

# **Recommendations for Statutory Water Quality Objectives**



**ENVIRONMENT  
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**THE CAM CATCHMENT**

**ANGLIAN**



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# THE CAM CATCHMENT

ANGLIAN

## Recommendations for Statutory Water Quality Objectives

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## INTRODUCTION

The Environment Agency (the Agency) has recently concluded a three-month consultation exercise, initiated by its predecessor organisation, the National Rivers Authority (NRA), in eight "pilot" catchments. The Cam Catchment is one such pilot catchment, and SWQO proposals for the catchment were contained in the consultation document *The Cam Catchment: Proposals for Statutory Water Quality Objectives*.

This document sets out the recommendations of the Agency to the Secretaries of State for the Environment and for Wales (the SoS) for Statutory Water Quality Objectives (SWQOs) for stretches of river in The Cam Catchment.

To aid interpretation of the Agency's recommendations, the general structure of this document is modelled on the predecessor SWQO proposal document. The primary differences are:

- A new appendix, *Appendix III: Digest of Responses to Consultation*, has been added to provide a summary of responses to our consultation and the actions that we have subsequently taken; and
- Further clarification, in some cases, of the likely costs and benefits associated with proposed water quality maintenance or improvement schemes.

In a minority of river stretches, we proposed two tiers of SWQOs. In these cases, the first tier has a target date within the present investment planning timescale and a further longer-term tier with a target date of 2006. Where an additional longer-term SWQO has been proposed, its purpose is to reflect the long-term water quality planning base agreed previously for the catchment. The longer-term SWQO proposal ensures that this planning base is not forgotten, and provides a mechanism for identifying priorities for future investment which will be necessary to attain the specified quality. These investment proposals will be taken forward as candidates in future investment planning rounds, and will of course be balanced with other priorities at that time. No new investment, additional to current agreements, is sought from the water industry within the present financial planning period.

This document has been sent to the Secretary of State to inform Government of our recommendations for SWQOs. Therefore, no further comments are required by the Agency at this time, although to obtain further copies you may contact the Area Water Quality Manager, The Environment Agency, Bromholme Lane, Bampton, Huntingdon, Cambs, PE18 8NE, Tel: 01480 414581. On the basis of our recommendations, Government may now proceed with a further period of formal consultation that could ultimately lead to the setting of SWQOs, and will invite further responses during this formal consultation period.

## STATUTORY WATER QUALITY OBJECTIVES

The purpose of SWQOs is to establish targets, on a statutory basis, that provide an agreed planning framework for regulatory bodies, dischargers, abstractors and river users. SWQOs will secure achievements to date by providing a statutory "backstop" to existing Consents, as well as providing a vehicle for tackling discharges from non-water sectors of industry, agricultural and other diffuse pollution, and the effects of new or revised abstractions. The SWQO scheme is use-related, based upon a range of water quality standards that protect the "uses" to which waters may be put. There are a number of different potential river uses. River Ecosystem is the only use to date for which standards have been introduced.

### The River Ecosystem Use

The River Ecosystem Use is the first of the SWQO uses to be introduced for rivers. The quality standards defining the five River Ecosystem use classes have been introduced by *The Surface Waters (River Ecosystem) (Classification) Regulations 1994*. These standards are reproduced in Table 1. The statistical methods involved in setting SWQOs and further details about application of SWQOs can be found 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*, which is available from the Water Quality Planning department of the Environment Agency Regional Offices, or from the address given on page 1.

### How SWQOs will be Set

SWQOs, currently based only on the River Ecosystem use, are recommended on a stretch-by-stretch basis for the major rivers within the catchment; they will not apply to our smallest rivers. These targets comprise two parts: a River Ecosystem class; and a date by which compliance should be achieved. Account has been taken of planned investment to ensure that the targets are achievable and, where appropriate, reflect planned improvements in river quality. Where appropriate, we have recommended two-tier SWQOs to protect water quality. The target date for the longer-term SWQOs has been set at 2006 to enable prioritisation of expenditure in future planning rounds, and to enable the SWQO to be reconsidered at the five-yearly review stage.

Through the prior consultation exercise, we sought the views of those with an interest in this catchment, and these views have been taken into account in these recommendations to Government. Government may now proceed with a period of formal consultation, after which SWQOs may be set through Notices served by the Secretary of State. Once formally set, the River Ecosystem classes and dates will represent statutory targets. We will then be under a duty to ensure compliance using the various pollution control powers at our disposal. SWQOs may be reviewed after five years.

