from the outset.

The Board of the NRA fully recognises that like any other public authority it is answerable through Ministers to Parliament. It believes strongly, however, that the public interest is best served if the NRA is able to operate with the greatest possible freedom under appropriate financial guidelines, and that it is clearly seen to be both responsible and answerable for its own actions and advice.

From the outset, we have worked on the principle that public confidence is crucially dependent upon our being open about the way in which we intend to carry out our statutory responsibilities, about the advice that we give and about the results of environmental monitoring. We recognise that Ministers have to take account of wider issues, including the substantial costs of environmental improvements, and that the NRA's advice may not always be accepted, but as long as decisions are arrived at in this open way, Parliament and the public will be able to judge the effectiveness of policies and the manner in which they are being carried out.

The Board is grateful for the support that it has received from Ministers for this approach. It is particularly grateful for the encouragement that it has received from the Secretary of

State for the Environment and his officials who have fully backed its own determination to make the NRA a strong, independent and effective guardian of the water environment.

However, the Board is concerned that the Government's desire to be fully satisfied about the management arrangements of a new organisation has led to delays in implementing important decisions and created uncertainty about where management responsibility lies. The Board hopes it will be accorded the freedom to manage its affairs which both Ministers and Parliament indicated was appropriate during the passage of the Water Act.

The 1989 Water Act provides a firm foundation for the improvement of the water environment. The NRA believes that events have already proved that it has been given effective powers and is prepared to use them, and that huge investment now committed by the water utilities will lead to a significant improvement in the quality of our rivers and coastal waters. These improvements largely concern discharges from sewage treatment works. We remain greatly concerned about diffuse pollution. We have made recommendations to Government for improved land use planning and changes in agricultural practice in response to what we consider to be a serious problem. The dry weather experienced in the last two years has demonstrated the importance of our role in the management of resources and the control of excessive abstraction, another subject that has caused us increasing concern.

We welcome the introduction of Integrated Pollution Control (IPC) and, although we would have liked to see the NRA retain its primary responsibility for industrial discharges to water (as the River Purification Boards have in Scotland), we are satisfied that the Environmental Protection Bill gives us the powers we need to protect the water environment. We are determined to work with Her Majesty's Inspectorate of Pollution (HMIP) to ensure that the new system is effective. We have submitted suggestions to the Government about further structural changes that could improve relationships between environmental authorities in the hope that these will be further explored in the Environment White Paper to be published in the Autumn.

We have also pressed for the development of charging schemes that would produce real incentives to reduce pollution; but in the meantime we are developing our own charging policies in order to recover costs from abstractors and polluters and those who benefit from our services so that the NRA may be as self-sufficient as is practicable under existing legislative powers.

Given resources on the scale that are needed to carry out our many and varied responsibilities (which are set out in detail in our Corporate Plan) we look forward to a further exciting period of challenge and achievement.

Lord Crickhowell

16th August 1990



The Water Act

CHIEF EXECUTIVE'S REVIEW



Dr J C Beaman CBE

The Authority has been established for just over a year. In that time great change has occurred and tremendous progress has been made. We have built upon the preparatory work of the National Rivers Authority Advisory Committee, and the shadow NRA regional units have rapidly become an integral and extremely valuable part of the Authority. We have won public acclaim and are proving ourselves as effective Guardians of the Water Environment.

Over the period of this report high priority has been given to creating the Authority as a national organisation with strong regional management and operational capability. It has been important to pay particular attention to the development of the employees who have come from many different organisations and to the integration of Regional and Head Office functions.

The main focus for policy and operational development, before its consideration by the Board, has been the Management Committee, comprising the Authority's Regional General Managers and Head Office Directors, which has met on a monthly basis.

With the active involvement and commitment of the Board, the Management Committee and senior staff in the Regions and Head Office, we have produced our first Corporate Plan in half the time it normally takes to produce such a document. This is the first cautious step in an annual process of taking stock, strategic planning and determination of targets and resource use. We have commenced work on a longer term corporate strategy and our second Corporate Plan. It is planned to involve the Regional Committees fully in this work.

In any large organisation integrated management information systems are vital. Over the past year we have been developing an information systems strategy. The next step will be to plan the implementation of the strategy, involving a complex migration from the plethora of sometimes incompatible technology that we have inherited. This process may take more than five years to complete.

The creation of the Authority and the integration of our ten different Regions has highlighted numerous inconsistencies in employees terms and conditions of employment, some of which are considered inappropriate for a new national employer. We have been seeking to resolve these inconsistencies as well as giving high priority to locating health and safety services in the personnel section of each Region.

An early task was to review the Head Office requirement of what is a large national organisation so that it can effectively undertake its role in policy development and coordination, liaise with Government and the EC and to respond to the enormous public and media interest in the Authority's work. As a result, we are now in the process of relocating the Head Office to Bristol and of increasing its staffing.

In our first few months we have experienced and effectively dealt with an unusually large number of emergencies either caused by pollution or natural elements. We have established emergency liaison arrangements between the Regions and Head Office to ensure speedy and efficient communication.

I have placed considerable importance on meeting and communicating with employees and on encouraging the development of an NRA culture which recognises our role as managers of a natural resource. The creation of effective relations with the media and of an NRA newspaper, 'The Water Guardians', containing national and regional articles have been particularly valuable and successful developments.

The 1989 Water Act has given the Authority new and changed responsibilities compared with those of the former Regional Water Authorities and we have therefore placed considerable emphasis on ensuring that the Authority's new duties and powers were explained to employees through seminars and by other means.

Two extremely successful national conferences for the Authority's senior managers and one for the chairmen of the Authority's statutory regional committees were major contributions to developing our corporate culture.

From my visits to the Regions I am aware of, and grateful for, the valuable advice the statutory regional committees have provided to the Authority on a large number of issues.

I have had regular liaison meetings with the Department of the Environment (DoE), the Ministry of Agriculture, Fisheries and Food (MAFF) and the Welsh Office over matters of mutual interest.

More recently, upon behalf of the Authority, I have submitted a paper on, and we have had discussions with the Government about, the contents of the forthcoming White Paper on Environment Policy and the future role of the NRA.

Throughout these many activities the enthusiasm, competence and effort of the employees of the NRA has been impressive. I would personally like to acknowledge the support of the Board and of all the employees in our endeavours to develop the Authority as an effective national organisation.

I am confident that with continuing and adequate financial support from Government and the overwhelming backing of the general public, we will continue to develop and become even more effective in our role as 'Guardians of the Water Environment' during the 1990s.



Water Guardians staff newspaper

Dr J C Bowman CBE
16th August 1990

REPORT OF THE BOARD

General The first meeting of the Board was held in July 1989 when we assumed responsibility from the NRA Advisory Committee which had overseen the Authority's creation. We have since met monthly, either in London or the Regions, where we have gained first hand experience of a number of different regional projects. At each meeting we have also received a report summarising the major activities and events in each Region. Individual members have been actively involved with committees and working groups, in particular functional areas such as corporate planning, information systems, and discharge consent and compliance policy.

Policies Since July 1989 we have considered over 80 policy papers covering a wide spectrum of topics. These have ranged from broad issues such as the organisation and funding of the Authority, corporate planning and information systems, international affairs, and current legislative proposals which will affect the Authority (such as the Government's Environmental Protection Bill and proposed White Paper on the Environment); to specific aspects of policy. Amongst the issues considered have been: water resources, water quality, fisheries policy, low flows, nitrate-sensitive areas, water quality instrumentation, dangerous substances, litter, bathing water quality, salmon and sea trout tagging schemes, fish farming and Spring Viraemia of Carp. We have also agreed policy in evidence to be given to Parliamentary and

other Committees, and in comments on various national reviews and consultations being carried out by other bodies.

Research and Development We have approved a management framework for, and the contents of, a national R&D programme which places particular emphasis on water quality research.

Personnel We have considered senior managers' and other staff terms and conditions of employment and have approved measures in respect of them as well as pensions and other employment issues.



Cleaning up operation after oil pollution incident (South West Region)

Finance We have considered the Authority's Financial Memorandum, endorsed a Scheme of Delegation, agreed banking and pensions arrangements, approved the Authority's budget for 1990/91 including the setting of flood defence levies, approved water resource charging schemes, general angling licence fees and navigation charges, as well as proposals for charging for discharges.

REGIONAL ADVISORY BOARDS

Ten members of the Board each have special responsibilities for one of the NRA Regions and have chaired Regional Advisory Boards (RABs) to advise the Regional General Manager in each Region and to provide a link between the Regions and the main Authority Board. The other members of the RABs are the Chairmen of the Regional Rivers Advisory Committee, the Regional Fisheries Advisory Committee and the Regional Flood Defence Committee and Regional General Manager.

The main topics discussed have been arrangements for the split from the former Regional Water Authorities and the transfer of assets to the NRA, the establishment and workings of the regional committees in each Region, regional public relations, the production of Regional Plans and the Authority's first Corporate Plan, the funding of flood defence, water resources - particularly with regard to drought and low flows - and specific emergencies such as severe flooding and pollution incidents.



The River Cuckmere (Southern Region)



Rafters on the Afon Tryweryn (Welsh Region)



Fish population survey by Seine netting (North West Region)

THE REGIONAL COMMITTEES

In each of its ten Regions, the Authority has successfully established three statutory committees. Meetings of all three committees have been open to the public and the media. The committees have considered the structure and objectives of the NRA and explored the relationship between the three regional committees, the executive and the Regional Advisory Board. Each committee has fulfilled its terms of reference to report annually to the Authority through contributions used to prepare this Annual Report. The sections below outline the work and main issues considered by the committees along with the advice they have given. Full details of the membership of each committee is given at Appendix 2.



Regional Rivers Advisory Committee (South West Region)

Regional Rivers Advisory Committees

Most of the Regional Rivers Advisory Committees (RRACs) have met twice since September 1989 and South West and Yorkshire have met three times. The first meetings were primarily concerned with establishing the identity and role of the committees. Most Regions organised a range of activities to familiarise members

with the work of the NRA, including seminars and teach-ins.

Amongst the numerous issues discussed, those connected with water quality, pollution incidents and water resources (particularly low flows and over-abstraction) took precedence. Anglian and Wessex RRACs expressed concern about the effects of development on water quality, and Wessex RRAC raised the issue of discharges from private sewage treatment plants. The South West RRAC placed emphasis on considering pollution incidents relating to farm waste. The Yorkshire RRAC focused attention on water quality considerations in the Humber estuary, and the Welsh RRAC considered the development of catchment management planning. The Southern RRAC has discussed the future management of Rye Harbour. Conservation, recreation and access were also discussed by most RRACs, including the issues arising from water sports and bacteriological infection as well as the interactions between users.

Regional Fisheries Advisory Committees

A major concern of the RFACs has been the effect upon fisheries of low flows caused by drought and, in some cases, over-abstraction for public supplies. The Severn Trent RFAC considered a review of fisheries byelaws, and increases in fishing and rod licence charges were approved in several Regions.

The construction of fish passes and traps to assist the rehabilitation of fisheries, and

the micro-tagging of parr were amongst the issues considered by the Welsh RFAC. The Yorkshire RFAC approved of the first successful breeding of 14,000 parr of the threatened species, the Arctic charr. The South West RFAC expressed concern at the environmental deterioration of the Rivers Torridge and Taw and considered proposals for byelaws to assist the rehabilitation of fisheries in the Region. The North West RFAC endorsed the programme of bailiff training and all Regions reported an increase in prosecutions. The Anglian and Northumbria RFACs considered the regulation of commercial eel fishermen and the protection of otters from fyke nets. Several RFACs have established closer links with the Sea Fisheries Committees in their Region.

Regional Flood Defence Committees

The Regional Land Drainage Committees of Water Authorities have continued as the NRA's Regional Flood Defence Committees (RFDCs). These committees have been involved in the preparation of the annual programme of capital works and maintenance, including the determination of the associated funding requirements for consideration by the Board.

The exceptional flooding in Severn Trent, Welsh, Thames and North West Regions has exercised the committees in those areas and several Regions are undertaking major flood defence schemes. The Northumbria RFDC considered designs for a large scheme to protect the town of Yarm, the South West RFDC proposals for alleviating flooding in Truro, and the

Anglian RFDC has considered a long-term flood defence needs strategy.

The effects of climate change and the strong possibility of rising sea levels have also been considered by committees. The Anglian RFDC expressed concern at building development in areas at risk from flooding and considered that planning authorities should try to prevent such development unless the developer is prepared to fund the necessary flood alleviation works. The raising of levies for flood defence has been considered by every committee. In Thames Region, the raising of the Thames Barrier four times in the early part of 1990 prompted particular concern from the RFDC over the financing of flood defence, especially with regard to unexpected expenditure on the Barrier. The committee also endorsed the need for representations to Government on the impact of the community charge in the Thames Region on the apportionment of the flood defence levy amongst local authorities.



Flooding around Upton-on-Severn (Severn Trent Region)



WATER RESOURCES

The Drought The year was notable in terms of drought. Whilst the winter of 1988/89 was relatively dry, water resources were in a satisfactory state at the start of the year apart from lower than normal groundwater sources in the Eastern and South Eastern parts of England. Summer rainfall however was particularly low. This resulted in low river flows and groundwater levels. This caused considerable concern not only because of the risk to abstractions, but also due to the low flows remaining in some rivers.

England and Wales and through the introduction of 94 drought orders.

Use was made of a number of river regulation and groundwater augmentation schemes to maintain flows and to support abstractions. The West Berkshire and Shropshire groundwater schemes in the Thames and Severn Trent Regions respectively, were used to augment river flows. The Kielder Water transfer scheme in the Northumbria Region was also used.



Low water levels exposing the bed of Derwent reservoir (Severn Trent Region)

Measures were taken
to reduce consumption
and augment water
supplies

The seven-month period from May to November was a significant drought period throughout England and Wales. In some Regions this was of equivalent severity to the 1976 drought.

River flows and reservoir levels generally dropped to well below average for the time of year and in some areas groundwater levels were near all time lows. Numerous measures were introduced to reduce consumption including the imposition of hosepipe and other bans on certain non-essential uses of water in parts of

Throughout the winter of 1989/90 a recovery of water resources took place in most parts of the country and river flows, reservoir stocks and groundwater levels had recovered by the end of the spring.

However, the water levels in chalk aquifers in parts of the Yorkshire, Anglian and Southern Regions remained at or near all time lows due to lack of recharge during the 1989/90 and previous winter. Detailed contingency plans have been made to manage and conserve resources during the 1990 summer, as far as this is practicable.

*Opposite: Venford reservoir
August 1989 (South West
Region)*



Low flow in River Misbourne 1989 (Thames Region)

Low Flow Studies During the NRA's early months, considerable public attention was given to the claim that river flows in many catchments were depleted to unacceptable levels due to the amount of abstraction that had been historically authorised. A review of the problem was undertaken which resulted in the identification of 40 rivers where this problem was particularly apparent.

The NRA has set a high priority on finding solutions. Possible measures include the introduction of additional water to the affected rivers, river bed lining or revocation of existing licences. An urgent programme of investigation was commenced on 20 rivers with a view to evaluating possible solutions.

Groundwater Contamination Work was commenced on the development of a national policy to protect groundwater from contamination from point and diffuse sources which it is intended will be implemented in 1991. In the meantime most Regions will carry forward policies inherited from their predecessor bodies, although some Regions have taken the opportunity to implement improved interim policies.

Investigations have
commenced in 20
rivers with low flow to
find solutions

Nitrate-sensitive Areas The NRA made recommendations to Government to designate certain catchments as nitrate-sensitive areas (NSAs) in accordance with Section 112 of the 1989 Water Act. The objective was to reduce levels of nitrates in drinking water sources through voluntary restrictions on agricultural practices and to gain valuable insights into the nitrate leaching problem. A total of ten areas located within the Anglian, Thames, Severn Trent, Wessex and Yorkshire Regions were included in the pilot NSA scheme. A further nine areas have been proposed as Advisory Areas where farmers would be encouraged by MAFF to follow practices to reduce nitrate loading at little or no cost. The results of these trials will be considered alongside other methods of ensuring that drinking water nitrate standards are achieved.



Minewater affecting River Drone (Yorkshire Region)



Changing chart on level recorder (Southern Region)

A new national
water resources
charging scheme
is being developed

Hydrometries Hydrometric networks are vital to the efficient running of the water resources function. Reviews of the adequacy of the inherited networks were undertaken in some Regions and new technology introduced to replace some inadequate systems. Progress was also made in updating data processing and archiving systems. In the Severn Trent Region an advanced flow forecasting system was commissioned which collects data from over 200 outstations. It also makes flow forecast and weather radar information available for operational purposes. New electromagnetic and ultra-sonic stations were installed in the Yorkshire Region.

Water Resource Planning The 1989/90 drought highlighted the role which the NRA plays in the planning and development of water resources. It is the only central body with the powers necessary to balance legitimate demands from all types of abstractors with the environmental needs of inland waters and groundwaters.

A significant number of water undertakers are planning augmentation of their water resources and the NRA has been closely involved in these plans. These have required detailed discussions between interested parties in order that the NRA performs its duty to secure the proper use of resources and to protect the water environment.

Resource Management Agreements

As required under Section 126 of the Water Act prior to 1st September 1989, the Authority entered into water resources management schemes with the water undertakers to secure the proper management and operation of water

resources. Most are concerned with the operation of reservoirs which involve regulation releases for the benefit of the downstream river environment, other uses and abstraction.

Charging Schemes The NRA inherited ten different regional schemes for recovering its water resources costs through abstraction charges. Whilst the Authority has agreed new water charges according to the existing regional charging schemes, work has commenced on developing a new national charging scheme. This will have a common framework which reflects the impact of abstraction upon the water environment.

Wide consultation with interested parties is planned during 1991, with the intention of recommending a new scheme to Government for approval and implementation from April 1992.

The 1989 Water Act brought a change in the law for all domestic abstractions and agricultural abstractions from inland waters exceeding 20m³/d. These were previously in part exempt from licensing but abstractors are now required to apply for a licence by 1st September 1990. Work is well advanced in the development of the necessary procedures, policies and explanatory literature to deal with these abstractors and a national publicity campaign commenced in March 1990.

POLLUTION CONTROL



Oil escaping from fractured Shell pipeline in Mersey estuary (North West Region)

The Authority has many functions to fulfil with respect to the control of pollution in order to maintain and improve the quality of all of the inland and coastal waters under its control. Some fundamental aspects have been tackled during the year including the introduction of an enforcement and reporting policy in respect of pollution incidents and a review of discharge consent setting and compliance.

The Authority has demonstrated that it intends to be an effective regulator

Prosecutions The Authority has demonstrated that it intends to be an effective regulator which takes polluting events very seriously. Enforcement activity has increased significantly compared with previous years.

The most noteworthy prosecution case was that involving Shell UK Limited, which was prosecuted under Section 32 of the 1974 Control of Pollution Act over the escape of crude oil on 19th August from a fractured pipeline to the River Mersey

estuary. The company subsequently pleaded guilty in Liverpool Crown Court and was fined £1 million with costs of £6,573 to the NRA.

Although this incident received most attention from the media and the public, successful prosecutions were also obtained in a large number of other cases throughout the country, a significant feature of them being the general increase in the level of fines awarded. For example, in the Welsh Region fines - of £10,000 - were imposed on British Tissues in respect of the pollution of the River Llynfi and River Ogmore, together with agreed compensation of around £200,000. In September, a spillage of coagulant from a water treatment works near Sheffield caused a fish kill; this resulted in the first NRA prosecution of a newly-privatised water company by the Yorkshire Region.

Farm Pollution One of the principal causes of poor water quality in some parts of the country is pollution from farms. A joint annual report on farm pollution was published by the NRA and MAFF early in 1990. This concluded that in 1989, 2,889 incidents of pollution were caused by farm wastes, a reduction of 30% compared with the previous year. Although several NRA Regions have been operating farm campaigns which have helped to reduce the likelihood of pollution occurring, the major reason for the reduction in incidents was probably due to the dry summer weather. The largest fine ever imposed in England and Wales on a farmer, who polluted the

River Sapiston with three million gallons of pig slurry, was obtained in the Anglian Region; the defendant was fined £10,000 with £20,000 costs.



Farm waste (South West Region)

Toxic Algal Blooms Within weeks of its formation, the NRA was faced with the possibility that a number of sheep and dogs had died in the Anglian Region as a result of contact with a toxic blue-green algal scum of *Microcystis aeruginosa* which had developed on Rutland Water. Naturally, there was much public concern and so the NRA instituted toxicity tests on the material and surveyed other lakes throughout the country. The NRA examined 915 waters of which 169 contained blue-green algal blooms. Owners, Environmental Health Officers and Government Departments were informed. Some 53 out of 78 waters tested contained algal toxins. A thorough review was set in hand of all of the data available relating to toxic algal blooms and of their possible causes. A report summarising this



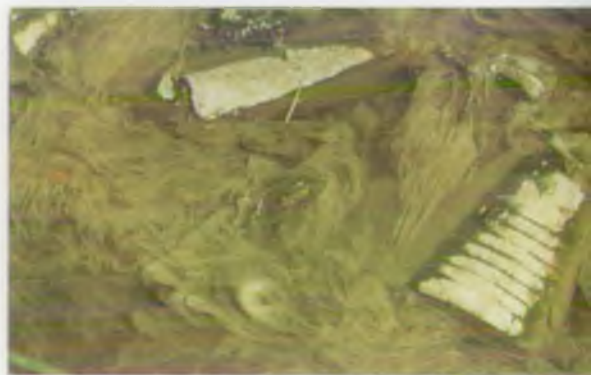
Blue-green algal blooms at Rutland Water (Anglian Region)

information will be published during 1990. The Regions in which bloom incidents were most frequent in 1989 were Anglian, South West and Severn Trent.

