

River Quality Schemes



NRA

National Rivers Authority

Guardians of the
Water Environment

River Water Quality and the National Rivers Authority

The National Rivers Authority (NRA) is a public body whose function it is to protect the water environment. One of our aims is to maintain or improve the quality of rivers by controlling water pollution.

The NRA has set water quality targets for all rivers. These targets are known as **River Quality Objectives (RQOs)**. They are used for planning the maintenance and improvement of river quality. RQOs establish a defined level of protection for aquatic life. Achieving these will help to sustain the use of rivers for recreation, fisheries and wildlife, and protect the interests of abstractors. RQOs provide a basis for setting Consents to discharge effluent into rivers, and guide decisions on the NRA's other actions to control and prevent pollution. The water quality classification scheme used to set RQO planning targets is known as the **River Ecosystem** scheme.

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

Together the River Ecosystem scheme and General Quality Assessment replace the **National Water Council (NWC)** scheme.

The River Ecosystem Scheme

The River Ecosystem scheme provides a nationally consistent basis for setting RQOs. The scheme comprises five classes which reflect the chemical quality requirements of communities of plants and animals occurring in our rivers. The standards defining these classes reflect differing degrees of pollution by organic matter and other common pollutants.

River Ecosystem classes can be summarised as follows:

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

The River Ecosystem scheme takes forward the core standards from the old NWC scheme, but also incorporates new standards and firm rules on how the scheme should be applied. These are described in detail in the document *Water Quality Objectives: Procedures used by the National Rivers Authority for the purpose of the Surface Waters (River Ecosystem) (Classification) Regulations 1994*, available from the Water Quality Planning departments at Regional Offices (see contact addresses on the back page).

General Quality Assessment

As well as taking decisions on measures to maintain or improve river quality, the NRA also publishes the results from regular surveys of the quality of rivers and canals in England and Wales. The NRA believes that it is important to know whether quality is getting better or worse. For example, using this scheme it was possible to say that overall, 16% (net) of the length of rivers in England and Wales improved in quality between 1990 and 1993.

In order to provide a comprehensive picture of the quality of our rivers, different aspects of the water environment will be looked at. We refer to these different aspects as 'windows', because each offers a different perspective on the overall health of the river. A GQA scheme comprising four windows is being developed: a **Chemistry Window**; a **Biology Window**; a **Nutrient Window**; and an **Aesthetics Window**.

- The **Chemistry GQA Window** has already been produced. It comprises six water quality grades reflecting differing degrees of pollution. These grades are a sub-set of the standards in the River Ecosystem scheme. The Chemistry GQA Grades can be summarised as follows:

A	-	}	Good
B	-	}	
C	-	}	Fair
D	-	}	
E	-		Poor
F	-		Bad

Chemistry data collected for 1990-1992 has been reported using the GQA scheme, and is documented in *The Quality of Rivers and Canals in England and Wales (1990 to 1992)*, Water Quality Series Report No. 19, which can be obtained from Her Majesty's Stationery Office (HMSO).

- The **Biology GQA Window** is close to completion. It will assess the health of river stretches based upon the diversity of tiny animals living on or in the river bed.
 - The **Nutrient GQA Window** is under development. This will take account of the concentration of certain nutrients in rivers e.g. nitrogen and phosphorus. Nutrients are simple chemical substances used by plant life. High concentrations may cause excessive plant growth, such as algal blooms.
 - The **Aesthetics GQA Window** is under development. This is being developed to address the issue of public perception of water quality, which is influenced largely by its visual appearance and odour. Sometimes, the appearance of the water may indicate pollution, such as the presence of litter (e.g. sewage-derived). In other cases, visually unpleasant sights such as foaming or scums may result from natural causes.
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HEAD OFFICE

Rivers House
 Waterside Drive
 Aztec West
 Almondsbury
 Bristol
 BS12 4UD
 Tel: 01454 624 400
 Fax: 01454 624 409

LONDON OFFICE

Eastbury House
 30-34 Albert Embankment
 London SE1 7TL
 Tel: 0171 820 0101
 Fax: 0171 820 1603

ANGLIAN

Kingfisher House
 Goldhay Way
 Orton Goldhay
 Peterborough PE2 5ZR
 Tel: 01733 371 811
 Fax: 01733 231 840

NORTHUMBRIA & YORKSHIRE

Rivers House
 21 Park Square South
 Leeds LS1 2QG
 Tel: 0113 244 0191
 Fax: 0113 246 1889

NORTH WEST

Richard Fairclough House
 Knutsford Road
 Warrington WA4 1HG
 Tel: 01925 653 999
 Fax: 01925 415 961

SEVERN-TRENT

Sapphire East
 550 Streetsbrook Road
 Solihull B91 1QT
 Tel: 0121 711 2324
 Fax: 0121 711 5824

SOUTHERN

Guildbourne House
 Chatsworth Road
 Worthing
 West Sussex BN11 1LD
 Tel: 01903 820 692
 Fax: 01903 821 832

SOUTH WESTERN

Manley House
 Kcstrel Way
 Exeter EX2 7LQ
 Tel: 01392 444 000
 Fax: 01392 444 238

THAMES

Kings Meadow House
 Kings Meadow Road
 Reading RG1 8DQ
 Tel: 01734 535000
 Fax: 01734 500388

WELSH

Rivers House/Plas-yr-Afon
 St Mellons Business Park
 St Mellons
 Cardiff CF3 0LT
 Tel: 01222 770088
 Fax: 01222 798555

**Environment Agency
 Information Centre
 Head Office**

Class No NRA-Water-Q...

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

ENVIRONMENT AGENCY



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