

WATER RESOURCES IN ANGLIA

SUMMARY DOCUMENT

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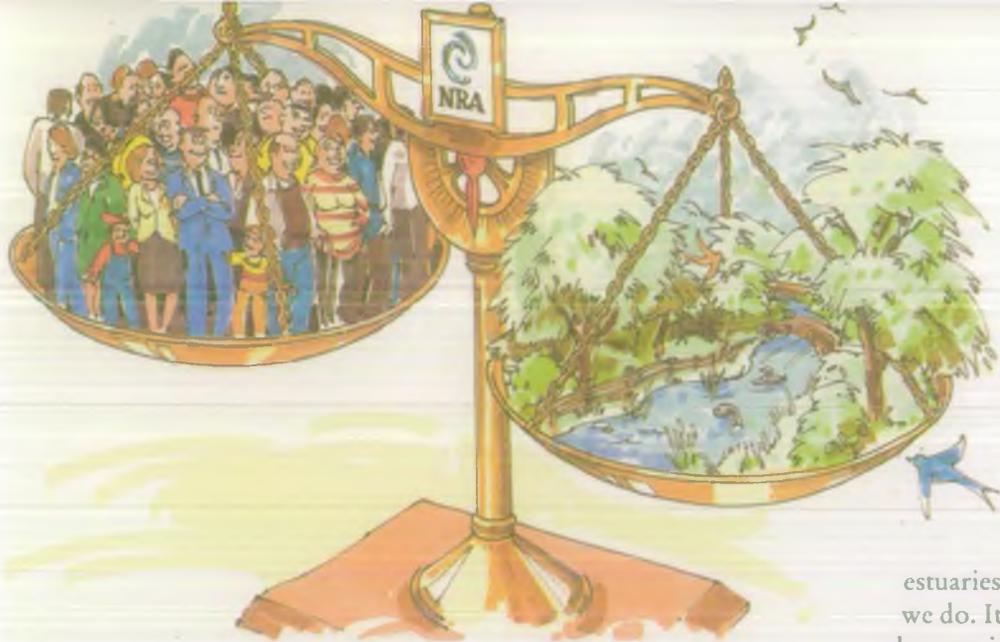
A SUSTAINABLE STRATEGY FOR
**SECURE WATER SUPPLIES AND A
BETTER WATER ENVIRONMENT**



NRA

*National Rivers Authority
Anglian Region*

SEPTEMBER 1994



THE NEEDS

Some parts of the Region's water network only just coped in the 1988/92 drought. By 2021 it may have to supply another 1 million people, all of them aspiring to higher living standards - actions will be needed to meet their needs.

But there is another dimension - our rivers, wetlands and estuaries depend on the same sources as we do. It would be all too easy to dry them up in the search to meet our own needs cheaply. As Guardians of the Water Environment the NRA is not going to let that happen. On the contrary, we believe there is scope to improve the environment at the same time as meeting reasonable human water needs.

THE NATIONAL VIEW

The NRA's water resources aim is to achieve the right balance between the needs of the environment and those of the abstractors.

In March 1994 we produced a National Water Resource Development Strategy. This assesses strategic water resource options, and their environmental effects, on a National scale and suggests the best ways forward at 'high', 'medium' and 'low' demand scenarios. It provides the wider framework within which Regional strategies can be developed. For example it suggests that, at medium demands (though not at low ones), this Region would need a new major resource between 2006 and 2011.



Lopham and Redgrave Fen.

THE PRINCIPLES

A healthy environment is vital to life, *and* to secure water supplies. Key policies in this environmentally sustainable water resource strategy are:-

SUSTAINABLE DEVELOPMENT

The NRA is committed to environmental sustainability. This implies at the very least that there should be no long term deterioration in the water environment due to water resource development or water use.

PRECAUTIONARY PRINCIPLE

Where significant environmental damage could occur, but knowledge on the matter is incomplete, we will err on the side of caution.

DEMAND MANAGEMENT

We will encourage the wise use of water by measures to control waste and consumption. Where appropriate, these will include leakage reduction and metering, as well as more efficient use in the home, in factories and on the farm.



View of Fotheringhay - River Nene.



Aerial view of Grafham Water.

THE OPPORTUNITIES

All our water comes from rainfall. Most of Anglia's rainfall evaporates, but the remaining part (called 'effective rainfall') is, on average, four times more than the highest forecast of future human needs. The situation is further improved by the fact that much of our water is returned, after use, to the rivers in the form of well-treated effluent.