Marine algal blooms were also reported in a number of Regions, of which the most noteworthy were a 'red tide' in Mounts Bay in the South West Region caused by marine dinoflagellates, and *Phaeocystis* blooms around the coasts of north and west Wales.

Monitoring The NRA undertakes an extensive monitoring programme of both effluents and receiving waters.

The DoE has made the NRA the 'competent authority' for a number of EC Directives for both collecting data and ensuring that the quality requirements of a number of Directives are met. These currently include the following: Directives relating to bathing water, freshwater fish,



Sewage fungus (Northumbria Region)



Vigilance survey vessel (Wessex Region)

shellfish water, surface water for abstraction of drinking water, protection of ground water, dangerous substances (and various daughter directives), and that relating to titanium dioxide.

A full scale sampling programme for the Bathing Water Directive was undertaken at 401 identified waters which indicated that 75% of the waters surveyed complied with the mandatory bacterial standards.

Annual returns were also made to the DoE for a number of the other Directives.

**EC Bathing Waters
were surveyed and
75% found to comply
with EC standards**

Water Quality Classification and Objectives Under the 1989 Water Act the Secretary of State is required to implement a classification scheme for controlled waters, to set Water Quality Objectives (WQOs) for them and a date for their achievement. The NRA will advise the Secretary of State on these matters and, once set, the achievement of WQOs is a responsibility which falls jointly on the Secretary of State and the NRA.

In order to prepare such advice, the NRA undertook detailed planning in 1989 for two water quality surveys in 1990. One is essentially similar to those of 1985 and 1980 - to obtain comparisons with past assessments - whereas the second is being made to provide a new baseline for future years. The principal difference is that the latter includes the use of a biological assessment using the River Invertebrate Prediction and Evaluation Model [RIVPACS], which had been developed for the DoE by the Institute of Freshwater Ecology. The results of these surveys will be fully evaluated and published in 1991.

Discharge Consents Water quality is affected by inputs from both point and diffuse sources. The former are controlled by the issuing of discharge consents. These consents, and their associated compliance and receiving water monitoring data, are held on registers - which may be inspected by the public - at NRA regional offices. Inspections of the registers by the public has increased during the year. Priority has been given to assessing and improving the format and content of the registers.



Bathing beach (Southern Region)

The NRAAC recognised the unsatisfactory state of the consenting procedure and a policy review group was set up at the request of the Secretary of State as soon as the NRA was formed. The Board approved the Group's conclusion which it reported to the Secretary of State for the Environment; the report is to be published and distributed for public consultation in the summer of 1990.

Work has also commenced on a scheme for charging for discharges, parts of which are to be introduced in 1990 in advance of a full charging scheme.

A charging for
discharges scheme is
being developed

Integrated Pollution Control Under the 1989 Water Act, the NRA is responsible for all discharges to controlled waters in England and Wales. This situation will change in the future, however, as a result of

the Environmental Protection Bill - currently before Parliament - because of the introduction of IPC. Although welcoming the principle of IPC, which will result in HMIP having primary



Slurry discharge from industrial site (Yorkshire Region)

responsibility for consenting the discharge of certain dangerous 'Red List' substances from prescribed processes, the Authority has sought a means by which its primary role can be retained. With regard to Red List substances, this will in any case require monitoring and assessment of all sources, many of which are diffuse rather than arising from specific discharges.

The UK is committed to achieving reductions of such substances into coastal waters from all sources, as a result of inter-ministerial conferences on the North Sea. A major screening survey was therefore carried out by the NRA to define the input of Red List substances.

Litter Chemical pollution is not the only reason for poor water quality; rubbish in rivers, lakes and estuaries considerably debases the quality of the water in the eyes



Detergent foam on the River Rother (Yorkshire Region)

of the public. The NRA has therefore initiated programmes to encourage and promote the removal of rubbish from particular locations. This work is being carried out in addition to the usual flood defence channel clearance operations and has been well received by the public. There is a limit to what the NRA can itself achieve, however, and the key to success for such an initiative is to help local groups to clean up - and then keep clean - their own particular stretch. Many novel approaches have been made and the results of this year's work will be carefully analysed and a summary document published.

Laboratories A network of 11 laboratories is being set up at strategic locations. The Yorkshire Regional Laboratory has been completely refurbished and new laboratories established in Northumbria, North West and Anglian. Design and construction of new facilities commenced in Southern, Thames and South West (a joint laboratory with Wessex). Where facilities were not immediately available within the NRA, contracts to supply the NRA's analytical needs were agreed with the new water utility plcs.

During the year, the Welsh Regional Laboratory at Llanelli completed a demanding additional task, analysing over 2,000 samples from all NRA Regions and DoE (Northern Ireland) for an extensive list of trace metals as part of the national screening survey of Red List substances. Laboratory sample generation for the NRA as a whole was of the order of 250,000 samples with over 3,900,000 measurements carried out.

Monitoring Devices In order to extend the analytical capability, and increase the effectiveness of pollution inspectors, it was agreed that automatic hand-held field monitors should be developed for a range of chemical measures. Prototypes of such instruments are currently being



Anti-litter campaign (Northumbria Region)

Automated equipment
is being introduced to
make the NRA more
effective and efficient
in its fight against
pollution



Sberlock automatic water quality monitoring device (Wessex Region)

evaluated. More sophisticated monitoring devices are also being developed. The latest version - Merlin - has successfully completed a series of field trials and will be introduced into general operation. This device can monitor for a range of parameters, store the information, and contact pollution inspectors at any time of the day or night. Other automated equipment is being introduced, including permanent monitoring stations at key points on rivers, in order to make the NRA more effective and efficient in its fight against pollution.



Water quality analysis (Anglian Region)



FLOOD DEFENCE

Storms at Seaford (Southern Region)

The Authority began a major review of the status of sea defences around England and Wales

The Authority has a duty to exercise a general supervision over all matters relating to flood defence, and also to arrange for its flood defence functions (except in relation to issuing levies, making drainage charges, and borrowing money) to be carried out by Regional Flood Defence Committees.

The year has produced some of the most extreme weather conditions, ranging from droughts in the first part of the year to the worst flooding for over 40 years in some Regions.

The in-house work forces were in great demand, from mid-December to the end of March, often working long hours; providing assistance to councils, repairing damaged defences and equipment, clearing fallen trees and debris from rivers and inspecting to check the integrity of flood defences.

Flood Defence Assets The assets and responsibilities inherited by the NRA include more than 1,000km of sea wall,

35,000km of main river, over 60 major pumping stations, the Thames Barrier, other barriers in York and Hull, many bridges, culverts, river control structures, outfall pumping stations and a wide range of telemetry equipment and associated installations.

As part of its national supervisory role for flood defence, the Authority has commenced a major review of sea defences throughout England and Wales.

Among the many other surveys underway are studies of Nottingham and Derby where the fluvial defences protect in excess of 20,000 properties.

Fluvial Flooding From mid-December onwards, many parts of the country were affected by a series of deep storm depressions which brought prolonged periods of intense rainstorms. In parts of the South West Region, the January and February rainfall amounted to about 50% of the normal annual rainfall in just these two months.

Many parts of the west and south of the country experienced the worst flooding for nearly half a century. It was estimated that at the height of the flood in February, the water over the River Severn flood plain created a lake more than twice the area of Lake Windermere. Although 350 houses

Flooding of River Severn at Worcester Race Course (Severn Trent Region)



The NRA played a major role in responding to river and tidal flooding

were flooded, over 30,000 properties were successfully protected by defences.

The Thames Valley around the Maidenhead area, where new flood defences are planned, was also badly affected by flooding.

Tidal Flooding The adverse meteorological conditions also generated severe storm surges which frequently coincided with spring tides. The coast of the Southern, South West and Wessex Regions was particularly affected.

Many seaside towns, harbours and coastal structures were affected by the storms. The flooding of Towyn in North Wales was by far the largest and most serious with an area of some 10km² being flooded. A sea defence not in the ownership of the Authority was

breached at the height of the late February storm, and for five days consecutive high tides flowed through a 500m gap, inundating 2,800 properties and resulting in the evacuation of 5,000 people.

Although the Authority was not directly involved in the reconstruction of the defence, it assisted with the evacuation of the public and was responsible for the rapid removal of flood water as soon as pumping operations could be commenced.

Although other sea defences generally stood firm, some were overtopped leading to flooding of agricultural land. There was also damage to the foreshores at a number of locations. At Heacham in Norfolk the foreshore was lowered by up to 3m. Along the South coast thousands of tonnes of shingle were displaced, being washed inland, moved along the coast, or carried out into the sea. Whilst some of these damaged foreshore areas will slowly recover naturally, others will have to be artificially replenished by the Authority.

Flood Forecasting and Warning Systems

Even before the severe flooding took place, a number of the Authority's Regions, together with various local authorities and the Meteorological Office had developed consortia to extend the national network of weather radar stations.

Discussions have been held with the Meteorological Office and Storm Tide Warning Service, the Proudman Oceanographic Laboratory, MAFF, and the Committee on Tide Gauges, to develop ways to improve the accuracy and timeliness of predictions.



Towyn: aerial shot of flooded houses (Welsb Region)



NR A staff manning the pumps to clear flood water from Towy (Welsh Region)

**Flood defence
emergency
procedures have been
updated in liaison
with other
emergency services**

Response to Flooding Emergencies

Flood defence emergency procedures have been updated and mock exercises held in liaison with other emergency services to test out communications.

Thames Barrier and Other Barriers

The Thames Barrier (and associated Barking Barrier) was closed on more occasions during the year than in the whole time since it first became operational in 1982. For the first time ever, the Barrier had to be closed on two consecutive high tides on the 27th and 28th of February due to abnormal tidal surge conditions in the North Sea. The Thames Barrier was also closed for rescue

of this was spent on capital schemes for renewal, refurbishment and new construction works on sea defences, tidal embankments, flood defences in urban areas and improvements to river systems and land drainage structures. A similar sum was spent on programmes to maintain these types of assets.

Numerous schemes have focused attention on the need to design works which are sympathetic to listed buildings, conservation areas and other areas of high environmental value. Innovative products and systems are forever being tried in an effort to reduce costs. A new geo-textile from Norway is being



The Thames Barrier (Thames Region)

operations following the 'Marchioness' pleasure boat disaster on the river in central London.

The Foss Barrier which protects York from fluvial flooding which was only completed last year, was operated five times. The Hull Barrier was also closed on a number of occasions.

Capital and Revenue Activities The total expenditure for flood defence activities was some £140 million. A third



Piling tidal defences at Bideford (South West Region) appraised in the Anglian Region. New systems designed to absorb wave energy are also being developed.



Sympathetic channel maintenance (Anglian Region)

FISHERIES

To protect fish stocks,
anti-poaching controls
were targeted at
problem areas



*Water bailiffs licence checking
(North West Region)*

Regulation and Enforcement

The Authority's responsibility to protect fisheries and fish stocks, under the 1989 Water Act, the 1975 Salmon and Freshwater Fisheries Act and the 1986 Salmon Act was discharged through the deployment of full-time fishery bailiffs, supported where appropriate by part time and honorary bailiffs on anti-poaching patrols. In those Regions where the illegal taking of fish was at significant levels, emphasis was placed upon enforcement training for staff and their flexible deployment in order to target problem areas.

coastal waters were vulnerable to illegal netting for longer than usual.

Large numbers of cases were taken against those taking fish illegally and numerous successful prosecutions were brought for salmon poaching offences. Fines up to £2,000 were obtained in the Severn Trent Region, with custodial sentences being given in the Welsh Region. The offence of handling salmon and sea trout under suspicious circumstances under Section 32 of the 1986 Salmon Act was used successfully on 21 occasions. Byelaw infringement and licence evasion were also combatted through checks on commercial fishermen and anglers resulting in over 3,000 prosecutions.

The fleet of coastal fishery protection boats was augmented and upgraded, in particular in the Wessex and North West Regions. Currently 38 are available for inshore patrol with an increased capability to patrol up to six nautical miles from the coast.

A number of fisheries byelaws were reviewed with Ministerial confirmations being given to two byelaw packages made by North West and Yorkshire Regions. In both cases the packages included the removal of the statutory close season for freshwater fish and eels from small stillwaters and named sections of canal.

Monitoring Fishery surveys were undertaken at over 1,500 sites for salmonids and over 1,000 sites for other freshwater fish. Twelve fish counters and 16 traps were



Offshore fisheries protection vessel (Yorkshire Region)

The job of protecting stocks was made more difficult since few salmon and sea trout entered rivers until late in the year because of sustained low river flows. Those that did enter presented ideal targets for poaching because of low water levels. Those remaining in estuaries and

deployed to enable stock assessments to be made.

Surveys of specific fisheries were undertaken in response to concerns about fishery declines at certain locations (eg, the



Electro fishing survey (Thames Region)

Fisheries monitoring
has involved scientific
survey work and
innovative sampling
methods including
hydro-acoustics

lower region of the Severn and Warwickshire Avon in the Severn Trent Region and the Torridge in the South-West Region), and in relation to development proposals eg, Cardiff Bay barrage in the Welsh Region, as well as before and after the Authority's own flood defence works.

The bulk of fisheries' monitoring work has been scientific survey work with nets or electric fishing gear. This was undertaken in order to enable fishery status to be determined and to provide basic information for fishery management and water quality assessment purposes. The information derived from these surveys has enabled appropriate fishery inputs to be made to the planning liaison process. These consultations have increased substantially, involving 300 applications in the Thames Region alone in the past year.

This developing programme of scientific surveys, which currently focuses upon the

biomass of coarse fish in the Anglian and Thames Regions and the density of juvenile salmonids in the Welsh Region and other Regions, is currently under review in order to provide a consistent approach to fisheries survey work throughout the NRA.

Innovative sampling methods, deploying hydro-acoustic methods of detecting fish were used experimentally in the Thames and Severn Trent Regions. Angling and commercial fishing catch data were collected, providing an additional and valuable source of information concerning the status of stocks.

In general, rod catches of salmon and sea trout were reduced in 1989/90 compared to 1988/89 because of low river flows. Low water conditions also appear to have reduced the number of fish entering the



Denil Fish Pass, Cuckmere River (Southern Region)

spawning streams. In the Welsh Region sea trout spawning may have been reduced to half its normal level.

Improvement and Development of Fisheries Throughout the NRA, attention has focused upon the building and refurbishing of fish passes to facilitate greater access by fish to spawning and nursery areas. A total of 58 fish passes and other structures have been constructed and one on the River Teme at Ashford Weir in

Advice on fisheries improvements were given to numerous riparian owners and angling clubs throughout England and Wales

the Severn Trent Region has made available an additional 50km of potential spawning habitat. Fish havens for coarse fish were constructed in Yorkshire Region.

Fish pass construction has formed an integral part of schemes to rehabilitate damaged rivers eg, along the South Wales coalfield rivers in the Welsh Region and along the River Thames by the Thames Salmon Trust where the problems of previous habitat destruction and poor water quality were exacerbated by the existence of impassable weirs.

Wider rehabilitation programmes have also begun in South West Region where specific habitat improvements, fishing controls and effort to improve water quality are all targeted as means of restoring salmon stocks. Rivers in the Northumbria Region

are being assessed for further rehabilitation and restoration of stocks following the major achievement of restoring salmon to the River Tyne.

Advice on fisheries improvements was given to numerous riparian owners and angling clubs throughout England and Wales.

Mortalities and Disease Low flows and high temperatures contributed to the death of at least 278 salmon in the Severn estuary (Severn Trent) and 200 in the Tamar estuary (South West). Heavy rainfall following the drought also contributed to fish kills. The generation of acid run-off following these weather conditions was believed to have killed trout in moorland streams in the Yorkshire Region. A major pollution on the River Derwent in the



Fish kill (Severn Trent Region)

Severn Trent Region led to the death of an estimated 20,000 coarse fish and 100,000 fry. In total 359 fish rescues were undertaken and just under one million fish were recovered alive.

A number of Regions employ specialist fish disease staff and a specialist laboratory is run by the Anglian Region. The monitoring of fish diseases was undertaken in relation to fish movement authorisations to prevent the spread of parasites and diseases to areas where they do not presently occur. In total, some 3,000 Section 30 approvals were granted.

In cooperation with MAFF, NRA fisheries staff were engaged in checking fish stocks in order to prevent the spread of Spring Viraemia of Carp. These precautions appear to have been successful and no new outbreaks of SVC were reported during the year.

4.5 million salmonids and 0.5 million coarse fish were reared, the latter including notable successes with species not routinely cultivated



Reared juvenile barbel (Southern Region)

Rearing and Restocking The objective of NRA fish rearing and restocking activities is to make available appropriate stocks to replace those lost through fish kills, to enable fisheries to improve and develop, and to provide seed stocks for fishery restoration and rehabilitation. In total about 4.5 million salmonids and 0.5 million coarse fish were reared and stocked out by the Authority.

A number of specific improvements have been made to the Authority's fish-rearing facilities to increase their production.

Many of the restocking programmes were carried out with microtagged fish to evaluate the effectiveness of stocking. These tagged fish will also enable estimates to be made of the extent to which different sources of exploitation impact upon specific stocks. Such work is coordinated with MAFF so that a better estimate can be made of the impact of the high seas salmon fisheries on home stocks.

Large numbers of coarse fish were also reared for restocking, principally in the main coarse fish regions such as Thames, Anglian and Severn Trent. This involves the propagation and rearing of the early stages of several freshwater fish for which there is little knowledge or experience. We have had notable successes with the production of species not routinely cultivated such as bream, grayling, dace, barbel and chub.



Fish transportation (Anglian Region)

RECREATION



Canoeist 'riding a stopper' on the Afon Tryweryn (Welsh Region)

The Authority has concentrated on implementing the Code of Practice and reviewing agreements with recreational bodies

The Water Act and the associated Code of Practice on conservation, access and recreation have given the Authority specific recreational duties. They include the management of its own facilities, ensuring recreation is considered in the carrying out of the Authority's other functions, and a wider role to promote recreation. In its first year the Authority has concentrated on identifying and reviewing the management arrangements of its own recreational assets, liaising and collaborating with other bodies on new projects, and ensuring the implementation of the Code of Practice.

Angling and Boating Facilities Much of the Authority's recreational activity is related to the direct management, or letting and leasing of sport fishing rights. Charges for day fishing and season permits for the Authority's coarse and game angling

facilities have been reviewed and new agreements have been made with numerous angling associations.

The water industry coarse angling championships took place in the Thames Region.

The Authority also controls a number of major canoeing and rafting facilities including the National White Water Centre on the Afon Tryweryn in the Welsh Region and the artificial canoe-slalom on the River Ouse at Cardington in the Anglian Region. New management agreements have been agreed with the canoeing bodies operating these facilities. A number of sailing clubs and boat hire facility licences in the Anglian Region were also reviewed during the year.

In the Wessex Region a site has been leased for the development of a youth activity centre for canoeing and sailing, and boat moorings on the Frome have been let and some mooring rights leased. Boat moorings have also been let by the Anglian Region.

New amenities have been provided such as a car park for anglers adjacent to the River Torne in the Severn Trent Region. New boat moorings were a spin-off from the Jaywick beach recharge flood defence scheme undertaken by the Anglian Region. Sailing club premises were protected by new sea defences at Felixstowe ferry.

Footpath Schemes The Authority was involved in numerous footpath initiatives. The North West Region assisted in the development of the Lancashire Coastal Footpath. The Thames Region was



Disabled angling match, River Lea Navigation (Thames Region)



Game angler (Southern Region)



Temple Bridge (Thames Region)

involved in the construction of a footbridge near Henley which is an essential link in the Thames Long Distance Footpath. In the Anglian Region footpaths were opened or re-opened on the Rivers Nene and Chet, the latter involving footbridge construction and cooperation with the Broads Authority. These and other regional footpath developments have involved extensive liaison and collaboration with the Countryside Commission and a wide range of local authorities and voluntary groups including the Ramblers' Association.

Collaborative Projects and Partnerships

In the Northumbria Region anglers, canoeists and land owners were brought together to resolve conflicts over the recreational use of the River Tyne. In the Yorkshire Region the Authority has chaired an angling and canoeing liaison group, established by the Yorkshire and Humberside Council for Sport and Recreation. The North West Region has assisted in a sports day for the disabled.

The Welsh Region has taken the lead and appointed a project officer jointly funded by the Countryside Commission, Sports Council, Sports Council for Wales, Nature Conservancy Council and four county councils to produce a management plan to resolve various user and use conflicts along the River Wye. The Welsh Region had prepared guidelines to assist bailiffs and canoeists to help them decide whether canoeing can take place without detriment to spawning fish.

The Thames Region has commenced work on a recreation strategy for the River Thames. The Anglian Region participated in local authority recreational planning projects in the Nene Valley and with the Regional Council for Sport and Recreation reviews of water recreation strategies.