Once formally set, longer-term SWQOs will have a statutory basis, generally protecting the existing planning base currently expressed as River Quality Objectives (RQOs). Therefore, longer-term SWQOs will therefore provide the basis for the Environment Agency's discharge consenting and water quality planning activities.

### Statutory Objectives Introduced by EC Directives

Designations of river stretches, or points on rivers, are also subject to Regulations which enforce standards set by the EC Dangerous Substances Directive (76/464/EEC), and these standards already constitute statutory objectives. The EC Surface Water Abstraction Directive (75/440/EEC) and the EC Freshwater Fisheries Directive (78/659/EEC) also contain mandatory standards. Designations and compliance reports under these three Directives are included in the Catchment Management Plan (CMP) but do not form part of the recommendations in this document.

**TABLE 1: STANDARDS FOR RIVER ECOSYSTEM CLASSES**

Class	Dissolved Oxygen % saturation 10 percentile	BOD (ATU) mg/l 90 percentile	Total Ammonia mg N/l 90 percentile	Un-ionised Ammonia mg N/l 95 percentile	pH lower limit as 5 percentile; upper limit as 95 percentile	Hardness mg/l CaCO <sub>3</sub>	Dissolved Copper µg/l 95 percentile	Total Zinc µg/l 95 percentile
RE1	80	2.5	0.25	0.021	6.0 - 9.0	$\leq 10$ $> 10$ and $\leq 50$ $> 50$ and $\leq 100$ $> 100$	5 22 40 112	30 200 300 500
RE2	70	4.0	0.6	0.021	6.0 - 9.0	$\leq 10$ $> 10$ and $\leq 50$ $> 50$ and $\leq 100$ $> 100$	5 22 40 112	30 200 300 500
RE3	60	6.0	1.3	0.021	6.0 - 9.0	$\leq 10$ $> 10$ and $\leq 50$ $> 50$ and $\leq 100$ $> 100$	5 22 40 112	300 700 1000 2000
RE4	50	8.0	2.5	-	6.0 - 9.0	$\leq 10$ $> 10$ and $\leq 50$ $> 50$ and $\leq 100$ $> 100$	5 22 40 112	300 700 1000 2000
RE5	20	15.0	9.0	-	-	-	-	-

## OVERVIEW OF THE CAM CATCHMENT

The catchment covers 650 square kilometres, and is shown on Map 1. Most of the catchment lies in Cambridgeshire, with parts in Bedfordshire, Hertfordshire, Essex and Suffolk. The urban areas include Cambridge (population 103,000), Saffron Walden (population 14,000) and Royston (population 13,000).

Upstream of Cambridge, the River Cam is joined by the River Rhee, the River Granta and the Bourn Brook. The Cam then flows through Cambridge and is joined by the Lodes in its lower stretches. Eventually, at the end of the catchment, it joins the Old West River near Stretham. Sixty kilometres downstream, as the River Great Ouse, water from the Cam discharges to the Wash at King's Lynn. The Cam catchment consists of over 160 kilometres of watercourses, which are routinely monitored at 35 locations.

The catchment is largely of a lowland nature, but has considerable physical and biological diversity. The geology to the West of Cambridge is clay overlying lower greensand, and to the South and East it is chalk, overlain in parts by boulder clay.

Both the chalk and the lower greensand are valuable aquifers. The chalk aquifer provides the natural flow to the rivers. Boreholes for public water supply are concentrated to the South and East of Cambridge, abstracting water from the chalk and greensand. During the drier months, large quantities of water are also abstracted from rivers for spray irrigation. All the water resources of the catchment are now fully committed to the existing licensed abstractions, to protected rights, and to the needs of the environment. In the upper reaches, the rivers are susceptible to drying out. At times of low flow, the Agency augments the flows to wetlands and to some rivers by pumping from boreholes.

In the lower stretches to the North, the geology changes to peat fenland. The watercourses joining the River Cam here are known as the Lodes. These are man-made, cut in Roman times, for the purposes of navigation. Progressive wasting and shrinkage of the peat has left the Lodes and Cam as embanked watercourses, some 2½ metres above the surrounding land.