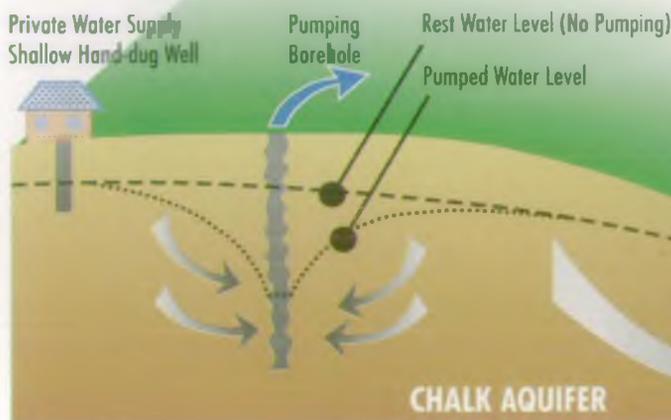
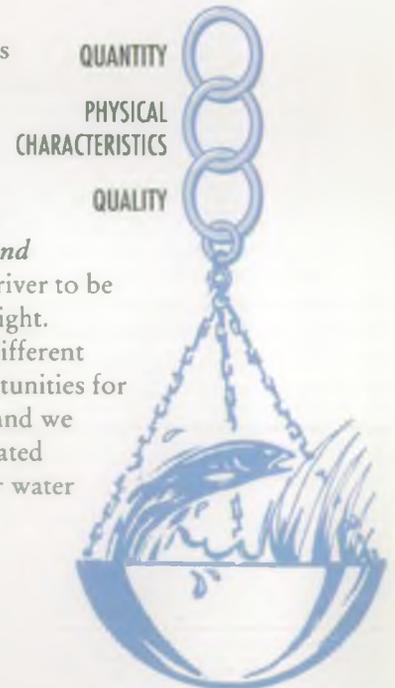
If only effective rainfall occurred at a steady rate, there would be no water resources problem. Unfortunately it does not, and we have to store water in times of plenty for use in times of need.

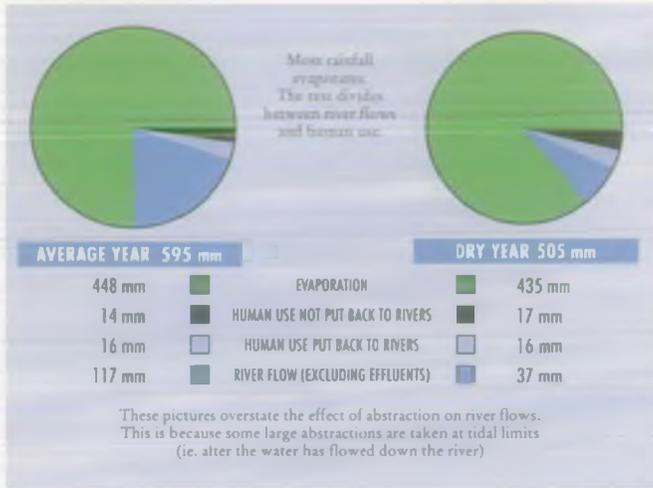
The opportunities for secure water supplies are:-

- Using water wisely.
- Making better use of our existing storage.
- Creating additional storage if and when it becomes necessary.

Happily the Anglian Region is blessed with huge natural storage in water bearing rocks which underlie half the region. These 'aquifers' sustain spring and river flows as well as water supplies, so we have to use them very carefully. In the other half of the Region, man-made reservoirs store winter water for summer use.

Our rivers support fisheries and navigation. They are prime sources of amenity and recreation, and havens for wildlife. Their ability to do this depends on their **flow**, their **water quality** and their **physical state**. For a river to be healthy, all three must be right. Different rivers will have different 'weak links'. We see opportunities for improvements in all three and we are committed to an integrated approach to ensure a better water environment.





Hinchingbrooke Country Park.

The opportunities for improving the environment arise because the environment we have all inherited is not natural. If it was, it would be largely forest, rich in marsh and wetlands but river flows would fall very low because the natural forest would evaporate even more of the rainfall. But the forests have been felled; the land has been drained and ploughed; many of our rivers have been straightened, channelled, dredged and embanked as well as changed in flow and water quality. Many wetlands have been lost and those which remain are precious assets.



Note that these are the same river, with the same flow and the same water quality.

OUR PROPOSALS FOR A BETTER ENVIRONMENT

We will:-

- press hard for demand management to limit water use in areas where this will give environmental benefit.
- continue to license abstraction only when it is environmentally acceptable, and in accordance with precautionary principles.
- continue our programme to put right river flows and wetlands which are unacceptably affected by abstractions authorised in the past.
- identify, and attempt to sustain, acceptable river flow regimes (the whole range of flows, not just the lowest ones).
- identify, and attempt to sustain, acceptable water regimes in wetlands.
- press for water quality and physical measures which, combined with good flow regimes, will maximise the ecological value of our rivers.
- investigate the problems of rapid fluctuations of flows due to water transfer schemes, and take action as appropriate.
- ensure that all new water developments pay full attention to the needs of the water environment and as far as possible give a net benefit to it.
- develop the water resources input to our Catchment Management Plans to ensure optimum, integrated environmental improvements.