The Southern Region has been active in the River Medway project looking at the recreation and conservation management of 20 miles of river which has stimulated recreational use with no detriment to landscape, nature conservation or other river uses.

The Authority has
liaised widely with
recreational bodies
and entered into
numerous collaborative
partnerships

Liaison and Advice The Authority has liaised with the Sports Council, Sports Council for Wales, most Regional Councils for Sport and Recreation and numerous other smaller bodies. It has given advice and been consulted on water recreation by many outside bodies. The Northumbria Region has been involved in discussions with the Teesside Development Corporation about the recreation potential of the River Tees should the Tees barrage be constructed. The North West Region advised the Manchester Olympic Bid Group on suitable sites for water sport events.

CONSERVATION



The River Glyme (Thames Region)

Opportunities to
create new habitats
for flora and fauna
have been exploited
wherever possible

Statutory Duties The NRA aims to conserve and enhance wildlife, landscape and archaeological features associated with all inland and coastal waters.

Procedures have been established to ensure that operational work and regulatory duties are carried out in an environmentally-sensitive way. Conservation training has also been provided to increase the knowledge and awareness of environmental matters for staff in other NRA functions.

Operational Activities Landscape, natural and historic features have been identified and conserved prior to flood defence schemes being carried out. Opportunities to create new habitats for flora and fauna have also been exploited especially in urban environments. Conservation aspects have been taken into account before the Authority grants

land drainage consents, abstraction licences, or discharge consents and when commenting on planning applications. The NRA has also given evidence at planning inquiries and has prepared environmental impact statements.

Surveys River corridor surveys were carried out in most Regions prior to routine maintenance dredging. Strategic surveys and rolling programmes have been developed in Anglian, Wessex, Thames and Northumbria Regions. A four-year ecological survey was begun in the Anglian Region covering the complete coastline. A percentage of the rivers in the Wessex and Anglian Regions were resurveyed to audit the success in retaining features of conservation value after works had been carried out. A number of aerial video-surveys were undertaken in the Severn Trent Region to assess the potential of an alternative methodology.

Databases Anglian, Thames, Wessex, Southern and Northumbria Regions are developing computerised databases of conservation information incorporating statutorily protected sites, areas of nature conservation importance, archaeological sites and species distributions.

Liaison The Authority has made contact with and developed links with numerous external conservation and archaeological bodies. Joint initiatives took place with both statutory (Nature Conservancy Council, county councils, Countryside Commission, National Park Authorities, English Heritage) and voluntary bodies



Durrford Bridge (Southern Region)

Numerous
conservation
initiatives have been
undertaken in areas of
local significance

(RSPB, County Wildlife Trusts and Mersey Basin Scheme), the degree of involvement varying from cooperation and input of technical advice to jointly financed schemes.

In the Yorkshire Region, a seasonal wardening scheme to protect an established breeding colony of little tern was part funded by the NRA. The Deben catchment report in the Anglian Region, the Medway river project in the Southern Region and Northumberland Otter project are examples of the NRA working in partnership with local authorities and conservation groups.

Kingfisher populations along Welsh rivers are being surveyed in conjunction with the RSPB.

Specific Projects Examples of projects funded by and carried out solely by the Authority include a programme of otter habitat improvement in selected catchments, notably the Usk and the Tryweryn (Welsh Region), conservation of the Natterjack toad on the Lancashire coast (North West Region) and the creation of conservation areas on lands owned by the NRA at Ashford and within the area of Rye Harbour (Southern Region). A bird hide has been established near the Wheldrake Ings adjacent to the river Derwent in the Yorkshire Region. Nest boxes have been provided for brown owls in the Anglian Region. Reseeding river banks with wildflower and grass seed mixes, pool creation, the excavation of bankside ponds and scrapes, the enhancement of hedgerows, the planting of native shrubs and trees have been

widely undertaken in all Regions, sometimes with the assistance of school groups and volunteers.

Promotion Talks, conferences and publications have also served to disseminate NRA expertise on conservation matters. The Anglian Region co-hosted a two-day conference on conservation within the water industry at Loughborough. The Thames Region has started work on a River Thames environment handbook which will provide environmental guidance for design engineers working on river schemes, particularly in the vicinity of locks and weirs where previous schemes have often been environmentally insensitive. NRA staff are aware of the need to inform and educate the general public as demonstrated by an initiative carried out by bailiffs in the Gower area of Wales who have been liaising with junior schools, with a view to generating interest in the creation of school ponds, and in the 'adoption' of local watercourses.



Otters in Tamar Otter Park (South West Region)



Damselfly (Thames Region)

NAVIGATION



Marsh Lock (Thames Region)



Rye Harbour (Southern Region)

The NRA's navigational responsibilities vary across England and Wales, from 500 Kilometres of recreational waterways in the Anglian Region, the River Thames upstream of Teddington lock, the Medway navigation and Rye Harbour in the Southern Region, to a short stretch of the tidal Welsh Dee, and a number of locks and weirs in Yorkshire. Although it is not the navigation authority on other waterways, in carrying out its other functions it has a major bearing on other riparian owners' navigation activities.

Management Activities Navigation activity, as measured by numbers of licences issued and numbers of pleasure

craft registered, increased by about 5% in both the Anglian and Thames Regions.

New charges have been introduced and enforcement activities stepped up in the Thames and Anglian Regions resulting in increased income to cover more of the navigation operating costs.

A number of capital expenditure schemes on new lock gates, navigation weirs and sluices, sanitary stations, water points, moorings, landing stations and other facilities were completed during the year. Revenue expenditure has been on bank repairs, silt dredging and provision of water safety facilities and signs.



Motor cruiser using lock (Southern Region)

The Authority has
liaised closely with
other navigation
interests

Five percent of boats in the Anglian Region were inspected for compliance with equipment and construction specifications. Other enforcement activities related to checks on boat registration and led to 20 convictions in the Thames Region. The control of river traffic, securing river users' rights and resolving river user group conflicts were also undertaken by NRA staff.

Discussions were held with various parties about the future management and use of Rye Harbour in the Southern Region including with the Department of Transport over the proposed Rye by-pass. The Welsh Region has been exploring alternative management arrangements on the tidal Dee navigation.

Promotion In order to promote its role in navigation, staff from the Thames Region manned a stand at the Earls Court Boat Show.

Special events on recreational waterways for charitable organisations were supported by the Anglian Region, whilst over 300 river events were administered or controlled in the Thames Region. The Southern Region has supported the River Medway project's activities.

Liaison The Authority has liaised closely with the British Waterways Board over navigation matters in a number of regions. The Authority agreed a number of reciprocal navigation agreements with the Board, for example in the Anglian Region over the use of the River Nene and the Grand Union Canal. In areas where the NRA is not the navigation authority, it has liaised with other navigation authorities, voluntary navigation bodies, and local authorities. Proposals by other organisations to develop navigation along various Somerset waterways, along the River Severn and on the Upper Avon have involved the Wessex and Severn Trent Regions.



Opening lock (Anglian Region)

ADMINISTRATION

Many new offices
have been established
and improved services
developed

New Offices One of the first major tasks was to move the NRA regional staff into new or refurbished office accommodation. Anglian, North West, Severn Trent, Welsh and Wessex Regions acquired and fitted out new Regional HQ buildings, while South West Region built an extension to their HQ offices. In many Regions new depots have been established and area offices refurbished in order to meet the needs of a fully independent operational organisation.



Lord Crickbowell opening Regional office with Regional General Manager, Gordon Bielby (South West Region)

couriers and messengers, central purchasing, contract cleaning and catering services have all been developed.

The operation of these services has been examined in order to work towards the harmonisation of administrative practices across the Regions where desirable, practicable and cost-effective. The opportunity has been taken to introduce new and improved office systems and to improve services to the public. For example, the Welsh Region has established an electronic office system which links major sites throughout the Region and introduced a call sequencing system. Anglian has introduced a print facility.

New procedures for handling public enquiries and complaints have been developed and agreed with DoE, the Welsh Office, the Office of Water Services and the Drinking Water Inspectorate.

Improved Services Corporate support services are essential to every function of the NRA in order that core activities can be carried out effectively. Of particular importance has been the establishment of efficient secretariat services for the Authority's Board, Regional Advisory Boards and Regional Committees. Other vital services such as reception areas, office management, telecommunications, office equipment and supplies, secretarial, typing, reprographics, registries, libraries,

PLANNING



Emergency control room (Wessex Region)

The Authority's first Corporate Plan has been submitted to the Secretaries of State and the Minister

Corporate and Strategic Planning

Planning has had a high priority during the first year of the Authority's life. A system of corporate and strategic planning has been established and the Authority's first Corporate Plan has been submitted to the Secretaries of State and the Minister.

Objectives and targets within the Corporate Plan and Regional Plans have been cascaded down through the Authority and developed into action plans for individual members of staff and for the purposes of staff performance appraisal. Consistent Authority-wide schemes for the latter are still under development.

Performance Monitoring Initial systems for monthly regional progress reporting and annual reporting have also been established for monitoring the Authority's performance against the objectives and targets set.

Emergency Planning Regions have established 24-hour emergency communication and control facilities. Plans and procedures for dealing with pollution and flooding emergencies and civil defence matters have been reviewed. Liaison meetings and seminars have been held with the police and fire services and emergency planning authorities to explain the Authority's role.

Emergency liaison arrangements between Regions, Head Office and Government Departments have also been developed for emergencies of national significance.

Town and Country Planning Many of the Authority's Regions have set up planning liaison units, to liaise with planning authorities over planning applications, structure plans, public enquiries and other planning matters. Seminars have been held and leaflets produced for planning authorities to explain the Authority's important role in controlling development in river catchments. Over 75,000 planning applications were commented on during the year.



NRA Corporate Plan

LEGAL SERVICES

The Authority's enforcement policy has resulted in numerous prosecutions and increased fines for offenders

Activity has ranged widely from work in connection with drafting Schemes of Transfer, operating and IT agreements with the water utility Plcs, to the implementation of the Water Act, as well as more routine work such as conveyancing, litigation and serving of notices. The Authority has also commented on various private bills including the Tees and the Cardiff Bay Barrage Bills. The Environmental Protection Bill has been closely monitored by a small team in Head Office. A book on the Law of the NRA was commissioned from the University of Wales and copies are distributed widely within the Authority.

The Authority's enforcement policy in respect of pollution incidents introduced on 1st September has resulted in numerous prosecutions and fines for offenders. Other enforcement policies are under development for the Authority's core functions.

With the Authority's important new regulatory role generating considerable new work, we have started developing computerised prosecution and enforcement records systems, and relevant case law libraries to make the Authority's legal action more effective.



Sea defences under construction (Anglian Region)

ESTATES MANAGEMENT

Setting up the NRA The estates function was at the forefront of work associated with the creation of the Authority, ensuring it received all the necessary land and properties required under the Schemes of Transfer. A great deal of work was also done in establishing new office accommodation as well as depots and other buildings and land.

Key Activities Most Regions have undertaken work on improving or

developing computerised terriers of landholdings and property maintenance records. The valuing and acquisition of land and the settlement of compensation claims to owners affected by flood defence capital schemes has continued in all Regions, using both in-house expertise and contracted in services. Most have also taken the opportunity to undertake property management, rent reviews and re-lettings as well as new lettings.

PUBLIC RELATIONS

Launch of the Authority The first key public relations priority was to launch the NRA publicly as a credible, effective and independent environmental protection agency under the motto: 'Guardians of the Water Environment'.

This was achieved with visible success on 1st September at well attended events in central London and simultaneously in each of the ten NRA Regions, where the NRA's corporate identity was unveiled and a corporate video, brochure and regional brochures launched.

Since the unveiling of the NRA's corporate identity, media and public interest in the NRA has intensified

Media attendance and interest was almost overwhelming. Interviews with the NRA Chairman and senior NRA staff appeared on many prime time television and radio news and current affairs programmes; and stories about the NRA dominated the front pages of many of the following day's national newspapers.

Managing High Public Interest

Media and public interest in the NRA has remained intense throughout the year.

Public relations offices were established in London and in each of the NRA regions. Public relations staff have dealt with large numbers of press and public enquiries, arranged countless numbers of media interviews involving NRA staff and were involved in a planned programme of promotional campaigns to publicise NRA initiatives and achievements.

Emphasis was put on publicising pollution incidents and their effects, and the NRA's regulatory role. NRA actions against



The Chief Executive being interviewed by National TV (North West Region)

polluters have been widely reported by the media, particularly following early successful prosecutions.

National Campaigns Publicity was coordinated effectively to support major NRA-wide actions to deal with problems such as low river flows, toxic blue-green algae and litter; and to explain the NRA's involvement in emergencies such as the serious inland and coastal flooding experienced during the year.

A comprehensive range of publicity materials including brochures, leaflets, posters, videos and slide programmes were developed to explain the work of the NRA and publicise specific projects and events. Exhibition display material was developed and used at a number of leading county shows and other events. In January a monthly NRA newspaper, 'The Water Guardians', was launched successfully for distribution to all NRA staff and a wide range of external organisations.



River pollution being explained to visitors at agricultural show (Welsh Region)

EXTERNAL AFFAIRS

Valuable discussions
have been held with
numerous
organisations at home
and overseas

United Kingdom The Authority has liaised closely with DoE, the Welsh Office and MAFF on a regular basis in connection with its statutory duties. Evidence on fish farming, contaminated land, bathing waters, toxic waste and flooding in North Wales, and freshwater quality has been given to the House of Commons Committees on Agriculture, Environment and Welsh Affairs, and the Royal Commission on Environmental Pollution respectively.

During the year the Chairman and senior officers at Head Office and in the Regions have had valuable discussions over matters of mutual interest with a large number of national and regional bodies including the Water Services Association, Water Companies Association, Office of Water Services, Nature Conservancy Council, Sports Council, Natural Environment Research Council, Water Research Centre, Countryside Commission, CBI, National Farmers Union, British Canoe Union, National Anglers Council, Anglers Cooperative Association, Central Council for Physical Recreation and many other bodies. The Authority has made contact with its equivalents in Scotland and Northern Ireland.

Overseas Visits and Visitors Early in the life of the Authority the Chairman had very useful discussions with the EC Environment Commissioner, Signor Carlo Ripa di Meana, and there have been other contacts with senior officials in the Commission. The Chairman and Chief

Executive visited the Agence Financière de Bassin Seine Normandie, the Authority's equivalent in the Paris region, and leading French water companies.

The Chief Executive and Chief Scientist also visited the USA to examine environmental management arrangements there, including discussions with the Environmental Protection Agency and National Science Foundation. The Chief Scientist has been a member of the North Sea Task Force and has given presentations about the Authority's work in various European countries.

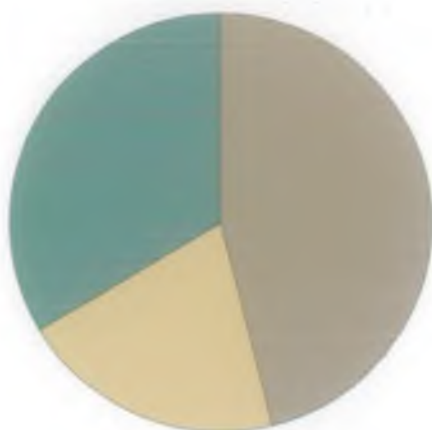
Other senior officers have given numerous presentations, exchanged experience and established technical links with other organisations in Europe and the USA in particular. This included giving evidence on response to sea level rise to the Inter-Governmental Panel on climate change.

International Affairs In March, the Authority agreed an international affairs policy which placed emphasis on liaison with the EC over environmental matters, including increased direct contact with the European Commission, and the importance of short technical visits and experience of giving presentations overseas for senior officers. Due to the amount of work required on the home front it also agreed that at least initially the Authority would not, except in exceptional circumstances, actively pursue long-term overseas consultancies.



Day's Lock, Dorchester-on-Thames

RESEARCH AND DEVELOPMENT



Inherited R&D Programmes The NRA inherited the separate regional research and development (R&D) programmes of the former Regional Water Authorities plus their collectively-funded programme at the Water Research Centre (WRc).

During the year, arrangements were also made with DoE to transfer pertinent ongoing R&D projects on water resources and water quality (value £1.3 million in 1989/90) to the NRA.

Thus, at the end of the year, the NRA had an inherited R&D programme of 197 projects with a budget of £6.4 million in 1989/90. The bulk of this research was, and will remain, contracted to different commercial and academic research institutions - notably WRc, the Natural Environment Research Council, other institutes and consultants.

R&D Framework The NRA has a statutory duty under Section 143 of the Water Act to ensure that research related to its core function activities is carried out. Its principal tasks during the year have been to establish a rational basis for its R&D programme and to assess its inheritance, while still maintaining the overall momentum of its research.

The NRA's approach has been to develop a single national programme classified on a Commission basis relating to the NRA's functions. Within these Commissions, there are 39 topic areas, each of which comprises a number of research projects.

A system of R&D assessment, which provides for investment appraisal,

monitoring, and evaluation of completed work, has been established so that the NRA's R&D programme can be developed against its statutory duties, policies and operational needs.

R&D Management Mainstream function staff are involved as topic and project leaders in all Regions, thus drawing on the specific interests and expertise of individual staff members. An R&D Coordinator, a Commissioner for each function, and a representative for each Region form the R&D Committee which manages the R&D programme.

An Introductory Note on R&D in the NRA has been produced for internal use and external organisations to explain the philosophy and structure of the R&D framework.

In developing a cohesive national R&D programme, retrospective appraisals of the inherited projects have been undertaken. In some cases, projects will be amended or, in extreme cases, curtailed to achieve a programme which properly reflects the NRA's duties and corporate planning objectives. A review of the NRA's research needs has been carried out under the R&D Committee and new projects identified for fiscal year 1990/91. External consultations have been held with DoE Water Directorate, MAFF and the Foundation for Water Research (which manages a major part of the water industry's core programme) to develop an interface with other related research.

**The R & D programme
addresses issues of
national significance
leaving scope for
regional investigations**

Water Research Centre Programme

The programme of inherited research at WRc was jointly funded by both the RWAs (88%) and the Scottish and Northern Ireland Regulatory Agencies (12%). This environmental research programme in 1989/90 comprised 57 separate projects covering (a) catchment and land-use practices and their impact on the environment, (b) conservation and fisheries, (c) microbiological contaminants of water, (d) water quality sampling, analysis, monitoring and instrumentation, and (e) environmental standards and European legislation and control practices. WRc has also provided a specialist technical enquiry service in support of NRA operational staff.

Liaison with Scotland and Northern Ireland was established through the Scotland and Northern Ireland Forum for Environmental Research (SNIFFER) with regard to the programme review. Arrangements were made for future joint-funding of part of the NRA's programme at WRc.

Major research initiatives currently underway at WRc for the NRA include: impact of storm sewage overflows on receiving waters (collaborative River Basin Management Programme with water utilities); pesticide pollution of surface and ground water; microbiological contamination of surface waters; and ecotoxicological effects of pollutants.

Approximately 80 reports have been produced by WRc for the NRA during the year. Significant outputs include a review of the opportunities for regulatory agencies in the use of improved water quality instrumentation, a handbook on the design and interpretation of monitoring programmes, draft protocols/software for handling water quality data and assessing compliance, and improved cost-effective methods of chemical analysis - such as the measurement of metals in seawater.

Regional Programmes Each Region brought into the NRA a programme of research and investigations which ranged from issues of national relevance through to site-specific investigations (such as studies by Anglian Region on ecology of Broadland communities). In developing the national R&D programme, the NRA has sought to incorporate only national issues (such as North West Region's investigations on biological monitoring) and to leave each Region responsible for its own regional or site-specific investigations. The latter have been termed 'operational investigations' to differentiate the work from 'research and development', which is now used only to describe work in the national programme.

Liming operation to reduce effects of acidification on upland stream (Welsh Region)





Investigations into estuarine fauna (North West Region)

**Water quality is the
main focus of the R & D
programme**

The programmes inherited from each of the RWAs varied considerably, as indicated in the pie charts. Anglian, North West, Thames and Welsh Regions each brought into the NRA substantial R&D programmes as well as useful expertise in both managing and undertaking major projects, such as the £700k Llyn Brianne project on upland acidification.

The types of work undertaken in the Regional programmes reflect strongly the problems and issues experienced by particular Regions. Much of the work in the water quality area has related to determining the extent, pathways and fate of specific pollutants from industry and agriculture (such as the joint Anglian, Severn Trent and Yorkshire Region study on the Humber estuary) or are involved in studies on the impact of sewage discharges on inland and coastal waters, some of which - notably work in South West Region on bathing waters - involve collaboration with water utilities.

In the water resources area, work has been carried out on the interaction between flow regimes and environmental quality. Southern, Welsh and Wessex Regions have studied the effects of flow regimes on

fish movement to help resolve the conflicting demands for water supply and fisheries conservation. In the flood defence area, Anglian, Thames and Severn Trent Regions are carrying out nationally-relevant research related to the management of flood defences - such as the Severn Trent River Information and Maintenance System and most Regions are developing weather radar. In the fisheries and conservation areas, several Regions have programmes underway (such as Northumbria Region's study on the effects of Kielder reservoir releases on the River North Tyne) to establish baseline ecological requirements for environmental assessments and for setting future environmental quality objectives.



Radio tags used for monitoring salmon and trout movements (Welsh Region)

Annual NRA Review of R&D In addition to the research projects and publications listed at Appendix 7 in this report, it is the intention to publish an annual review of R&D which will provide further information on the NRA's R&D programme and its basis and outputs.

INFORMATION SYSTEMS



Weather radar showing January downpours 1990 (Southern Region)

**An outline IS strategy
has been formulated to
meet the NRA's needs**

Inherited Arrangements The provision of information systems and technology, computer hardware and software, and staffing varies widely between the Regions.

Most have Information Technology Service and Communication Service Agreements with the water utility Plcs to provide core function computing and other facilities on a bureau basis for up to three years, the aim being to provide time for the development of a coordinated information systems strategy suitable for a new national organisation.

IS Strategy Consultants were commissioned to undertake the first phase of an IS strategy study in mid 1989. A wide range of key issues were considered including a baseline review of the quality of the inherited systems and an audit of the security and integrity of applications supported through the Service Agreements.

Subsequently, an internal strategy team supported by external consultants was established to develop an IS strategy to define the most appropriate computing structure to fulfil the NRA's needs.

By the end of March 1990, an outline IS strategy was developed based upon 22 key applications. This is to be further developed during the coming year.

Interim Systems At Head Office and in some Regions, considerable resources were devoted to establishing interim facilities

based upon personal computers. Anglian Region installed a mainframe computer and commenced transferring and testing their financial and main scientific applications.

Many Regions including North West, Southern and Wessex were involved in substantial data communications network changes due to major building moves planned throughout the year.

Valuable pilot work on Geographic Information Systems (GIS) was undertaken by Anglian, North West and Thames Regions. The results of this work will contribute to the evaluation and possible implementation of GIS in the IS strategy.

Northumbria Region, the only Region without a Service Agreement, established independent core applications on a system of networked personal computers. The Severn Trent Region has developed its River Information Management System.

Welsh Region has developed its Laboratory Management System, MENSAR, to satisfy the requirements of the joint laboratory for South West and Wessex. Yorkshire Region continued the implementation of its Regional Telemetry and Flow Forecasting Schemes.

Communications A number of key communication issues were addressed during the year. One of the most significant involved the Authority's participation in joint Water Industry Trunked Radio Systems.

FINANCIAL SERVICES

Finance systems have been established with scope for development

With the creation of the NRA on 10th July 1989 work was already well advanced on identifying the assets and liabilities of the former Water Authorities to be transferred to NRA at vesting. This was achieved in Schemes of Transfer under Schedule 2 of the 1989 Water Act.

The Regional units established finance departments prior to vesting, in some instances virtually from scratch. An initial accounting and financial framework was designed and implemented pending the outcome of the IS strategy. The terms of the Authority's Financial Memorandum were agreed with DoE. Subsequently, a financial control structure was established through a formal Scheme of Delegation.

Banking arrangements were put in place at vesting and a treasury unit was established to deal with cash management and investment of surplus funds at interest. Insurance arrangements were agreed with DoE and appropriate contracts made with brokers and insurers.

Accounts were prepared on 31st December 1989 for the nine months from 1st April 1989, at which date, for accounting purposes, the former Water Authority assets were deemed to vest in the NRA.

The somewhat different management structures obtaining in the various Regions and different practices as regards allocation of costs considerably complicated the accounting exercise.

It will take some time before common systems and practices can be fully instituted.

Given the variable Regional systems and practices the preparation of the Corporate Plan data for the five years ahead presented a major challenge.

Budget figures were agreed with Regions for 1990/91. Work was carried out on flood defence levies and the raising of abstraction charges for the first time by the NRA was approved by the Board. Considerable effort has also been devoted to developing plans for charging for discharges into controlled waters.



Heron at Rye Meads (Thames Region)

PERSONNEL MANAGEMENT

Health and safety, training of existing employees and the introduction of the graduate recruitment scheme have been given high priority



Health and Safety and Graduate Recruitment brochures

Recruitment Throughout the year the personnel function has worked to recruit externally to bring the Authority up to establishment and to train existing employees to be better able to meet its aims and priorities. Many of the NRA Regions began the year with a need to recruit additional employees. For example, new starts totalled 108 in the Anglian and 80 in the South West Regions and further recruitment is taking place.

Health and Safety Responsibility for health and safety has been placed in the personnel function. A national Health and Safety Policy and a document covering the new Regulations for the Control of Substances Hazardous to Health (COSHH) has been produced. Within the Regions, Severn Trent has introduced a system of safety audits and joint safety inspections and Wessex has completed a programme of first aid training for all employees.

Employee Communications

Communications with employees have been developed and good working relationships with the full-time officials and representatives of the unions have been established. Since September the sensitive work of rationalising ten different sets of terms and conditions of employment and working practices has been undertaken. The evaluation of senior managers' jobs has been completed and a performance-related pay review system introduced. New recognition and procedure agreements have been

negotiated and agreed with unions at national level representing staff and manual grades. Employees have been consulted on matters affecting their employment through the National and Regional Joint Committees that have been established.

Training National conferences were arranged for all the senior managers of the Authority and the Chairmen of Regional Committees.

A national graduate recruitment and training scheme has been designed and introduced. Coordinated through Head Office, the programme offered graduates a first interview in their local region. This was followed by a two-day course in assessment centres organised by Yorkshire, Severn Trent, Anglian, Welsh and Thames Regions. Over 800 applications to be included in the scheme were received.

Existing employees have attended numerous internal and external training courses. All the Regions have undertaken active training programmes, even though four are without a designated training officer. Areas of training included: induction, identification of needs, team-building, information technology and management development.

PERSONNEL SUMMARY

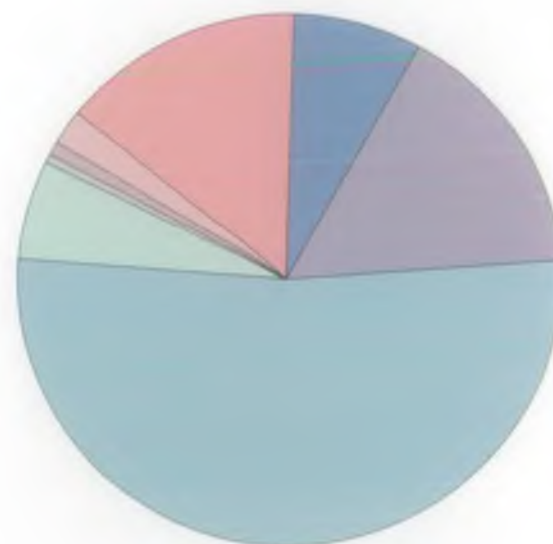
NRA Staffing by Office†

		%
Head Office	60	0.9
Northumbria	137	2.1
Yorkshire	511	7.9
North West	747	11.5
Welsh	654	10.1
Severn Trent	754	11.6
Anglian	1079	16.6
Thames	1306	20.1
Southern	534	8.3
Wessex	362	5.6
South West	340	5.3
	6484	100.0



NRA Staffing by function†

		%
Water Resources	482	7.4
Pollution Control*	1024	15.8
Flood Defence	3364	51.9
Fisheries	410	6.3
Recreation	17	0.3
Conservation	26	0.4
Navigation	136	2.1
	5459	84.2
Corporate support services	1025	15.8
	6484	100.0



† As at 31st March 1990. Includes some part-time and temporary staff.

* Includes laboratory services staff.



**ANNUAL
ACCOUNTS
FOR THE
YEAR
ENDED
31st MARCH
1 9 9 0**

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1. AUDITORS' REPORT



*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 54 to 69 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 1990 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
16th August 1990

KPMG PEAT MARWICK McLINTOCK
Chartered Accountants

2. FOREWORD

HISTORY AND STATUTORY BACKGROUND OF THE NATIONAL RIVERS AUTHORITY (NRA)

The NRA was established on 10th July 1989 by the Water Act as a non-departmental public body with statutory responsibility for water resources, pollution control, flood defence, fisheries, recreation, conservation and navigation in England and Wales. On 1st September various assets, formerly the property of the ten Regional Water Authorities in England and Wales, were vested in it by means of ten Schemes of Transfer made under Schedule 2 of the Act. The net benefit of transactions appropriate to NRA's activities from 1st April to 31st August was transferred to NRA on 31st October 1989. Assets were transferred free of debt. The NRA was charged with preparing a set of financial statements to cover the full period from 1st April 1989 to 31st March 1990 under the Accounts Notification.

Under the terms of a Financial Memorandum issued under paragraph 13 of Schedule 1 to the Act the NRA is required, taking one year with another, to secure 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 assets acquired since and an amount equivalent to current cost depreciation on water resources assets. In respect of flood defence it is required to break even taking one year with another, after claiming such amounts to which it may be entitled by way of capital grants from the Ministry of Agriculture, Fisheries and Food (MAFF) and from the Welsh Office, and after utilising flood defence reserves (other than those held under Section 47 of the Land Drainage Act 1976) so as to extinguish these over a period of five years.

In respect of its other functions the NRA is required to balance cash income (including grant-in-aid payable out of Department of the Environment (DoE) votes) and expenditure, subject only to specific carry-forward provisions.

REVIEW OF ACTIVITIES

Water Resources

£81.0 million was received from Water Resources Charges in the 12 months to 31st March 1990 and a further £1.7 million by way of interest. £65.8 million was paid out. The water resources account was materially affected by the decision taken by Government as to which assets, and indirectly which costs, should vest in the NRA under the Schedule 2 Transfer Scheme. In consequence, the costs chargeable to abstractors after 1st September 1989 were lower in some cases than previously forecast, giving rise to a net surplus of £11.6 million over and above the required rate of return and current cost depreciation. The surpluses have been carried forward and will be applied in reduction of abstraction charges over the next two years. Deficits will be recovered in future abstraction charges as soon as possible.

Flood Defence

£160.8 million was received by way of precepts and levies, £17.8 million by way of grant from MAFF, the Welsh Office and European Regional Development Fund and £9.5 million in interest. £167.5 million was paid out.

The flood defence operations were affected by the decision that NRA should inherit no debt at vesting. The flood defence account was thereby relieved of £83.0 million of debt and interest charges pertaining thereto. The benefit of debt relief will accrue to the flood defence account over a period of years, but the incidence of debt relief has defeated any run-down in reserves in the period to 31st March 1990 which have increased over the year from £51.1 million to £68.4 million. The position is being reviewed by NRA and Government.

The valuation basis on which assets were transferred to NRA differed as between the ten Water Authorities. It was, therefore, decided to standardise the valuations by reducing the value of certain intangible assets, comprising flood defence works, access roads and the like of no realisable value (mostly on land not belonging to NRA), to nil and to expense such items in future as and when incurred. This resulted in a reduction in opening asset values of £155.1 million as compared with the values described in the transfer schemes.

Other Functions

The grant-aided accounts are pollution control, fisheries, navigation, recreation and conservation. Grant-in-aid and Environmental Services Charge (ESC) requirements on these accounts totalled £61.6 million as follows:

	Gross Payments £m	Operating Receipts £m	ESC/ Grant-in-aid Requirement £m
Pollution control	48.8	1.1	47.7
Fisheries	15.0	7.4	7.6
Navigation	6.0	2.0	4.0
Recreation and conservation	2.5	0.2	2.3
	72.3	10.7	61.6

For the first five months of the year an ESC of £21.0 million was collected by the predecessor Water Authorities to fund these functions with grant-in-aid drawn down to fund the balance of the 12 months requirement of £61.6 million. Of the £2.0 million in navigation receipts referred to above, £1.1 million is deemed to be collectable on behalf of, and is payable to, Treasury. After discussion with Government it has been agreed that a further £3.4 million is returnable being an amount in excess of approved carry-forward provisions.

Restructuring Costs

The setting up of NRA involved the construction of laboratories, depots, offices and the provision of equipment which, to some greater or lesser extent, had previously been provided by the former Water Authorities. Capital works associated with the restructuring exercise were transferred to the NRA at a value of some £18.6 million. It was agreed that such restructuring capital works arising after vesting would be paid for out of grant-in-aid. £24.9 million was drawn for this purpose of which £24.1 million was spent at 31st March 1990 with £0.8 million carried forward.

Research and Development

NRA has a statutory duty to make arrangements for the carrying out of research. At vesting NRA assumed responsibility from the former Water Authorities and from DoE Water Directorate for a diverse on-going programme of some 197 projects involving expected expenditure of £6.4 million in 1989/90, covering all NRA functions. Emphasis has been placed in putting this extensive programme under effective management. The programme pays particular attention to the water quality/pollution control area. Actual expenditure in the 12 months was £4.5 million. The NRA also benefited from £1.3 million expenditure by DoE on research and development projects, the financial responsibility for which was transferred to the NRA on 1st April 1990.

Future Developments

The first Corporate Plan has been submitted to Government. This emphasises the need for NRA to set national policies for each of its functional responsibilities. It shows the highest priority area as being water quality/pollution control.

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.

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.

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.

Chairman

Lord Crickhowell



Chief Executive

Dr J C Bowman CBE



Director of Finance

Mr P D Partridge



16th August 1990



Seacourt stream pollarding (Thames Region)

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 (see Section 9 – Accounts Notification).

The Accounts Notification charges NRA with producing financial statements for the period 1st April 1989 to 31st March 1990.

In the period 1st April 1989 to 31st August the then NRA units were managed and controlled by the ten Water Authorities of England and Wales.

All operational activities between 1st September and 31st March were the responsibility of the NRA.

The cost of operating NRA head office between 10th July and 31st August was met by grant-in-aid and is included in the accounts. Costs relating to the predecessor NRA Advisory Committee were met directly by Government.

(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 issued by the member bodies of the Consultative Committee of Accounting Bodies so far as those requirements are appropriate.

(c) The Opening Balance Sheet

The assets and liabilities of the former Water Authorities were divided between the Water Authorities and NRA by means of ten Schemes of Transfer made under Schedule 2 of the Water Act, each divided into two phases. The Phase One schemes which became effective on 1st September (vesting day), operated to transfer the assets and liabilities, excluding capital works in progress for the benefit of the future NRA, retrospectively to 1st April 1989. The assets and liabilities so established are shown as NRA's opening balance sheet (see note 12). Phase Two of the transfer schemes provided for the separation of transactions from 1st April 1989 to 31st August 1989 relating to NRA from those of the successor plc's and allocated to NRA the benefit and the burden of those transactions. The incomplete capital works vested in NRA on 1st September 1989.

(d) Comparative Data

Other than the opening balance sheet no comparative data is available.

(e) 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 water resources, pollution control, fisheries, navigation, recreation and conservation activities and is included under income in the Income and Expenditure Account. Specific grants for capital expenditure are deducted from the cost of fixed assets before recording in the accounts.

(f) Fixed Assets and Depreciation

Expenditure (after deduction of grants and contributions) on fixed assets defined as intangible 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

(g) 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.

(h) Stores and Work in Progress

Stores and work in progress are valued at the lower of cost or net realisable value.

(i) Pensions

Under Statutory Instruments the assets and liabilities of the former Water Authorities superannuation fund were transferred to NRA as administrator, a duty previously exercised by the Severn Trent Water Authority. The assets are in the process of apportionment 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. After the apportionment the NRA will remain 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.

(j) Research and Development

Research and development expenditure is charged to the Income and Expenditure Account in the year in which it is incurred.



4. INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED

31ST MARCH 1990

	See note	Total	Service Accounts	Flood Defence
		£m	£m	£m
Gross income:	1 & 2			
Income from activities		269.1	111.0	158.1
Government grant-in-aid		68.7	68.7	—
Sale of assets		0.8	0.5	0.3
Total income		338.6	180.2	158.4
Expenditure:				
Staff costs		86.2	40.3	45.9
Depreciation and expenditure on intangible assets in year		54.3	6.3	48.0
Other operating costs		120.8	79.2	41.6
Operating costs		261.3	125.8	135.5
Surplus on ordinary activities	3	77.3	54.4	22.9
Interest receivable	4	11.6	1.7	9.9
		88.9	56.1	32.8
Interest payable on long-term loans	5	5.6	1.9	3.7
		83.3	54.2	29.1
Grant-in-aid returnable to Government		3.4	3.4	—
Water resources surpluses carried forward to future years		11.6	11.6	—
Operating surplus	1 & 2	68.3	39.2	29.1
Transfers to reserves:				
Capital reserve: applied to purchase of fixed assets	1 & 2	43.7	31.9	11.8
Applied to special asset replacement fund	24	7.7	—	7.7
Surplus for the financial year		16.9	7.3	9.6
Retained surplus brought forward		21.4	—	21.4
Retained surplus carried forward		38.3	7.3	31.0

NB. The total amount of grant-in-aid from DoE was £74.3 million, of which £5.6 million 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 (i) Pensions).

The notes on pages 61 to 69 form part of these accounts.

5. BALANCE SHEET AS AT 31ST MARCH 1990

31st March 1989				31st March 1990		
Total	Service	Flood		Total	Service	Flood
£m	Accounts	Defence		£m	Accounts	Defence
	£m	£m	See Note		£m	£m
			Fixed assets			
300.3	111.8	188.5	Tangible assets	6&7	365.0	138.6
			Current assets			
1.3	0.6	0.7	Stocks	8	1.7	0.2
0.3	—	0.3	Work in progress	8	1.1	0.2
19.5	7.5	12.0	Debtors	9	36.6	20.6
55.3	(3.7)	59.0	Cash at bank and in hand		96.8	17.2
76.4	4.4	72.0	Total current assets		136.2	38.2
			Creditors: amounts falling due within one year	10	37.6	30.3
22.3	3.8	18.5	Net current assets		78.6	7.9
54.1	0.6	53.5	Total assets less current liabilities		443.6	146.5
354.4	112.4	242.0	Financed by			
			Creditors: amounts falling due after more than one year	11	2.9	0.6
3.0	0.6	2.4	Reserves			
300.3	111.8	188.5	Capital	12 & 13	365.0	138.6
			Retained surplus from income and expenditure account	1 & 2	38.3	7.3
21.4	—	21.4	Special asset replacement fund	24	37.4	—
29.7	—	29.7				
354.4	112.4	242.0			443.6	146.5

The notes on pages 61 to 69 form part of these accounts.

The accounts were approved by the Board on 16th August 1990

Chairman

Lord Crickhowell

Crickhowell

Chief Executive

Dr J C Bowman CBE

John Bowman

Director of Finance

Mr P D Partridge

P D Partridge

6. ANALYSIS OF RECEIPTS AND PAYMENTS

FOR THE YEAR TO 31ST MARCH 1990

Receipts

	Total	Flood Defence	Total Service Accounts	Water Resources	Pollution Control	Fisheries	Navigation	Recreation and Conservation	Capital Restructuring	Unfunded Pensions
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Precepts, levies, etc	160.8	160.8	—	—	—	—	—	—	—	—
Abstraction charges, etc	81.0	—	81.0	81.0	—	—	—	—	—	—
Other operating receipts	10.7	—	10.7	—	1.1	7.4	2.0	0.2	—	—
Capital grants:										
MAFF	16.8	16.8	—	—	—	—	—	—	—	—
Welsh Office	0.6	0.6	—	—	—	—	—	—	—	—
ERDF	0.4	0.4	—	—	—	—	—	—	—	—
Interest received	11.2	9.5	1.7	1.7	—	—	—	—	—	—
Grant-in-aid	74.3	—	74.3	—	31.6	5.3	4.8	2.1	24.9	5.6
Environmental services charge	21.0	—	21.0	—	17.5	3.0	0.3	0.2	—	—
Total receipts	376.8	188.1	188.7	82.7	50.2	15.7	7.1	2.5	24.9	5.6

Payments

Revenue	211.4	89.2	122.2	61.3	42.1	12.5	4.2	2.1	—	—
Capital – ordinary	88.6	74.6	14.0	3.8	5.9	2.3	1.6	0.4	—	—
– restructuring	24.1	—	24.1	—	—	—	—	—	24.1	—
Interest paid	5.6	3.7	1.9	0.7	0.8	0.2	0.2	—	—	—
Unfunded pensions (see note 20)	5.6	—	5.6	—	—	—	—	—	—	5.6
Total payments	335.3	167.5	167.8	65.8	48.8	15.0	6.0	2.5	24.1	5.6
Surpluses (Deficits)	41.5	20.6	20.9	16.9	1.4	0.7	1.1	—	0.8	—
Opening balance	55.3	59.0	(3.7)	(3.9)	0.1	—	0.1	—	—	—
Closing balance	96.8	79.6	17.2	13.0	1.5	0.7	1.2	—	0.8	—

Analysis of Closing Balance

Flood defence balances	79.6	79.6	—	—	—	—	—	—	—	—
Water resources purposes	11.2	—	11.2	11.2	—	—	—	—	—	—
Special fisheries funds	0.7	—	0.7	—	—	0.7	—	—	—	—
Carried forward for general purposes	0.8	—	0.8	—	—	—	—	—	0.8	—
Sub-total	92.3	79.6	12.7	11.2	—	0.7	—	—	0.8	—
To be paid to Government:										
– 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	96.8	79.6	17.2	13.0	1.5	0.7	1.2	—	0.8	—

The above 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 grant-in-aid needs and requirements. The term capital restructuring refers to fixed assets necessary to set up the NRA as a separate and independent entity from the predecessor Water Authorities. The costs of such assets arising after 1st September 1989 were funded by DoE through grant-in-aid.