OUR PROPOSALS FOR SECURE WATER SUPPLIES

a) General Principles

We will:-

- press hard for the wise use of water; for economic minimisation of waste; and for efficient use in the home, in industry and commerce and in agriculture.
- continue to allocate water to meet *reasonable* human needs in accordance with its sustainable availability.
- encourage the use of local water to meet local needs.
- continue to encourage the development of farm reservoirs to store winter water for irrigation.
- continue to operate raw water transfer works and river support schemes under our control to sustain river flows, for all purposes, during dry conditions.
- continue to work with Water Companies, and others, to ensure that where appropriate such transfers are continued, and extended as necessary in the future.

b) Water Resource Developments

The NRA itself does not normally develop new water resources. Our role is to produce a strategic plan within



Spray irrigation.

which water users can meet their own needs *as and when they arise*. We therefore set out below our view of the best means of meeting future needs in each part of this region. We will encourage developments accordingly, subject to appropriate environmental safeguards:-

- **Lincolnshire and South Humberside** - Use of water transferred from the River Trent.
- **'West Anglia'** - No development needed in the short term, but investigate long term options to enhance the existing reservoir system.
- **The Fens** - Better controls on water use, combined with improved ways of augmenting summer water resources.
- **The Cambridge Area** - Sustain current entitlements to chalk water, in an environmentally acceptable manner.
- **East Anglia** - Use of groundwater, either by conventional boreholes, or via river support for downstream abstractions; subject always to sustaining satisfactory river flows and to avoiding any unacceptable effects on wetlands or existing users.

Consider alternative supplies and/or enhanced demand management in local areas where groundwater is fully used.

- **'North Essex' (Colchester, Tendring and Ipswich)** - Develop small remaining groundwater resources, subject to environmental constraints.

Reinforce supplies from Ely Ouse to Essex transfer scheme, backed by developments described for 'South Essex'.





Ouse Washes, Sutton Gault.

- 'South Essex' (Essex part of Essex and Suffolk Water Company plus perhaps parts of Thames Region) - Diversion of improved Chelmsford effluents to the River Chelmer to allow increased abstraction.

Investigate environmentally acceptable increase in the amount of water taken from the River Ely Ouse at Denver, perhaps on a time limited basis.

Keep under review the possibility of re-allocating 'surplus' entitlements held by others.

Subsequent measures will depend very much on how successfully demand management can avoid the need for new works:-

- At 'low' demands, no further works should be necessary.
- At 'medium' demands, a new reservoir should be brought into service between 2006 and 2011. We believe that a *moderate sized reservoir* at Great Bradley could be the most economic option and that it would add security to water supplies throughout the southern part of this Region. We also believe it would enhance the environment, boost the local economy and provide valuable conservation, amenity and recreation opportunities.
- At 'high' demands (or if the need arose for transfers to London), then a *large reservoir* would be necessary. At this size the environmental effects at Great Bradley would become unacceptable and a more expensive banded reservoir on the Fens may be preferable.

We believe that steps should continue to be taken towards an appropriate reservoir, as and when the need for it is proven.

THE FUTURE

We will:-

- Ensure that this strategy is used by all concerned as a framework for the continued sustainable management and development of the Region's water resources.
- Use it as the basis for our input to Development Planning for the Region, and to our own integrated Catchment Management Plans, which balance the needs of all water users.
- Ensure that a programme of investigations is carried out, by ourselves and by others, to underpin the management of our water resources.

However, planning for the future is a continuous process. Demands change, peoples' perceptions change, even the climate changes. This strategy is the NRA, Anglian Region's view as at 1994. It has been developed after widespread public consultation. But it is not a tablet of stone. We will continue to modify it in the light of changing circumstances. To help us do so, we will always welcome new information and positive suggestions, or criticisms, from anybody.

In the meantime we will work to ensure sustained improvements to the water environment *and* secure sustainable water supplies in Britain's driest region.

The full strategy may be obtained from the Public Relations Department, National Rivers Authority (Anglian Region), Kingfisher House, Goldhay Way, Orton Goldhay, Peterborough PE2 5ZR, at a charge of £10.00

The NRA's National Water Resource Development Strategy may be obtained from HMSO at a charge of £22.50 - Tel. 071-873 9090 quoting ISBN No. 0 11 886523 4.

If you have any comments on this leaflet please write to:-

The Water Resources Manager
The National Rivers Authority (Anglian Region)
Kingfisher House
Goldhay Way
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PETERBOROUGH PE2 5ZR

The National Rivers Authority

Guardians of the Water Environment

The National Rivers Authority is responsible for a wide range of regulatory and statutory duties connected with the water environment.

Created in 1989 under the Water Act it comprises a national policy body coordinating the activities of 8 regional groups.

The main functions of the NRA are:

- Water resources** — The planning of resources to meet the water needs of the country; licensing companies, organisations and individuals to abstract water; and monitoring the licences.
- Environmental quality and Pollution Control** — maintaining and improving water quality in rivers, estuaries and coastal seas; granting consents for discharges to the water environment; monitoring water quality; pollution control.
- Flood defence** — the general supervision of flood defences; the carrying out of works on main rivers; sea defences.
- Fisheries** — the maintenance, improvement and development of fisheries in inland waters including licensing, re-stocking and enforcement functions.
- Conservation** — furthering the conservation of the water environment and protecting its amenity.
- Navigation and Recreation** — navigation responsibilities in three regions — Anglian, Southern and Thames and the provision and maintenance of recreational facilities on rivers and waters under its control.



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NATIONAL RIVERS AUTHORITY
to protect the
water environment

ENVIRONMENT AGENCY



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