**7. SOURCE AND APPLICATION OF FUNDS STATEMENT FOR THE YEAR
ENDED 31ST MARCH 1990**

	Total	Service Accounts	Flood Defence
	£m	£m	£m
Source of funds:			
Operating surplus	68.3	39.2	29.1
Adjustments for items not involving the movement of funds:			
Depreciation and expenditure on intangible assets in year	54.3	6.3	48.0
Other	0.3	1.2	(0.9)
Total generated from operations	122.9	46.7	76.2
Funds from other sources:			
Capital grants and contributions (fixed assets)	1.7	0.5	1.2
Capital grants and contributions (intangible assets)	19.7	—	19.7
Creditors due after more than one year	(0.1)	—	(0.1)
Total funds generated	144.2	47.2	97.0
Application of funds:			
Purchase of fixed assets	62.3	40.5	21.8
Purchase of intangible assets	58.1	0.1	58.0
Depreciation charged to capital expenditure	(0.7)	(0.7)	—
Increase in working capital	24.5	7.3	17.2
Components of increase in working capital:			
Stocks	0.4	(0.4)	0.8
Work-in-progress	0.8	0.2	0.6
Debtors	17.1	13.1	4.0
Creditors	(33.2)	(26.5)	(8.8)
Movement in liquid funds	(17.0)	(13.6)	(3.4)
Cash at bank and in hand	41.5	20.9	20.6
Increase in working capital	24.5	7.3	17.2

The notes on pages 61 to 69 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	Recreation & Conservation	Capital Restructuring
	£m	£m	£m	£m	£m	£m	£m
INCOME							
Abstraction charges	79.2	79.2	—	—	—	—	—
Grant-in-aid	68.7	—	31.6	4.8	5.3	2.1	24.9
Environmental services charge	21.0	—	17.5	0.3	3.0	0.2	—
Sales of assets	0.5	0.4	—	—	—	0.1	—
Tolls	0.3	—	—	0.3	—	—	—
Fishing licence duties	6.2	—	—	—	6.2	—	—
Charges	0.2	—	0.1	—	—	0.1	—
Interest receivable	1.7	1.7	—	—	—	—	—
Other income	4.1	1.0	1.5	0.6	0.8	0.2	—
Total income	181.9	82.3	50.7	6.0	15.3	2.7	24.9
EXPENDITURE							
Manpower costs	40.3	10.3	19.7	2.4	6.8	1.1	—
Contracted services	58.2	42.7	12.0	1.1	2.0	0.4	—
Materials	7.1	1.7	3.5	0.3	1.3	0.3	—
Depreciation and expenditure on intangible assets in year	6.3	2.9	1.9	0.6	0.8	0.1	—
Interest payable	1.9	0.7	0.8	0.2	0.2	—	—
Other	13.9	4.8	5.8	0.4	2.3	0.6	—
Total expenditure	127.7	63.1	43.7	5.0	13.4	2.5	—
Operating surplus for year	54.2	19.2	7.0	1.0	1.9	0.2	24.9
Less Government required rate of return and current cost depreciation	—	7.6	—	—	—	—	—
Water resources surpluses carried forward to future years	11.6	11.6	—	—	—	—	—
Grant-in-aid returnable to government	3.4	—	—	—	—	—	—
Transfer to capital reserve:							
Applied to purchase of fixed assets	31.9	—	—	—	—	—	—
Retained surplus for the year	7.3						

Capital restructuring fixed assets purchases funded by grant-in-aid have been classified in Note 6 as follows:

	£m
Water resources	5.3
Pollution control	8.3
Fisheries	1.3
Navigation	0.3
Conservation	0.1
Recreation	0.2
Flood Defence	8.6
	24.1

Opposite: NRA staff during Thames Valley flooding at Maidenhead (Thames Region)

The difference between grant-in-aid drawn down and spent (£0.8 million) has been carried forward to 1990/91 and is included in the £7.3 million retained surplus.

2. Analysis of Flood Defence Income and Expenditure

	Total
	£m
INCOME	
Local authority precepts	144.6
General drainage charges	2.3
MAFF/Welsh office grants	0.2
Internal drainage boards	5.8
Contributions from beneficiaries	0.4
Sales of assets	0.3
Interest receivable	9.9
Other income	4.8
Total income	168.3
EXPENDITURE	
Manpower costs	45.9
Contracted services	18.5
Materials	9.6
Depreciation and expenditure on intangible assets in year	48.0
Internal drainage boards	1.2
Interest payable	3.7
Other	12.3
Total expenditure	139.2
Operating surplus for year	29.1
Transfers to reserves:	
– Applied to purchase of fixed assets	11.8
– Applied to special asset replacement fund	7.7
Surplus for the year	9.6
Retained surplus brought forward 1st April 1989	21.4
Retained surplus carried forward 31st March 1990	31.0

3. Surplus on Operating Activities

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

4. Interest Receivable

£11.6 million interest receivable is the sum obtained from short-term fixed interest deposits.

5. Interest Payable

Interest of £5.6 million payable in the year relates to the period 1st April 1989 to 31st August 1989. The loan debt giving rise to this charge did not pass to NRA on 1st September.

6. Analysis of Tangible Fixed Assets by Service Account

	Water Resources	Pollution Control	Fisheries	Recreation	Conser- vation	Navi- gation	Flood Defence	Total
	£m	£m	£m	£m	£m	£m	£m	£m
COST/VALUATION								
at 1st April 1989	78.0	29.3	9.2	3.4	0.3	33.4	259.9	413.5
Additions and reclassification of usage	9.9	12.7	4.9	(0.7)	0.2	2.1	54.0	83.1
Disposals	(3.6)	(0.1)	—	(0.2)	—	—	(1.1)	(5.0)
Grants and contributions	(0.1)	(0.2)	(0.2)	—	—	—	(1.2)	(1.7)
At 31st March 1990	84.2	41.7	13.9	2.5	0.5	35.5	311.6	489.9
DEPRECIATION								
at 1st April 1989	23.0	9.4	3.1	0.6	0.1	5.7	71.4	113.3
Charge for year	2.1	(0.8)	(0.1)	(0.1)	—	0.5	14.7	16.3
Disposals	(3.6)	(0.1)	—	(0.1)	—	—	(0.9)	(4.7)
At 31st March 1990	21.5	8.5	3.0	0.4	0.1	6.2	85.2	124.9
NET FIXED ASSETS	62.7	33.2	10.9	2.1	0.4	29.3	226.4	365.0

Of the additions and reclassification of usage shown above as £83.1 million, purchases in the year amounted to £62.3 million whilst reclassifications and transfers of ownership accounted for the remaining £20.8 million.

7. 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 1989	299.4	80.0	15.9	18.2	413.5
Additions	36.3	17.4	12.7	16.7	83.1
Disposals	(3.3)	(1.7)	—	—	(5.0)
Grants and contributions	(0.3)	(0.4)	(0.1)	(0.9)	(1.7)
At 31st March 1990	332.1	95.3	28.5	34.0	489.9
DEPRECIATION:					
At 1st April 1989	71.5	35.4	6.4	—	113.3
Provided during the year	5.7	7.1	3.5	—	16.3
Disposals	(3.3)	(1.4)	—	—	(4.7)
At 31st March 1990	73.9	41.1	9.9	—	124.9
NET BOOK VALUE:					
At 1st April 1989	227.9	44.6	9.5	18.2	300.2
At 31st March 1990	258.2	54.2	18.6	34.0	365.0

8. Stocks and Work in Progress

	£m
Stocks and stores	1.7
Work in progress	1.1

9. Debtors

	£m
Trade debtors	2.1
Other debtors	26.3
Water resources account debtors	1.9
Prepayments and accrued income	6.3
	36.6

10. Creditors: Amounts Falling Due Within One Year

	£m
Finance leases	0.6
Trade creditors	9.1
Other creditors	21.5
Water resources account creditors	13.5
Tax and social security	0.2
Customer deposits and receipts in advance	1.6
Accrued interest and deferred income	6.6
Returnable to Government: Grant-in-aid	3.4
: Navigation Licence Income	1.1
	57.6

11. Creditors: Amounts Falling Due After More Than One Year

	£m
Finance leases	2.0
Other creditors	0.7
Customer deposits and receipts in advance	0.2
	2.9

12. Opening Reserves - Schemes of Transfer Under Schedule 2 of the Water Act 1989

In arriving at the balance sheet shown on page 57 the following adjustments have been made to the opening balance sheet:

- (a) Loan capital relevant to NRA operations at vesting which was not taken over from the Water Authorities amounting to £134.8 million, of which £83.0 million related to flood defence and £51.8 million to other functions, has been credited to capital reserve.
- (b) Fixed assets of an intangible nature included in the Transfer Scheme at a figure of £155.1 million have been shown at nil value. (See note (f) of Statement of Accounting Policies).

The reserves are calculated as follows:

	Total £m	Service Accounts £m	Flood Defence £m
Reserves per Scheme of Transfer			
Capital	47.7	—	47.7
Other	272.9	60.6	212.3
	320.6	60.6	260.0
Previous loan capital transferred to reserves	134.8	51.8	83.0
	455.4	112.4	343.0
Assets of an intangible nature reduced to nil value	155.1	0.6	154.5
	300.3	111.8	188.5

13. Reserves and Retained Surpluses

	Service Accounts £m	Flood Defence £m	Total £m
Balance as at 1st April 1989:			
Capital	111.8	188.5	300.3
Retained surplus	—	21.4	21.4
Special asset replacement fund	—	29.7	29.7
	111.8	239.6	351.4
Movement in the year:			
Capital - Net purchases of assets (less depreciation and disposals)	31.9	11.8	43.7
- Transfers of asset ownership and reclassifications of asset usage	(5.2)	26.0	20.8
- Other	0.1	0.1	0.2
Retained surplus in year	7.3	9.6	16.9
Special asset replacement fund	—	7.7	7.7
	34.1	55.2	89.3
Balances as at 31st March 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

14. Insurance

Apart from statutory insurance requirements, the NRA is, by Government direction, self insuring.

15. Corporation Tax

The NRA is exempt from Corporation Tax.

16. Information Regarding Board Members

(1) Members' emoluments

Total Board members' emoluments including employers' pension contributions

£k

176

(2) The emoluments of: the Chairman

31

the highest paid member

41

(3) Scale of members' emoluments

£ 0-5,000 1

£ 5,001-10,000 11

£ 10,001-15,000 1

£ 30,001-35,000 1

£ 40,001-45,000 1

(4) During the year, board members incurred travelling, subsistence and hospitality expenditure of £9k.

17. Information Regarding Employees

Salaries and wages

£m

73.6

Social security costs

6.5

Pension costs (excludes amounts referred to in note 20)

5.9

Employee costs

86.0

Emoluments of senior employees, excluding pension costs

£ 30,001-35,000 30

£ 35,001-40,000 16

£ 40,001-45,000 10

£ 50,001-55,000 1

The full time equivalent of employees as at the 31st March 1990 was 5,863.

18. Finance Leases

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

Within 1 year

£m

0.6

Between 1 and 2 years

0.5

Between 2 and 5 years

1.5

2.6

The capital value of assets held under finance leases as at 31st March 1990 was £1.7 million.

19. Leasing Commitments - Operating Leases

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

Leases expiring:

Within 2 to 5 years

After 5 years

Land &
buildings

£m

Other

£m

—

0.1

4.7

0.2

4.7

0.3

20. Grant-in-aid re Pension Payments

£5.6 million 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 on page 56.

21. Contingent Liabilities

There are four pending litigation cases involving the NRA regarding water abstraction charges, three of which relate to the period prior to the vesting date of 1st September 1989.

22. Water Resources Account - Rate of Return

Assets transferred to the NRA on 1st September 1989 are required to provide a 2% return and assets acquired since that date are required to contribute an 8% return. This produces a total rate of return requirement of £3.7 million. In addition to the rate of return so calculated the NRA is required to achieve a further return on water resources assets equivalent to the current cost depreciation of £3.9 million.

23. Capital Commitments

Contracted for but not provided in the financial statements
Authorised but not yet contracted for

£m

24.3

57.5

24. Special Asset Replacement Fund

The sum identified of £37.4 million relates to the Thames Barrier and is set aside against the need for major capital works in the future.

25. Flood Defence Capital Grants

The Welsh Office and MAFF paid capital grants in the period of £17.4 million relating to both the year to 31st March 1990 and prior periods.

26. Flood Defence Accounts

The Flood Defence Service Revenue Account in note 27 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.

The difference between the opening flood defence retained surplus on Income and Expenditure Account according to the transfer scheme and the equivalent reserve in the opening balance sheet is attributable to reclassification of working capital items.

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

27. Flood Defence Service Revenue Account for the year ended 31st March 1990

	ANGLIAN					NORTH- UMBRIA	NORTH WEST	SEVERN TRENT	SOUTHERN				SOUTH WEST
	Welland & Nene	Lincs.	Essex	Norfolk/ Suffolk	Gt. Ouse				I.O. Wight	Hamps.	Sussex	Kent	
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
INCOME													
Local Authority precepts	2.8	4.0	9.4	4.5	4.7	1.5	15.6	16.0	0.1	1.3	4.1	6.7	4.4
General drainage charges	0.2	0.5	0.6	0.5	0.5	—	—	—	—	—	—	—	—
MAFF/Welsh office grants	—	—	—	—	0.1	—	—	—	—	—	—	—	—
Internal drainage boards	0.5	1.3	—	0.4	1.7	—	—	0.4	—	—	0.1	0.7	—
Contributions from beneficiaries	—	0.1	—	—	—	—	—	—	—	—	—	—	0.1
Interest receivable	0.1	0.2	0.3	0.1	0.4	—	0.5	0.8	—	0.1	—	0.3	0.1
Other income	0.2	0.1	0.1	0.1	0.2	—	0.1	0.3	—	—	0.2	0.5	—
Total income	3.8	6.2	10.4	5.6	7.6	1.5	16.2	17.5	0.1	1.4	4.4	8.2	4.6
EXPENDITURE													
Main river:													
Inland waters	1.0	0.7	0.9	0.6	1.7	0.6	4.7	6.1	0.1	0.3	1.0	1.5	0.7
Tidal waters	—	—	—	—	—	0.1	0.3	0.4	—	—	0.3	0.3	0.1
Sea defence	0.1	0.3	1.7	0.7	0.3	—	0.2	—	—	0.2	1.0	1.3	0.1
Flood warning	—	—	—	—	—	—	0.1	—	—	0.1	0.1	0.1	0.1
Other works	0.2	—	0.2	—	0.2	—	—	1.5	—	—	0.1	0.4	0.9
Land and properties	—	—	—	—	—	—	—	—	—	—	—	—	—
Policy, management and administration etc	0.8	1.0	1.4	1.1	1.5	0.8	4.6	2.6	0.1	0.2	0.9	1.3	0.8
Depreciation and expenditure on intangible assets in year	1.1	3.4	5.6	3.1	2.5	0.1	2.8	3.3	—	0.3	0.7	2.0	2.0
Internal drainage boards	—	0.1	—	—	0.4	—	—	0.3	—	—	—	0.2	—
Interest payable	—	0.2	0.5	0.2	0.2	0.1	0.5	1.1	—	—	0.1	0.3	—
Total expenditure	3.2	5.7	10.3	5.7	6.8	1.7	13.2	15.3	0.2	1.1	4.2	7.4	4.7
Surplus (deficit) of income over expenditure	0.6	0.5	0.1	(0.1)	0.8	(0.2)	3.0	2.2	(0.1)	0.3	0.2	0.8	(0.1)
Balances at 1.4.89													
Capital reserve	0.2	1.0	2.3	0.9	1.7	—	4.8	8.4	—	0.2	0.7	1.2	—
Retained surplus from Income and Expenditure Account	0.5	—	1.8	0.1	4.4	0.4	0.3	4.0	0.4	0.9	0.1	2.3	0.1
Special Asset replacement fund	—	—	—	—	—	—	—	—	—	—	—	—	—
Other movements	0.7	1.5	2.8	1.4	2.0	0.3	1.9	3.5	0.2	—	0.5	0.7	2.5
Analysis of reserves movements	2.0	3.0	7.0	2.3	8.9	0.5	10.0	18.1	0.5	1.4	1.5	5.0	2.5
Balances at 31.3.90													
Capital reserve	1.4	2.6	5.1	2.4	4.1	0.3	7.7	13.3	0.1	0.3	1.3	2.3	2.7
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	(0.2)
Special Asset replacement fund	—	—	—	—	—	—	—	—	—	—	—	—	—
Analysis of closing reserves	2.0	3.0	7.0	2.3	8.9	0.5	10.0	18.1	0.5	1.4	1.5	5.0	2.5

THAMES	WELSH						WESSEX			100% SHARE		
Dec & Clwyd.	Gwynedd	Wye	Glamorgan Usk	SW Wales	Avon/ Bristol	Avon/ Dorset	Somerset			Total		
£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	
43.8	1.7	1.3	0.8	1.1	2.7	1.5	1.5	2.2	2.9	10.0	144.6	INCOME
—	—	—	—	—	—	—	—	—	—	—	2.3	Local Authority precepts
0.1	—	—	—	—	—	—	—	—	—	—	0.2	General drainage charges
—	—	—	—	0.1	—	—	—	—	0.2	0.4	5.8	MAFF/Welsh office grants
0.1	0.1	—	—	—	—	—	—	—	—	—	0.4	Internal drainage boards
6.0	—	—	—	—	0.1	—	0.2	0.1	0.2	0.4	9.9	Contributions from beneficiaries
0.9	—	0.1	—	—	—	0.1	0.1	0.3	0.6	1.2	5.1	Interest receivable
50.9	1.8	1.4	0.8	1.2	2.8	1.6	1.8	2.6	3.9	12.0	168.3	Other income
												Total Income
												EXPENDITURE
												Main river
15.6	0.9	0.5	0.2	0.2	0.6	0.6	—	—	—	1.3	39.8	Inland waters
1.4	0.1	0.3	—	0.1	—	—	—	—	—	0.5	3.9	Tidal Waters
—	—	0.1	—	—	—	—	0.7	0.9	1.7	—	9.3	Sea defence
0.6	—	—	—	—	—	—	—	—	—	0.3	1.4	Flood warning
0.3	0.3	0.2	—	0.1	0.1	0.1	—	—	—	1.1	5.7	Other works
0.5	—	—	—	—	—	—	—	—	—	0.1	0.6	Land and properties
3.3	0.5	0.2	0.3	0.3	0.5	0.4	0.4	0.4	0.9	1.3	25.6	Policy, management and administration etc
												Depreciation and expenditure on intangible assets
10.7	0.1	0.1	0.3	0.1	0.1	0.4	0.3	1.6	1.0	6.4	48.0	in year
—	—	—	—	—	—	—	—	—	—	0.2	1.2	Internal drainage boards
0.1	—	—	—	0.1	0.2	—	—	—	0.1	—	3.7	Interest payable
32.5	1.9	1.4	0.8	0.9	1.5	1.5	1.4	2.9	3.7	11.2	139.2	Total Expenditure
												Surplus (deficit) of income over expenditure
18.4	(0.1)	—	—	0.3	1.3	0.1	0.4	(0.3)	0.2	0.8	29.1	Balances at 1.4.89
146.0	0.1	—	—	0.2	0.1	—	3.7	2.1	3.4	11.5	188.5	Capital reserve
(0.1)	0.2	(0.2)	—	0.1	0.1	0.2	0.9	1.0	1.5	2.4	21.4	Retained surplus from Income and Expenditure Account
29.7	—	—	—	—	—	—	—	—	—	—	29.7	Special Asset
3.9	0.6	0.7	0.5	0.4	0.5	0.6	0.1	0.1	(0.1)	0.8	26.1	replacement fund
												Other movements
197.9	0.8	0.5	0.5	1.0	2.0	0.9	5.1	2.9	5.0	15.5	294.8	Analysis of reserves movements
												Balances at 31.3.90
156.4	0.6	0.6	0.6	0.6	0.6	0.6	3.9	2.1	3.5	13.3	226.4	Capital reserve
4.1	0.2	(0.1)	(0.1)	0.4	1.4	0.3	1.2	0.8	1.5	2.2	31.0	Retained surplus from Income and Expenditure Account
37.4	—	—	—	—	—	—	—	—	—	—	37.4	Special Asset
												replacement fund
197.9	0.8	0.5	0.5	1.0	2.0	0.9	5.1	2.9	5.0	15.5	294.8	Analysis of closing reserves

9. NRA ACCOUNTS NOTIFICATION

Notification on Accounts The Secretary of State for the Environment, the Secretary of State for Wales and the Minister of Agriculture, Fisheries and Food, in accordance with sub-paragraph 21(2) of Schedule 1 to the Water Act 1989, with the consent of the Treasury, hereby notifies the National Rivers Authority of the following requirements in respect of its annual statement of accounts.

- The statement of accounts which it is the duty of the National Rivers Authority (hereinafter referred to as "the Authority") to prepare in respect of the financial year ending 31st March 1990 and, in respect of any subsequent financial year, shall comprise in respect of the Authority:
 - a foreword which shall clarify, for 1989/90, the composition of the first years accounts;
 - an income and expenditure account;
 - a balance sheet; and
 - a source and application of funds statement including in each case such notes and additional information as may be necessary for the purposes referred to in paragraphs 2 and 3 below. The Authority should observe all relevant guidance given in "Government Accounting" and "Trading Accounts: A guide for Government Departments and Non-Departmental Public Bodies".
- The annual statement of accounts referred to above shall give a true and fair view of the income and expenditure, state of affairs and source and application of funds of the Authority. Subject to the foregoing requirement, the statement of accounts shall also, without limiting the information given, meet, in so far as they are applicable to the Authority:
 - the accounts requirements of the Companies Acts for the time being in force save as described in Schedule 1 of this notification, and with the limitations imposed in that Schedule;
 - the best commercial accounting practice including Statements of Standard Accounting Practice of the Consultative Committee of Accountancy Bodies and Statements of Recommended Practice issued or approved by the Accounting Standards Committee.
- The statement of accounts mentioned in paragraph 1 above shall include the information set out in Schedule 2 to this notification.

Signed on behalf of the Secretary of State for the Environment	B Redfern A Grade 5 in the Department of the Environment.
Date 30th March 1990	
Signed on behalf of the Secretary of State for Wales	AHH Jones A Grade 5 in the Welsh Office
Date 30th March 1990	
Signed on behalf of the Minister for Agriculture, Fisheries and Food	J Park A Grade 5 in the Ministry of Agriculture, Fisheries and Food
Date 30th March 1990	

Schedule 1

- The disclosure exemptions permitted by the Companies Acts will not apply to the Authority unless specifically authorised by the Secretaries of State and the Minister with the approval of Treasury.
- In preparing its balance sheet the Authority shall adopt format 1 as prescribed in Schedule 4 to the Companies Act 1985 and that format shall be applied in such a manner that the items set out in paragraph 3 of Schedule 2 to this notification shall be separately disclosed. In the balance sheet totals shall be struck at the item "total assets less current liabilities". The balance sheet will be signed and dated by the Accounting Officer and a member of the Board (normally the Chairman).

- The profit and loss accounts formats in Schedule 4 to the Companies Act 1985 shall not apply to the Authority's income and expenditure account which shall be such a format as is necessary to disclose separately the information set out in paragraph 2 of Schedule 2 to this notification.

Schedule 2

- There should be a foreword to the accounts which shall contain information required by the Companies Act 1985 to be disclosed in the Directors' Report. The foreword will be signed by the Accounting Officer and a member of the Board (normally the Chairman) and dated.
- The income and expenditure account shall, inter alia, show:
 - Under "income" the following items –
 - Water resources
 - Flood defence
 - Pollution control
 - Other charges and income
 HM Government grants receivable should be analysed under the above headings to which they relate.
 - Under "expenditure" the following items shall be separately identified and analysed across the income headings shown in paragraph 2(a) above.
 - Manpower costs
 - Contracted services
 - Water charges
 - Materials
 - Depreciation
 - Miscellaneous.
 - The opening income and expenditure account balance brought forward, movements in the year and balance carried forward.

The accounts shall demonstrate, in accordance with paragraph 16 of Schedule 1 to the Water Act 1989, that revenue raised by the Authority in a local flood defence district is spent only in carrying out the Authority's flood defence functions in that district (or for certain other purposes specified in the Act).

- The balance sheet shall show inter alia
 - An analysis of reserves between
 - General fund distinguishing where appropriate between the income and expenditure account, surplus/deficit for the year, and balance carried forward
 - Flood defence reserves.
 - The balance sheet should distinguish between the surplus/deficit on flood defence activities for the year (ie, the excesses or deficiencies being carried forward to be extinguished in the next or next but one financial year in accordance with Section 47 of the Land Drainage Act 1976 – "the Section 47 balances") and the flood defence reserves as specified in the schemes of transfer under Schedule 2 of the Water Act 1989.
 - Comparative figures shall be shown for the previous year end in accordance with sub-paragraph 21(3) of Schedule 1 to the Water Act 1989. The requirement applies to the financial year ending 31st March 1990 and subsequent years.
- The notes to the account shall include:
 - An analysis of income and expenditure to show the following income by class of business:
 - Water resources (abstraction charges)
 - Flood defence (local authority precepts, general drainage charges, MAFF/Welsh Office grants). Other sources of flood defence income should be specified viz contributions from internal drainage boards under Section 84 of the Land
 - Drainage Act 1976, use of reserves, contributions from beneficiaries, sales of assets and any other income
 - Pollution control (discharge consents, grant-in-aid)
 - Navigation (licence fees/tolls grant-in-aid)
 - Fisheries (fishing licence duties, grant-in-aid)
 - Recreation (charges, grant-in-aid)
 - Other income

and the following expenditure by the above class of business:

- Manpower costs
- Contracted services
- Water charges
- Materials
- Depreciation
- Miscellaneous.

In addition, expenditure on flood defence should identify separately contributions to internal drainage boards. Headquarters, central services, expenditure and research and development expenditure are to be apportioned by income heading.

- An analysis of fixed assets by the following services:
 - Water resources
 - Pollution control
 - Flood defence
 - Fisheries
 - Navigation
 - Recreation
 - Other.
- A statement of grants received under the Water Act 1989 and under the terms of the Land Drainage Act 1976 which should reconcile to the amount of grants receivable shown in the income and expenditure account.
- The aggregate of members' emoluments including fees, pension scheme contributions, and estimated money value of any other benefit received otherwise than in cash.
- The number of members whose emoluments fall into each bracket of a scale in multiples of £5,000, individual brackets being shown only where the emoluments of at least one member fell within them.
- The emoluments of the Chairman and highest paid member of the Board if not the Chairman.
- The number of employees whose emoluments fell into each bracket of a scale in multiples of £5,000, starting at £30,000, individual brackets being shown only where the emoluments of at least one employee falls within them.
- The number of persons employed at the beginning of the financial year and at the end of the financial year.
- An analysis of members' and employees' costs (excluding board members' remuneration) showing separately:
 - wages and salaries payable for the year to employees;
 - employers' contribution to superannuation fund;
 - other social security costs, and other pension costs, incurred by the Authority in relation to members and employees.
- A note on pension costs in the year including any provisions in the balance sheet together with a note on the nature of the pension scheme.
- The amounts of expenses payable by the Authority, analysed between board members and employees respectively, expenses being payments of a reimbursable nature in respect of travelling, subsistence and entertainment/hospitality.

Opposite: Open Sewer (Yorkshire Region)







NRA

National Rivers Authority



National Rifle Association

ANNUAL REPORT & ACCOUNTS 1989/90

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APPENDIX 1 THE AUTHORITY'S HEAD OFFICE AND THE BOARD

HEAD OFFICE

National Rivers Authority,
30-34 Albert Embankment,
London, SE1 7TL.
Telephone (071) 820 0101
Telefax (071) 820 1603

THE BOARD

Chairman

Lord Crickhowell (seated, centre)

Members (appointed on 10th July 1989)

Seated, from left to right:

Dr John C Bowman CBE (Chief Executive)
Mr Peter Brandt
Mr Peter Coverdale OBE
Sir Hugh Fish CBE
Lady Digby DL
Professor Ronald W Edwards

Standing, from left to right:

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 (not present in photograph)

BOARD SECRETARIAT

Secretary to the Authority
Mrs Margaret Evans

Principal Administrative Officer
Miss Lynda Cecil

Committee Clerk
Ms Julianna Fejer



The Board

HEAD OFFICE DIRECTORS AND SENIOR MANAGERS

Corporate Affairs Directorate

Mrs M Evans (Director of Corporate Affairs)
Miss L Cecil (Principal Administrative Officer)
Mr H G Pearce (Corporate Planning Co-ordinator)
Mr R Page (Head of Public Relations)

Chief Scientist's Directorate

Dr R J Pentreath (Chief Scientist)
Mr M E Bramley (Research and Development Co-ordinator)
Mr P Chave (Water Quality Manager)

Personnel Directorate

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

Finance Directorate

Mr P D Partridge (Finance Director)
Mr L F Gray (Chief Financial Manager)
Mr R Sadler (Chief Auditor)
Mr J Victory (Principal Management Accountant)
Mr W Huntly (Financial Accountant)

Technical Directorate

Dr C J Swinnerton (Technical Director)
Dr I Crofts (Information Systems Co-ordinator)
Dr K O'Grady (Fisheries, Recreation, and Conservation Manager)
Mr J D Sheriff (Water Resources Manager)
Mr I Whittle (Flood Defence Manager)
Mr S Ruffles (DP Manager)

BIOGRAPHICAL NOTES ON THE NATIONAL RIVERS AUTHORITY BOARD MEMBERS

LORD CRICKHOWELL, age 56 Chairman

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

DR JOHN C BOWMAN CBE, age 56 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 59

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 58

Deputy Chairman Yorkshire Water Authority 1983-88, Chairman Regional Land Drainage Committee 1983-89, Member Executive Committee, National Association of Drainage Authorities, Chairman of National Association of Land Drainage Committees since 1988, Companion of Institution of Water and Environmental Management, Member of Yorkshire and Humberside Agricultural Lands Tribunal. Chairman of Yorkshire Regional Advisory Board.

LADY DIGBY DL, age 56

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 Deputy Lieutenant for the County of Dorset 1983. Chairman of Wessex Regional Advisory Board.

PROFESSOR RONALD EDWARDS, age 59

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

SIR HUGH FISH CBE, age 66

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

DAVID KIMMERSLEY, age 63

Director, Association of River Authorities 1970-73; Chief Executive, North West Water Authority 1973-76; economic adviser to National Water Council 1976-83; between 1987-88 was special consultant to Secretary of State on the establishment of National Rivers Authority.

LORD MASON, age 66

Formerly Roy Mason, MP for Barnsley 1953-87. 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.

DENNIS MITCHELL, age 59

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, Bearn Co plc. Chairman of the South West Regional Advisory Board.

KAREN MORGAN, age 43

Associate Walden Associates Ltd; Managing Director Marine Logic; Director Recent Productions Ltd; Director, Sussex County Building Society; Member of Board of Governors, Bristol Polytechnic. Chairman of the Southern Regional Advisory Board.

JOHN H M NORRIS CBE, age 59

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 1983-88. Chairman of the Thames Regional Advisory Board.

WYNDHAM J ROGERS-COLTMAN OBE, age 57

Arable farmer farming 350 acres near Berwick-on-Tweed; Managing Director of Lowick Farmers Silos Ltd since 1969; 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 Northumbrian Water Authority Land Drainage Committee 1984-89. Chairman of Northumbria Regional Advisory Board.

R JULIAN F TAYLOR, age 60

Chief Executive, Manchester Ship Canal Company 1980-87; Main Board Director of Ocean Transport and Trading; Liverpool 1964-80; Honorary Life Fellow of Wildfowl and Wetlands Trust; Council Member of RSPB 1978-1983; Chairman Groundwork Trust St. Helens. Deputy Chairman Harwich Haven Authority, Chairman of North West Regional Advisory Board. Polar medallist.

JOHN WHEATLEY, age 61

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

This Appendix lists the addresses of the Regional Offices and the members of the three statutory Regional Committees in each of the NRA's ten Regions at March 31st 1990.

Members of the Regional Rivers Advisory Committees and the Regional Fisheries Advisory Committees are appointed by the NRA. Members of the Regional Flood Defence Committees are appointed by local authorities, and the Minister for Agriculture, Fisheries and Food or the Secretary of State for Wales as appropriate, and the NRA. Each Committee is represented on the other two Committees in the Region, usually by the Chairman.

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

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

NORTHUMBRIA REGION

Regional Headquarters

Eldon House
Regent Centre
Gosforth
Newcastle upon Tyne NE3
3UD
Tele: (091) 213 0266
Fax: (091) 284 1069

Regional General Manager

Mr D N Rainbow

Regional Board member

Mr Wyndham J Rogers-
Coltman OBE

Regional Management Team

Business Services Manager -
Mr P Darling
Environmental Quality
Manager - Mr M D Colley
Engineering Manager -
Mr P Johnson
Fisheries Manager -
Mr A S Champion
Personnel Manager -
Mr W Adams

Regional Rivers Advisory Committee

Mr J Browne-Swinburne
(Chairman)
Mr M Bird
Mrs C Bradley
Dr J P Carrick
Councillor J Coulthard
Mr D Dunlop
Mr J A Foster
Mr K Hale
Mrs J Johnson
Professor M D Newson
Councillor D L Nicholson
Mr E G Palmer
Mr R A Pepper
Lord Ralph Percy
Mr H G H Sanderson
Mr P L Tennant
Mr H Watson
Mr E A Wrangham

Regional Flood Defence Committee

Mr E A Wrangham
(Chairman)
Councillor G R Anderson
Councillor S M Armstrong
Councillor D Bates
Councillor A Campbell
Councillor R Dunn
Mr J W Gibson
Councillor F Gill
Mr J Hall
Councillor K Hall
Mr D A Howie
Councillor S J Nugent
Mr J Browne-Swinburne
Mr P L Tennant
Major W K Trotter
Councillor E N Walker

Regional Fisheries Advisory Committee

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

Regional Flood Defence Committee

Mr T D Collier (Chairman)
Councillor J M Bramley
Councillor V Cliffe
Mr J C Cooke
Councillor M Crampton
Mr B R Croft
Mr J A Fawcett
Councillor J Goodhand
Councillor S Midgley
Councillor A Miller
Councillor Mrs E A Sargent
Mr N Thompson
Mr J W Whitworth

Regional Fisheries Advisory Committee

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

YORKSHIRE REGION

Regional Headquarters

21 Park Square South
Leeds LS1 2QG
Tele: (0532) 440 191
Fax: (0532) 461 889

Regional General Manager

Mr K W Newham

Regional Board Member

Mr P J Coverdale OBE

Regional Management Team

Environment Manager -
Dr A M C Edwards
Flood Defence Manager -
Mr B Marsden
Fisheries Manager -
Dr D J Shillcock
Finance Manager -
Mr S Astley
Secretary and Solicitor -
Mr G Greenlay
Water Resources Manager -
Mr R W D Franklin

Regional Rivers Advisory Committee

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

NORTH WEST REGION

Regional Headquarters

Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tele: (0925) 55 999
Fax: (0925) 415 961

Regional General Manager

Dr C Harpley

Regional Board Member

Mr R J F Taylor

Regional Management Team

Water Resources Manager -
Mr F C Brassington
Fisheries Recreation &
Conservation Manager -
Mr C M Newton
Environmental Quality
Manager -
Dr J B Leeming
Regional Finance Manager -
Mr M W Maitland
Regional Administration
Manager - Mr G Ager
Flood Defence Manager -
Dr P D Walsh

Regional Rivers Advisory Committee

Mr R E Weston (Chairman)
Mr T A F Barnes, OBE
Mr I Bonner

Mr D Cochran
Mr J R Crowther, JP
Mr G H Hammersley
Mr E Harper
Dr S R Jones
Mr J N Lucas, JP
Mr R Pickup
Mr R L Pocock
Mr A Richardson, OBE DL
Mr J B Robinson
Dr M A Rose
Mr R Sharland
Mrs A M Tait
Sir John Tavaré, CBE
Mr R H Tyson, JP
Mr A A Wright

Regional Flood Defence Committee

Mr J B Robinson (Chairman)
Mr R J S Addison, JP
Mr T A F Barnes, OBE
Mr J S Brentnall
Mr F T Dolphin
Mr J E Eason
Mr J Gardner
Mr J E Hilton
Mr B M O'Hare
Mr G W Roper
Mr R J W Slack
Mr A J Spencer
Mr R Umevitch
Mr R E Weston
Mr W M Wannop OBE JP

Regional Fisheries Advisory Committee

Mr T A F Barnes, OBE
(Chairman)
Mr R Bailey
Dr R B Broughton
Mr A J R Brown
Mr F Bunting
Mr J M Croft
Mr E P Ecroyd
Mr J H Fell
Mr C Holland
Mr B Irving
Mr K Lambert
Dr E D LeCren
Mr J E Lovell
Mr P Neal
Mr J B Robinson
Mr R E Weston

WELSH CYMRU REGION

Regional Headquarters

Rivers House/Plas-yr-Afon
St Mellons Business Park
St Mellons
Cardiff CF3 0LT
Tele: (0222) 770 088
Fax: (0222) 798 555

Regional General Manager

Dr J H Stoeber

Regional Board Member

Professor R W Edwards

Regional Management Team

Regional Planning Manager -
Dr A Gee
Regional Finance Manager -
Mr W Griffiths
Flood Defence Manager -
Mr T Widnall
Environmental Quality
Manager - Mr D Walker
Fisheries and Conservation
Manager - Mr W Ayton
Regional Solicitor -
Mr C F Martin
Personnel Manager -
Mr K T F Goodley

Regional Rivers Advisory Committee

Professor M Bruton
(Chairman)
Dr N Bolton
Dr M P Brooker
Dr N Caldwell
Councillor W E Conway
Councillor J R Evans
Mr M Fitton
Councillor E K Griffiths
Mrs C Hayward
Councillor J N Hereford
Dr W R Howells
Councillor G Jones
Mr H Lewis
Mr R Lovegrove
Mr K Mascetti
Mr M J Morgan
Dr A O'Connor
Professor J Simpson
Mr L E Taylor
Mr B Thomas
Councillor J D Thompson
Mr W Walker
Mr W N Waters
Mr H Williams

Regional Flood Defence Committee

Major H R Jackson
(Chairman)
Mr L T Chase
Councillor H Cotterell
Councillor J T H Davies
Councillor F C Evans
Councillor E K Griffiths
Mr J W Hughes
Councillor J T Humphreys
Councillor B Huxley
Councillor R W M Jenkins
Mr R ap Simon Jones
Mr M A McLaggan
Mr R I Millichamp
Mr P J Perkins
Councillor D J Thomas
Councillor J D A Thompson
Councillor M L Vaughan
Mr W N Waters
Councillor C V Watkins

Regional Fisheries Advisory Committee

Lord Moran (Chairman)
Mr I Edwards-Jones
Dr J Fish

Mr W Hardy
Dr W Roscoe Howells
Mr N F Johnston
Mr M A McLaggan
Mr M Matthews
Mr J Mayers
Mr R I Millichamp
Mr M J Morgan
Col P C Ormrod
Vice Admiral Sir Iwan
Raikes
Mr J Rhydderch
Mr A Rees
Mr G Roberts
Mrs J Spence
Mr W J Williams

Secretary of State's Welsh Committee

Professor R W Edwards
(Chairman)
Professor M J Bruton
Mr M A McLaggan
Lord Moran
Mr B Riddleston
Dr T H Tebbutt
Councillor J D A Thompson
Dr S J Tyler

SEVERN TRENT REGION

Regional Headquarters

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

Regional General Manager

Dr G Mance

Regional Board Member

Mr J Wheatley

Regional Management Team

Flood Defence Manager -
Dr R A Bailey
Fisheries, Conservation and
Recreation Manager -
Mrs K Bryan
Services Manager -
Mr G Litterick
Catchment Management -
Dr A Skinner
Environmental Quality
Manager - Dr B Waters

Regional Rivers Advisory Committee

Dr T H Y Tebbutt
(Chairman)
Councillor P E Beeby
Mr J S Betteridge
Mrs V A Gillespie, MBE
Mr D C Grigg
Lord Guernsey
Mr C G Hawthorne
Mr F A Jennings
Councillor D R Jones
Councillor Sir Richard
Knowles

Councillor Mrs P R Merritt
Mr P J Mitchell
Mr C Nicholson
Mr D Pryor
Mr W I K Scott
Mr S Sim
Mr J A Thompson
Mr F Walmsley
Mr M White

Regional Flood Defence Committee

Mr C G Hawthorne
(Chairman)
Mr B G Booth
Mr G K Bullock
Mr R H Cambridge, NDA
Mr J Carter
Mr J R Chamberlayne
Mr D Chapman
Mr C H C Coaker
Mr C H Crowther
Mr J J Curley
Mr J Dainty
Mr M F Eagleton JP
Mr F A Jennings
Mr P Kellie
Mr M R Prosser
Mr D E Sherrieff
Mr B Singh
Sir John Starkey Bt
Dr T H Y Tebbutt
Mr J Turner
Mr J W Wardle MBE JP

Regional Fisheries Advisory Committee

Mr F A Jennings (Chairman)
Dr P E Bottomley
Mr P Buckland-Large
Mr W Casey
Mr G B Chambers
Mr M Childs
Mr T W Clowes
Mr E Dodson
Mr W Hardy MBE
Mr C G Hawthorne
Mr H Howarth
Mr J Keedwell
Mr D A Orton
Dr T H Tebbutt
Mr T J Turner
Mr R C P Williams

ANGLIAN REGION

Regional Headquarters

Kingfisher House
Goldhay Way
Orton Goldway
Peterborough PE2 6ZR
Tele: (0733) 371 811
Fax: (0733) 231 840

Regional General Manager

Mr P Bullock (to 31st March 1990)

Regional Board Member

Mr P Brandt

Regional Management Team

Regional Manager
Environment and
Fisheries - Dr A Tetlow
Regional Manager Flood
Defence & Operations -
Mr C Mason
Regional Manager Finance &
Common Services -
Mr R Hyde
Public Relations Officer -
Mr J Dodd
Solicitor - Mr T Williams

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 P Horton
Mr D Latham
Mr J Loveys
Mr C Lumbar
Mr J Martin CBE
Mr P Moorhouse
Mr J Pilling
Mr A Prater
Mr G Searle
Mr R Sisman
Mr P H Tomblison

Regional Flood Defence Committee

Mr J Martin CBE (Chairman)
Mr J Childs
Mr B Clark
Mr H Duffield
Mr J Ellis
Mr D Fisher
Mr F Gales
Mr R Gibson
Mr W Grant
Mr C Groome
Mr W Hanson
Mr J Horrell
Mr D Hoyes
Mr A Northen
Mr F Rockliffe
Mr F Thornton

Regional Fisheries Advisory Committee

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

THAMES REGION

Regional Headquarters

Kings Meadow House
Kings Meadow Road
Reading RG1 8DQ
Tele: (0734) 535 000
Fax: (0734) 500 388

Regional General Manager

Mr L 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 and General Services
Manager - Mr G King
Catchment Control
Manager - Dr G Philips

Regional Rivers Advisory Committee

Mrs J K Wykes (Chairman)
Mr J A G Coates CBE DFC
Mr R C Corp-Reader
Mr D Coleman
Mr A G Davis
Mr M Davies
Mr K French
Mr F Hodgson
Mr J Ibbott
Ms K Lacey
Mr G Lee-Steere
Mr P T McIntosh
Mr D W Moss
Mr H P Parry
Mr D Powell
Dr G L P Randall
Mr P Schofield
Mr A Scott-Johnston
Mr M Shefras
Mr D E T Try
Mr D Turner
Mr A J Wilcox
Mr W A Wiseman

Regional Flood Defence Committee

Mr M Davies (Chairman)
Mrs P S Bentley
Mr D du Parc Braham
Mr C R Coombs
Mr J C Durnin
Mr A F G Edwards
Mr C Geddes
Mr A K Gray
Mr W F D Hawkins
Dr D A Hoyle
Mr M F Kennard
Mr J Kinross
Mr H P Parry
Mr R E L Pile
Mr P Portwood
Mr H Scantlebury
Mr D N Simpson
Mrs J Venables
Mrs J K Wykes

Regional Fisheries Advisory Committee

Mr H P Parry (Chairman)
Mr J S Alabaster
Mr M Davies
Mrs J J George
Mr M A Gregory
Mr A E Hodges
Dr D G Jamieson
Mr B Knights
Mr D W Komrower
Mr G G Lee
Mr E J Macer
Mr A V Meddle
Mr D Wales
Mr A L Williams
Mrs J K Wykes

SOUTHERN REGION

Regional Headquarters

Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tele: (0903) 820 692
Fax: (0903) 821 832

Regional General Manager

Mr G L Davies

Regional Board Member

Mr K Morgan

Regional Management Team

Environmental Protection
Manager - Mr M Beard
Flood Defence Manager -
Mr G Robinson
Water Resources Manager -
Mr P Herbertson
Secretary - Mr T King
Finance Manager -
Mr K Hodgson

Regional Rivers Advisory Committee

Mr M A C Drummond
(Chairman)
Mr H T Barnhoorn
Dr M Clarke
Mr C I Dempster
Major I G Duffin
Ms P Edwards
Mr D W Gibson
Mr H J L Harris
Mrs E Haselden
Mr B A O Hewett
Mr A Humbert
Ms L Leeson
Mr M Lockhart
Mr D S Martin
Mr E J Pipe
Mr C G Saunders-Davies
Mr B Tarling
Mrs S F Whitley
Mr B C Williams

Regional Flood Defence Committee

Mr H J L Harris (Chairman)
Mr M A C Drummond
Mr I R F Hammond
Lt Col G H Hart
Major T T Holden
Mr A Humbert
Mr S Leyland
Mr R T Millard
Mr D G L Monnington
Mr C D Neame
Mr M F Odling
Mr M H J Richards
Mr L G S Shirley
Mr T J Sobey
Mr C L Tandy
Mr C Whaley
Mr D W Whyberd

Regional Fisheries Advisory Committee

Mr A Humbert (Chairman)
Mr B E Aldrich
Mr D N Brunwin
Mr A L Costen
Dr J L Cotton
Mr M A C Drummond
Mr I P E Gay
Mr H J L Harris
Dr B I Lindsey
Mr J Parkman
Mr J W Potter
Mr F Reader
Mr B Stott
Major J L Thomas

WESSEX REGION

Regional Headquarters

Rivers House
East Quay
Bridgwater
Somerset TA6 4YS
Tele: (0278) 417 333
Fax: (0278) 452 985

Regional General Manager

Mr N F Reader

Regional Board Member

Lady Digby DL

Regional Management Team

Flood Defence Manager -
Mr B A Tinkler
Catchment Planning
Manager - Mr M G Booth
Catchment Control
Manager - Mr D J Palmer
Fisheries, Recreation &
Conservation Manager -
Mr A J R Barber
Finance Administration
Manager - Mr N Gupta
Legal and Estate Manager -
Miss G Griffith
Personnel Manager -
Mr T Pless
Public Relations Manager -
Mr P Hewett

Regional Rivers Advisory Committee

Mr P W Lacey (Chairman)
Mr R C Adlam
Mr R H Baker
Mr E J H Cameron
Mr Capt I A Campbell
Lt Col J V Cornwell
Lady Digby DL
Mr D Gifford
Mr K Green
Mr M J Hudson
Mr J R Little
Captain J Loftis
Miss N McMahon
Major J M Mills
Mrs I H Peckham
Miss W Pettigrew
Mr E Potter
Mr T Rymell
Mr C F Skellett
Mr A Swindall
Mrs P Stocken

Regional Flood Defence Committee

Mr R H Baker (Chairman)
Mr J B Bush JP
Mr S H Chedzoy
Mr P Cookson
Lady Digby DL
Mr G E Hine
Mr P W Lacey
Major J M Mills
Mr G S Morris
Mr A G Phillips OBE
Rear Admiral G I Pritchard
CB
Mr T E Turvey OBE
Mr R Willis
Mr J Wyatt

Regional Fisheries Advisory Committee

Major J M Mills (Chairman)
Mr L H Ames
Mr R H Baker
Mr R Corbett Esq
Lady Digby DL
Brig S N Floyer-Acland CBE
DL
Mr D Gifford
Captain P Green MC
Mr K Hall
Sir Stephen Hammick BT
Mr R Harrison
Mr K W Lacey
Mr P W Lacey
Mr J J Mathrick
Mr J S Parker

Major D A C Rasch
Mr M J Stoodley
Dr H I S Thirlaway
Mr G A Topp
Mr V D Tyrrell

SOUTH WEST REGION

Regional Headquarters

Manley House
Kestrel Way
Exeter EX2 7LQ
Tele: (0392) 444 000
Fax: (0392) 444 238

Regional General Manager

Mr G H Bielby

Regional Board Member

Mr D Mitchell

Regional Management Team

Environmental Quality
Manager -
Mr C V M Davies
Engineering Manager -
Mr G E Bull
Finance Manager -
Mr D G Horwood
Secretary and Solicitor -
Mr Q L Gray

Regional Rivers Advisory Committee

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

Regional Flood Defence Committee

Mr G Manning (Chairman)
Mr J A Bell
Mr B R Costello
Mr P D Edwards
Mr T H E Laity
Lt Col Sir Arscott
Molesworth - St Aubyn Bt
BME

Mr H Northcott

Mr R H Sampson

Mr R Stratton

Mr R K Taylor

Mrs A Voss-Bark

Mr R A Westlake

Fl Lt B W Wills-Pope

Regional Fisheries Advisory Committee

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

APPENDIX 3 THE MANAGEMENT COMMITTEE

CHAIRMAN

Chief Executive

Dr John C Bowman

MEMBERS

Secretary and Director of Corporate Affairs

Mrs Margaret Evans

Director of Personnel

Mr Peter Humphreys

Director of Finance

Mr Peter Partridge

Chief Scientist

Dr Jan Pentreath

Technical Director

Dr Clive Swinnerton

Regional General Managers

Mr Douglas Rainbow
Northumbria

Mr Ken W Newham
Yorkshire

Dr Chris Harpley
North West

Dr John Stoner
Welsh

Dr Geoff Mance
Severn Trent

Mr Peter Bullock (to 31st March 1990)
Dr Kevin Bond (from 1st April 1990)
Anglian

Mr Les Jones
Thames

Mr Grainger Davies
Southern

Mr Nigel Reader
Wessex

Mr Gordon Bielby
South West

Head of Public Relations in Attendance

Mr Ron Page

Secretariat

Principal Administrative Officer
Miss Lynda Cecil

Committee Clerk

Ms Julianna Fejer



Dr John Bowman



Mrs Margaret Evans



Mr Peter Humphreys



Mr Peter Partridge



Dr Jan Pentreath



Dr Clive Swinnerton



Mr Douglas Rainbow



Mr Ken Newham



Dr Chris Harpley



Dr John Stoner



Dr Geoff Mance



Mr Peter Bullock



Mr Les Jones



Mr Grainger Davies



Mr Nigel Reader



Mr Gordon Bielby

APPENDIX 4

PRINCIPAL PROFESSIONAL ADVISERS TO THE AUTHORITY

PRINCIPAL BANKERS

National Westminster Bank plc,
15, 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.

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.

PENSION FUND INVESTMENT

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

PENSION FUND AUDITORS

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

PARLIAMENTARY AGENTS

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

TECHNICAL SERVICES

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

APPENDIX 5 SELECTED STATISTICS

This section presents selected statistics for the financial year 1989/90 compiled by the shadow NRA Regional Units from 1st April 1989 until the vesting of the Authority on 1st September 1989, thereafter the data presented is that compiled by the Authority's Regions. Comparative data from the former Regional Water Authorities is presented where available for 1988/89. N/A indicates data not available.

WATER RESOURCES

Rainfall

Region	Average Monthly (mm)		Annual Total (mm)		Over Region (% Avg Annual)	
	88/89	89/90	88/89	89/90	88/89	89/90
Northumbria	69	56	821	668	94	76
Yorkshire	62	61	745	732	91	89
North West	97	93	1,163	1,110	96	91
Welsh	113	106	1,384	1,267	104	91
Severn Trent	55	66	658	789	81	102
Anglian	50	50	511	578	84	94
Thames	52	63	619	714	84	102
Southern	47	62	569	739	72	94
Wessex	71	67	849	810	98	94
South West	91	100	1,084	1,197	91	100
Total	709	724	8,411	8,644		

Total Drought Orders Granted

89/90
0
10
18
12
5
1
0
28
0
20
94

POLLUTION CONTROL

Pollution Incidents

Region	Total Number of Incidents		Total Number of Serious Incidents		Total Number of Prosecutions	
	88/89	89/90	88/89	89/90	88/89	89/90
Northumbria	695	792	23	41	2	5
Yorkshire	2,123	2,464	230	180	25	34
North West	3,664	3,478	729	525	45	47
Welsh	2,285	1,814	139	245	62	14
Severn Trent	5,282	6,004	N/A	805	N/A	31
Anglian	1,441	1,731	94	102	17	18
Thames	3,045	3,573	1,047	660	25	10
Southern	1,581	1,306	34	40	5	8
Wessex	1,776	1,821	73	149	14	38
South West	2,666	2,580	111	506	19	43
Total	24,160	25,563	2,907	3,213	254	292

Enforcement†

Number of Incidents Infringing			Number of Successful Prosecutions			Total fines (£)	
Cat. 1	Cat. 2	Cat. 3	Cat. 1	Cat. 2	Cat. 3	88/89	89/90
89/90	89/90	89/90	89/90	89/90	89/90		
23	531	238	4	1	0	1050	4,250
180	2,284	0	30	4	0	N/A	40,000
3	522	2,953	3	44	0	29,200	1,041,750
33	212	1,569	32	22	0	38,760	59,155
147	3,231	0	28	0	0	15,400	37,300
7	91	1,629	15	3	0	N/A	25,250
51	609	2,913	10	0	0	10,600	11,100
12	233	1,503	1	5	0	1,500	5,150
14	47	37	9	24	0	9,560	26,200
36	471	2,073	34	9	0	20,825	22,350
106	8,251	12,715	151	127	0	124,695	1,272,505

Total River and Canal Length Monitored (km)

Region	Total number of water samples taken		Total number of determinands	
	88/89	89/90	88/89	89/90
Northumbria	2,784	2,784	7,880	9,254
Yorkshire	6,034	6,034	25,550	21,733
North West	5,900	5,900	21,101	15,844
Welsh	4,802	4,802	21,539	24,585
Severn Trent	N/A	6,781	N/A	50,133
Anglian	4,635	4,550	40,730	52,980
Thames	5,082	5,725	17,745	21,762
Southern	2,161	2,137	25,117	23,516
Wessex	2,548	2,148	23,467	26,860
South West	2,984	5,221	15,179	22,886
Total	34,930	42,482	196,508	249,553

River Water Quality (km)

Good Class 1A		Good Class 1B		Fair Class 2		Poor Class 3		Bad Class 4	
88/89	89/90	88/89	89/90	88/89	89/90	88/89	89/90	88/89	89/90
1,730	1,730	722	722	284	284	44	44	5	5
2,261	2,267	2,143	2,114	859	860	645	641	148	152
2,601	2,442	782	829	1,336	1,463	913	921	268	245
2,739	2,407	1,105	1,456	606	663	311	253	41	21
893	893	2,591	2,174	2,487	2,494	622	629	82	90
360	360	2,197	2,197	1,526	1,543	352	333	18	25
1,530	1,570	1,490	1,473	780	597	205	169	0	0
561	545	1,052	731	413	656	124	187	7	11
600	600	791	782	775	784	90	90	19	19
113	420	872	998	872	1,002	286	331	33	38
13,192	13,254	15,771	15,876	9,918	10,346	5,192	5,600	621	606

* Calendar year

Bathing Water Quality

Region	Number of beaches complying with EC directive				Total	
	Pass 88/89	89/90	Fail 88/89	89/90	88/89	89/90
Northumbria	9	20	10	12	19	32
Yorkshire	21	18	1	4	22	22
North West	6	11	27	22	33	33
Welsh	37	40	11	8	48	48
Severn Trent	0	0	0	0	0	0
Anglian	19	23	9	5	28	28
Thames	0	0	2	5	2	5
Southern	27	45	58	20	65	65
Wessex	30	31	8	7	38	38
South West	92	113	17	19	109	132
Total	241	301	123	100	364	401

Enquiries about Water Quality Data

Examinations of Water Act Register	
Prior to Water Act 88/89	89/90
25	100
210	270
64	149
46	111
N/A	156
115	253
120	271
32	143
100	156
N/A	180*
712	1,747

* Calendar year

† Categories 1, 2 and 3 refer to NRA enforcement policy. Cat. 1 = major; Cat. 2 = significant; Cat. 3 = minor.

FLOOD DEFENCE

Flooding

Region	Number of Major Flooding Incidents (Fluvial and Coastal)		Number of Flood Warnings issued to Police	
	88/89	89/90	88/89	89/90
Northumbria	N/A	1	5	2
Yorkshire	N/A	2	15	17
North West	4	12	24	46
Welsh	N/A	49	68	296
Severn Trent	N/A	5	N/A	296
Anglian	N/A	1	81	91
Thames	8	8	27	28
Southern	N/A	1	16	109
Wessex	1	14	4	41
South West	13	26	N/A	146
Total	26	119	244	1,076

Length of Flood Defence Works Maintained/Improved (Km)

Main River	Flood Embankment		Sea Defences		
	88/89	89/90	88/89	89/90	
255	270	110	120	0.3	1.3
546	546	942	942	16	16
4,031	3,984	459	455	11	11
913	917	263	242	13	13
N/A	3,586	N/A	801	N/A	40
N/A	2,970	N/A	3,870	N/A	160
N/A	2,404	N/A	670	0	0
N/A	1,169	216	216	281	281
744	727	570	570	5	5
N/A	65	N/A	326	N/A	7
6,529	16,678	2,160	8,192	326	534

FISHERIES

Licences Issued

Region	Rod		Net		Total	
	88/89	89/90	88/89	89/90	88/89	89/90
Northumbria	43,529	42,133	121	121	43,650	42,254
Yorkshire	103,929	102,744	60	61	103,989	102,805
North West	107,104	100,111	233	233	107,337	100,344
Welsh	82,960	81,005	568	551	83,528	81,550
Severn Trent	283,200	290,809	958	950	284,158	291,759
Anglian	229,041	229,268	1,172	938	230,213	230,206
Thames	219,000	220,000	N/A	212	219,000	220,212
Southern	N/A	126,498	6	6	6	126,504
Wessex	58,688	61,013	178	232	58,866	61,245
South West	27,619	25,886	98	98	27,717	25,984
Total	1,155,070	1,280,467	3,394	3,366	1,158,464	1,284,833

Licence Offences

Successful Prosecutions	
88/89	89/90
78	149
188	245
481	310
185	220
569	524
372	643
N/A	701
80	106
118	227
35	27
2,104	3,152

Summary of Rod Catches (Numbers Caught)

Salmon		Sea Trout		Total	
88/89	89/90	88/89	89/90	88/89	89/90
2,152	1,183	2,778	1,640	4,930	2,823
49	11	279	96	328	107
6,428	4,024	6,174	3,499	12,602	7,523
15,983	5,000	10,681	12,000	46,668	17,000
1,338	651	0	0	1,338	651
0	1	10	10	10	11
25	11	3	1	28	16
1,052	859	1,073	455	2,125	1,294
1,146	697	837	407	1,983	1,104
4,579	1,868	7,755	3,653	12,334	5,521
32,712	14,305	49,594	21,745	82,346	36,050

Summary of Commercial/Net Catches (Numbers Caught)

Region	Salmon		Sea Trout		Total	
	88/89	89/90	88/89	89/90	88/89	89/90
Northumbria	44,679	35,169	32,711	48,626	77,390	83,795
Yorkshire	6,170	6,284	21,174	22,743	27,344	29,027
North West	5,671	8,131	7,207	1,747	12,878	13,878
Welsh	5,124	5,000	6,799	7,000	11,923	12,000
Severn Trent	3,511	4,345	0	0	3,511	4,345
Anglian	4	4	3,811	3,815	3,819	3,819
Thames	0	0	0	0	0	0
Southern	477	79	232	165	709	244
Wessex	736	593	501	365	1,241	958
South West	11,063	10,091	4,564	3,591	15,627	13,682
Total	77,435	69,696	77,207	92,052	154,642	161,748

Pollution Incidents and Fish Rescues

Pollution Incidents Attended		Fish Rescues		Number of Fish Saved	
88/89	89/90	88/89	89/90	88/89	89/90
20	35	N/A	2	N/A	N/A
72	134	21	34	20,557	41,464
N/A	N/A	26	18	227,800	39,742
139	140	41	43	33,600	54,500
96	184	27	52	N/A	N/A
49	45	30	48	42,401	677,938
N/A	144	N/A	93	N/A	89,000
23	60	34	17	30,000	40,000
18	25	5	9	120	2,515
N/A	N/A	N/A	3	N/A	50,000
417	765	182	359	314,278	999,159

Total Number of Fish Reared by the NRA

Region	Salmonid		Non-Salmonid		Total	
	88/89	89/90	88/89	89/90	88/89	89/90
Northumbria	457,700	465,500	0	0	457,700	465,500
Yorkshire	403,034	350,672	0	0	403,034	350,672
North West	2,148,160	2,489,374	0	0	2,148,160	2,489,374
Welsh	904,000	908,000	0	0	904,000	908,000
Severn Trent	27,703	10,155	66,923	106,772	94,626	116,927
Anglian	0	0	271,000	237,000	271,000	237,000
Thames	N/A	129,000	N/A	40,000	N/A	169,000
Southern	80,000	83,000	50,000	30,000	130,000	113,000
Wessex	0	0	28,593	25,355	28,593	25,355
South West	359,450	136,255	0	0	359,450	136,255
Total	4,780,447	4,571,956	396,518	439,087	5,176,965	5,011,043

Total Number of Fish Stocked by NRA

Total Number of Fish Stocked by NARA					
Salmonid		Non-Salmonid		Total	
88/89	89/90	88/89	89/90	88/89	89/90
422,600	465,500	0	0	422,600	465,500
286,171	283,789	55,666	48,814	321,867	332,603
1,529,366	2,551,803	2,852	124,149	1,532,218	2,675,952
904,000	908,000	12,000	15,000	916,000	923,000
27,703	10,155	0	0	27,703	10,155
2,000	760	215,817	428,414	215,817	429,174
N/A	129,000	N/A	173,000	N/A	302,000
60,000	64,000	55,000	59,000	115,000	123,000
230	10,993	901,125	45,362	901,355	54,355
9,550	10,295	0	0	9,550	10,295
3,241,620	4,454,297	1,220,490	891,739	4,462,110	5,326,036

RECREATION

Estimated Number of Visitors to NRA Facilities

Region	88/89	89/90
Northumbria	200	250
Yorkshire	10,000	12,000
North West	2,550	2,550
Welsh	14,000	16,500
Severn Trent	5,000	5,000
Anglian	30,000	30,000
Thames	10,000	12,000
Southern	30,000	40,000
Wessex	4,500	5,500
South West	3,500	3,000
Total	109,550	126,600

CONSERVATION

Conservation Schemes with Capital Works Schemes

Region	88/89	89/90
Northumbria	N/A	4
Yorkshire	11	5
North West	3	1
Welsh	1	4
Severn Trent	21	26
Anglian	30	47
Thames	11	11
Southern	N/A	1
Wessex	5	4
South West	5	4
Total	87	107

NAVIGATION

Navigation Licences Issued

Region	88/89	89/90
Northumbria	0	0
Yorkshire	7	10
North West	0	0
Welsh	0	0
Severn Trent	0	0
Anglian	5,441	5,738
Thames	53,602	54,139
Southern	1,745	2,074
Wessex	0	0
South West	0	0
Total	40,795	41,961

APPENDIX 6 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
Farm Pollution Report (jointly with MAFF) (from South West Region)
Introductory note on the NRA's R&D programme

Leaflets

COSHH

Newsletter

The Water Guardians Staff Newspaper

Videos

NRA Corporate video
RIVPACS

Information sheets

NRA Fact sheets

Displays

The National Rivers Authority

REGIONAL

NORTHUMBRIA

Brochures

Regional brochure

Newsletters

Aquarius (Staff Newsletter)

Videos

The 40 Year Flood
Guardians of the Water Environment

YORKSHIRE

Brochures

Regional brochure
Emergency arrangements

Leaflets

The NRA
Farm Pollution

Fact Files

Rivers Aire and Wharfe
Pollution
Public Register
River Nidd, Calder, Esk and Rother

Displays

Fisheries
Pollution
Water resources
Engineering services
Flood defence

Posters

Farm Pollution

NORTH WEST

Brochures

Regional brochure
Fishing guide

Leaflets

The role and work of NRA NW
Byelaws on Lake Windermere in NRA NW
Farm Pollution
NRA NW's new headquarters

WELSH

Brochures

Guardians of the Water Environment

Leaflets

Silage is Deadly
Oil, Chemicals and Pesticides
Clean Rivers Cup - rules and entry form for anti-pollution competition
Rod Fishing Byelaws
Buyer Beware of Poached Salmon
Recognition of illegally taken fish and warning of Salmon Act 1986 controls
Rewards for Tagged Fish
Angling Information 1990
Llyn Brianne Acid Waters Project

Newsletters

Glas-y-Dorlan/Kingfisher

Videos

As Nature Intended
Acid Waters in Wales

Displays

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

SEVERN TRENT

Brochures

Regional brochure
Mini Brochure
Fishing Guide
Laboratory Brochure
Tame Catchment Brochure
Objectives for Rivers and Canals

Newsletters

Quarterly Press & Public Briefing Broadsheet

Leaflets

Water Pollution and its Effects
Pollution and How to Spot it
Silage and Pollution
Sheep Dip and Pollution
Farm Slurry and Pollution
Pollution - We're All Responsible
Pollution Kills
Storage of Oil - Chemical and toxic substances
Severn Bore 1990
Navigation in the Severn Trent Region
Flood Defence
Nitrates
Spray Irrigation
Water obstruction
Regional organisation chart

Displays

National Rivers Authority
Fisheries
Flood Defence
Farm Pollution

ANGLIAN

Brochures

Regional brochure
Who's who in the Anglian Region

Leaflets

Aldeburgh flood defence scheme
Happisburgh to Winterton flood defence scheme
The Ouse Washes (2)
Lodes-Granta groundwater scheme
Colne Barrier (2)
Ipswich flood defence scheme
New regional headquarters
Public Register
Discharge consents
Development in flood risk areas
Pollution - the safe way with silage
Pollution - together we can beat it
Pollution - Causes and Control
Regional tide tables
Rivers handbook
Code of conduct for waterways
Navigation in the Anglian Region
Clacton Sea Defences
Thames Tidal Defence
Managing Water Resources
Ely Ouse Scheme

Information

Information pack containing loose leaf information sheets on role of NRA, national and regional organisation, national and regional management structure, regional statistics, profile of Regional Advisory Board members, how to contact the NRA, Regional telephone/address directory

Posters

Water Resources
Wildlife on the Riverbank

THAMES

Brochures

Regional Brochure
River Thames Handbook

Leaflets

'Your Right To the Facts' leaflet on public register
Fishery Byelaws
Weir Fishing
Lee Valley Fishery leaflet
NRA Thames Salmon
Locks and Weirs on the River Thames
Cruising on the River Thames
Thames Launch Safety Specification
'Protecting Your Homes' Flood Alleviation leaflet for Maidenhead, Windsor and Eton
'Protecting Your Homes' Flood Alleviation leaflet for Tidal River Crane
'Protecting Your Homes' Flood Alleviation leaflet for the Quaggy River
Riparian Owners Guide

Newsletters

Banknotes regional newsletter
Numerous newsletters to individual homes regarding specific projects

SOUTHERN

Brochures

Regional Brochure
A Guide to Southern Region
User Guides: Fishing in the South, Boating on the Medway Navigation, Pond Packs
Office safety booklet

Leaflets

Agricultural pollution leaflets on Silage, Sheep Dip, Oil, Slurry Storage and Slurry Disposal
The Ashford Flood Relief Scheme
Information Sheets
Flooding, how it occurs and what is done about it
Longshore Drift - The Beaches are on the move
River Information Leaflets for:
Kent Stour, Cuckmere, Ouse, Arun, Adur, Itchen, and Test

Newsletters

On-stream-Staff News Sheet

WESSEX

Brochures

Regional Brochure
Angling Guides (Bristol Avon Area, Somerset Area, Avon and Dorset Area)

Leaflets

Pollarding
Buyer Beware - Salmon Poaching
Coastal Management Conference and Exhibition May 1989
National Angling Championships September 1989

Newsletters

RRAC Newsletter
Riverwise (Regional Staff Newsletter)

Videos

Rivers of Gold

SOUTH WEST

Brochures

South West Rivers Unit - An Introduction
Regional Brochure

Leaflets

Farmers: Pollution - Together We Can Beat It
Danger - Sheep Dip Can Kill
Silage Liquor Can Kill

Newsletters

Rivers News (Staff Newsletter)
The Guardians (Staff Newsletter)

Videos

The Water Guardians
Farm pollution - Together we can beat it

Poster

Danger - Sheep Dip Can Kill

APPENDIX 7 RESEARCH PUBLICATIONS AND PROJECT COMPLETIONS

TITLE	CONTRACTOR	REGION	TITLE	CONTRACTOR	REGION
PUBLICATIONS FROM INHERITED REGIONAL RESEARCH AND INVESTIGATIONS			Commission D: Fisheries		
Commission A: Water Quality			Synthetic organic chemicals in fish in Mersey Estuary	WRc	NW
Metal speciation in river sediments	Imperial College	A	Habitat restoration for salmonids	In-house	W
Biodegradation of tributyl tin oxide antifouling paints	Imperial College	A	Commission F: Conservation		
Development of methodologies for DSD samples	NEL	A	Assessment of river flora and fauna	Ecoservice	A
Mersey Estuary metals in biota	PML	NW	Habitat assessment in the Welland catchment	Leicester Univ.	A
Aggregated dead zone model (pollution dispersal/travel)	Lancaster Univ.	NW, Y	PUBLICATIONS FROM INHERITED WRC RESEARCH AND DEVELOPMENT PROJECTS		
Effects of agricultural practices (Newlyn & Hayle River)	SSLRC	SW	Commission A: Water Quality		
Catchment management strategy	Henderson Associates	SW	Effectiveness of Code of Practice for upland forestry	WRc	
Severn estuary aerial inputs	WRC/Stirling Univ.	SW	Impact of upland forestry on water quality	WRc	
Risk assessment of organic waste to land	SSLRC	SW	Environmental impacts of fish farming - a review	WRc	
Windrush study - Phase 1	Reading University	T	Review of catchment water quality models	WRc	
Estuary quality modelling - Phase 1	PML	T	Factors controlling oxygen balance in estuaries	WRc	
Impact of storm sewage overflows on river quality and biota	In-house/WRC	W	Transport and fate of organic pollutants in rivers	WRc	
Preliminary treatment for marine outfalls	In-house/WRC	W	Improved water quality models for diffuse sources of 'conventional' determinands	WRc	
Commission C: Flood Defence			User Guide for the application of SIMCAT	WRc	
Calibration of weather radar	Lancaster Univ.	NW	Disinfection: efficacy and environmental impact	WRc	
Development of weather radar	LWRC	ST	Biological methods for water quality assessment	WRc	
Hydraulic control of bank erosion	Univ. East Anglia	T	Alternative strategies to BOD	WRc	
Geomorphological/hydrological investigation Mimmshall Brook	Kevin Roberts	T	Review of new instruments and sensors	WRc	
Environmental flood protection schemes	Hydraulics Research	T	Discharge control by Direct Toxicity Assessment (DTA)	WRc	
Hydraulic design and performance of soakaways - Phase 1	Hydraulics Research	T	Code of practice for sampling and analysis	WRc	
Commission D: Fisheries			Review of data handling and information needs	WRc	
Habitat characteristics of coarse fish populations	Univ. East Anglia	A	Code of practice for processing data	WRc	
Use of straw bales for algal control	Birmingham Univ.	ST	Charging practices in selected EC member states	WRc	
OTHER REGIONAL INVESTIGATIONS COMPLETED IN 1989/90			Analysis of chromium in sea water by graphite furnace AAS	WRc	
Commission A: Water Quality			Examination of copper complexing ligands in natural waters	WRc	
Equipment for emergency aeration of water-courses	In-house	A	Development of ion chromatography for analysis of saline samples	WRc	
Automatic monitoring in the Wash	In-house	A	Adsorption of trace metals during sample filtration	WRc	
Current quality of River Orwell and future management	Mrs Rey	A	Measurement of copper complexation capacity in marine and estuarine samples using a bacterial bioassay	WRc	
Stream travel time study	Birmingham Univ.	A	Control samples for pH determination in low ionic strength waters	WRc	
Nitrification processes and rates in Mersey Estuary	WRc	NW	Guide to the use of control charts in water analysis	WRc	
Mersey Estuary model	WRc	NW	Examination of trace metal complexation in natural waters	WRc	
Investigation of the Taff litter problem	In-house	W	New biological methods for assessing the effects of pollution	WRc	
Langland Bay epidemiology	In-house	W	<i>Cryptosporidium</i> and water courses	WRc	
Comparison of biological techniques	In-house	W	Analytical quality control in water microbiology	WRc	
Acid lakes survey	In-house	W	Electrochemical immunoassay for atrazine	WRc	
Benthic fauna of Scarborough Beach	In-house	Y	Commission B: Water Resources		
Liverpool Bay sediments study	Cambridge Univ.	NW	Potential impact of climate change on water resources	WRc	
Haweswater water quality/ecology studies	IFE	NW	Commission C: Flood Defence		
Appraisal of intermittent discharges using mobile monitors	In-house	Y	Environmental impact of flood protection schemes	WRc	
Commission B: Water Resources			Commission D: Fisheries		
West Sedgemoor - hydrological studies	Inst. of Hydrology	Wx	Impact of water quality on fish population status	WRc	
Variability of rainfall - intensity/frequency/location	In-house	ST	Review of techniques of fish stock management	WRc	
Ely/Ouse/Easex system resources modelling	In-house	A	Commission F: Conservation		
Commission C: Flood Defence			Current status of, and procedures for maintaining river corridors	WRc	
Local calibration of weather radar	Inst. of Hydrology	T	Review of problems of small urban water-courses	WRc	
Steel piling in tidal waters	In-house	A	Key:		
Hydraulic impedance of aquatic weedgrowth	In-house	A	A - Anglian	N - Northumbria	NW - North West
Flood defence levels of service - pilot study	LGA	Wx	ST - Severn Trent	S - Southern	SW - South West
			T - Thames	W - Welsh	Wx - Wessex
			Y - Yorkshire		

APPENDIX 8

Byelaws confirmed and introduced and statutory instruments, directions, orders, notifications, and regulations issued under the 1989 Water Act (or subordinate legislation) received and implemented by the Authority during the year.

LAWS CONFIRMED AND IMPLEMENTED

1. Fisheries

New Fishery byelaw packages were introduced in the North West and Yorkshire Regions

STATUTORY INSTRUMENTS, DIRECTIONS

1. Statutory Instruments

Statutory Instrument Number	Description	Made	Coming into force
1146	The Water Act 1989 (Commencement No 1) Order 1989	6 July 1989	7 July 1989 (some) 1 Sept 1989 (some) 1 Sept 1990 (some)
1147	The Water Supply (Water Quality) Regulations 1989 except for 13, 17, 18, 19 Regulations for which the date is 1 Jan 90	6 July 1989	1 Sept 1989
1148	The Surface Waters (Classification) Regulations 1989	6 July 1989	1 Sept 1989
1149	The Controlled Waters (Lakes & Ponds) Order 1989	6 July 1989	1 Sept 1989
1150	The Control of Pollution (Revocations) Regulations 1989	6 July 1989	Immediately before 1 Sept 1989
1151	The Control of Pollution (Consents for Discharges etc) (Secretary of State Functions) Regulations 1989	6 July 1989	1 Sept 1989
1152	The Water and Sewerage (Conservation, Access and Recreation) (Code of Practice) Order 1989	6 July 1989	1 Sept 1989
1156	The Trade Effluents (Prescribed Processes and Substances) Regulations 1989	6 July 1989	1 Sept 1989
1157	The Control of Pollution (Discharges by the National Rivers Authority) Regulations 1989	6 July 1989	1 Sept 1989
1158	The Control of Pollution (Radioactive Waste) Regulations 1989	6 July 1989	1 Sept 1989
1160	The Control of Pollution (Registers) Regulations 1989	6 July 1989	1 Sept 1989
1161	The Water Reorganisation (Pensions etc) Regulations 1989	6 July 1989	1 Sept 1989
1378	The Rivers (Prevention of Pollution) Act 1951 (Continuation of byelaws) Order 1989	3 Aug 1989	1 Sept 1989
1379	The Water and Sewerage (Works) (Advance Payments) Regulations 1989	3 Aug 1989	1 Sept 1989
1380	The Water (Local Statutory Provisions) (Consequential Amendments) Order 1989	3 Aug 1989	1 Sept 1989
1381	The Water Reorganisation (Pensions etc) (Amendment) Regulations 1989	3 Aug 1989	1 Sept 1989
1384	The Water Supply (Water Quality) (Amendment) Regulations 1989	3 Aug 1989	1 Sept 1989
1462	The Local Government Superannuation (Water) Regulations 1989	9 Aug 1989	1 Sept 1989
1530	The Water Authorities (Transfer of Functions) (Appointed Day) Order 1989	18 Aug 1989	1 Sept 1989
1557	The Water Act 1989 (Commencement No 2 and Transitional Provisions) Order 1989	25 Aug 1989	Part 1 Sept 1989 Part 1 April 1990
1590	The Town & Country Planning & General Development (Amendment) (No 2) Order 1989	2 Sept 1989	29 Sept 1989

Statutory Instrument Number	Description	Made	Coming into force
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1968	The Water (Consequential Amendments) Regulations 1989	25 Oct 1989	27 Nov 1989
2278	The Water Act 1989 (Commencement No 4) Order 1989	3 Dec 1989	Part S.98 1 April 1990
2286	The Surface Waters (Dangerous Substances) Classification) Regulations 1989	4 Dec 1989	1 Jan 1990
72	The Internal Drainage Boards (Finance) Regulations 1990	22 Jan 1990	24 Jan 1990
118	The National Rivers Authority (Levies) Regulations 1990	29 Jan 1990	31 Jan 1990
173	The Drainage Rates (Forms) Regulations 1990	7 Feb 1990	1 Mar 1990
214	The Drainage Charges Regulation 1990	12 Feb 1990	14 Feb 1990
369	Community Charges and Non-Domestic Rating (Demand Notices) (City of London) Regulations 1990	2 Mar 1990	7 Mar 1990
417	The Town & Country Planning General Development (Amendment) Order 1990	6 Mar 1990	31 Mar 1990
564	The General Drainage Charges (Forms) Regulations 1990	9 Mar 1990	1 Apr 1990
786	The Regional Flood Defence Committees (Welsh Area) (Appointed day) Order 1990	27 Mar 1990	1st April 1990
	The Diseases of fish (Designated Areas) (England) (Variation) Order 1990	27 Mar 1990	30 Mar 1990
223	The General Drainage Charges (Anglian Region) Order 1990	13 Feb 1990	15 Feb 1990
616	The Disease of Fish (Amendment of Definition of "Infected") Order 1990	6 Mar 1990	12 Apr 1990

2. Directions under Section 146

Under Section 150 (2) of the Water Act 1989 the Annual Report of the Authority has set out Directions under Section 146 of the Water Act from the Secretary of State and Minister to the Authority during the year to which the report relates.

During 1989/90 the Authority received the following Directions :
Dangerous Substances in Water

3. Other Directions

National Security Measures

4. Orders

Nitrate Sensitive Areas Orders
Drought Orders
Sea Fisheries Districts (Constitution of Committees) (Variation) Order 1990
Bosch (Specified Sea Areas) (Prohibition of Fishing) Order 1990
Diseases of Fish (Designated Areas) (England) Orders 1990
Diseases of Fish (Amendment of Definition of "Infected") Order 1990
Variation of main river orders

5. Notifications

NRA Accounts Notification

6. Regulations

Farm Waste Regulations

7. Authorisations

General authorisation for the NRA to use fixed engines for fisheries management and scientific purposes

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HEAD OFFICE

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NORTHUMBRIA REGION

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YORKSHIRE REGION

Rivers House
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Leeds LS1 2QG
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NORTH WEST REGION

Richard Fairclough
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Knutsford Road
Warrington WA4 1HG
Tel: (0925) 53 999

WELSH REGION

Rivers House/Plas-yr-Afon
St. Mellons Business Park
St. Mellons
Cardiff CF3 0LT
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SEVERN TRENT REGION

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Tel: (021) 711 2324

ANGLIAN REGION

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Orton Goldhay
Peterborough PE2 0ZR
Tel: (0733) 371 811

THAMES REGION

Kings Meadow House
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Reading RG1 8DQ
Tel: (0734) 535 000

SOUTHERN REGION

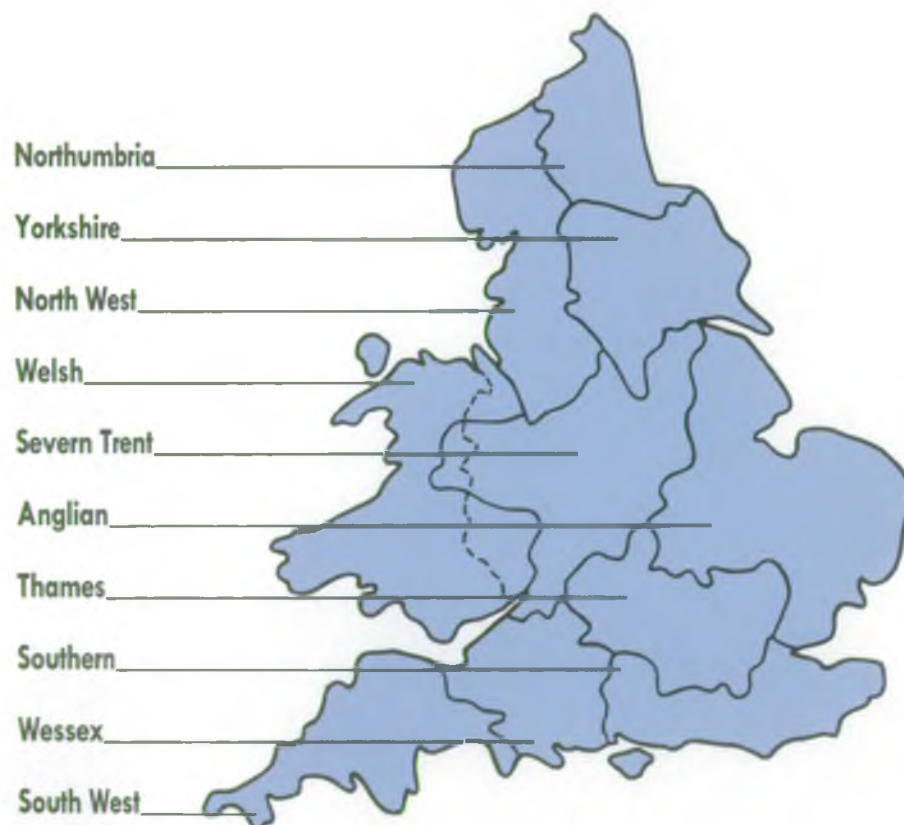
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PUBLISHED BY:

National Rivers Authority
30-34 Albert Embankment, London SE1 7TL
Telephone 071-820 0101/Telefax 071-820 1603
© National Rivers Authority 1990

COMPILED BY:

Corporate Planning Section, National Rivers Authority
Head Office: 30-34 Albert Embankment, London SE1 7TL

PRODUCED AND DESIGNED BY:

Summerhouse Communications Limited
55 Charterhouse Street, London EC1M 6HA

**PRINTED ON HUNTSMAN SILK ENVIRONMENTALLY FRIENDLY STOCK
BY:**

Watmoughs (City Print) Limited, London E1

PHOTOGRAPHY BY:

Officers of the Authority; Mercury Press, Liverpool (Flooding of
Towyn); The Otter Trust, Earsham, Suffolk (Otters in Tamar
Otter Park); Phil Rudge (Publications); Alan Marshall
(cover picture)

DISTRIBUTED BY:

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*Additional copies of either version at a price of £10.00 per copy are obtainable from
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October 1990
ISBN 1 873160 00 3