A quarter of a million people live in the catchment and pressure for development is intense. A new development West of Cambridge, known as Cambourne, includes plans for 3,000 houses. Large scale retail and industrial development is also proposed on the Cambridge Northern Fringe. The University City of Cambridge is highly significant in economic terms. It supports a large number of jobs in the service sector and has attracted a wide range of science and technology industries. Other important economic activities include light industry and chemical manufacturing, concentrated in Cambridge and the market towns of Royston and Saffron Walden along with arable farming in the rural areas.

Tourism is important, with 3.5 million visitors to Cambridge each year. The Cam is navigable downstream from Cambridge. The waterways are popular for cruisers, sailing and rowing. Punting on the river at Cambridge is world famous.

### Current Water Quality

The General Quality Assessment for 1994 graded most stretches as "fair" (grades C or D). Higher quality water is restricted mostly to sites on the chalk-fed and fast-flowing upper reaches of the Rivers Rhee, Cam, Granta and New River. These stretches showed depressed concentrations of dissolved oxygen during recent droughts, but this appeared not to damage the environment, and recovery has been good following the restoration of river flows.

Generally, the current quality is better now than at any time, at least since the early 1980s, and probably before then. This reflects improvements to discharges. The main present cause for concern is the quality of the Cam below the discharge from Cambridge Sewage Treatment Works. Although recent improvements have been carried out, the discharge causes low oxygen in the river which requires that the Agency makes occasional use of artificial re-oxygenation.



## **Catchment Management Plan**

A CMP Consultation Report was produced in March 1992. This identified the key issues affecting the catchment. Stemming from this Consultation Report, the NRA launched an Action Plan in April 1993. This Action Plan outlined agreed actions to tackle the issues. Our recommendations for SWQOs support this Action Plan.

## **PROPOSALS FOR STATUTORY WATER QUALITY OBJECTIVES**

Maps 2 and 3 contain our proposals for SWQOs in the Cam catchment.

The CMP prepared by the NRA sets out present and planned future uses for river stretches within the catchment. Currently, these uses are defined by non-statutory water quality targets known as River Quality Objectives (RQOs). Generally, RQOs reflect our view of, and long-term agreements on, the needs of river stretches.

Where possible, SWQOs have been proposed at a level consistent with RQOs. Generally, these will be achievable within the 5 to 10 year horizon of investment planning. However, where it has been necessary, owing to restrictions on further investment to propose an SWQO that is less stringent than the existing RQO, a further longer-term SWQO is proposed. This longer-term SWQO, which has a target date of 2006, is indicated on Map 3. Map 2 is also annotated with the symbol [\*] where an additional longer-term target applies.

In a catchment as crowded as the Cam, issues will continue to shift and to change. We have identified those issues which are most important now and for the next five years. The Consents to Discharge for a number of smaller works allow for an increase in effluent loads. Provided that the loads do not increase substantially, they do not pose risks to the proposed SWQOs.

As mentioned in the overview, low levels of dissolved oxygen, which occur naturally and are not associated with pollution, are a problem in parts of the catchment. For some river stretches, the rules used in developing SWQO proposals may sometimes suggest an SWQO of RE3 or RE4 for dissolved oxygen, whereas all other measures of water quality suggest an SWQO of RE1 or RE2. This complicates setting objectives, because some stretches need an SWQO of RE1 to protect overall quality, and fish stocks do not appear to be harmed by dissolved oxygen concentrations consistent with RE3 provided that they are not caused by pollution. These factors can lead to the situation, for example, where the RQO is RE1 or RE2, but the current quality, and the proposed SWQO, is RE3 or RE4. In these cases, a longer-term of RE1 or RE2 may be proposed.

The Agency takes account of these details in the decisions it makes to protect water quality. We shall not, for example, allow other aspects of water quality (Appendix I) to decline to the levels associated with RE3 and RE4. We shall also recognise where there is limited scope to get dissolved oxygen to the level associated with RE1 or RE2.

Further details of the proposed SWQOs for each river stretch are contained in Appendix I.

## COMPLIANCE WITH PROPOSED SWQOS

Map 4 compares current water quality with the proposed SWQOs for 35 stretches of river. Where a longer-term SWQO is also proposed, the short term SWQO provides the basis for this assessment. The colour scheme used in the map is:

- **Blue** (compliant) indicates that the river stretch complies with its target (less than or equal to 50% confidence of failure)
- **Yellow** (marginal) indicates that, although the river stretch complies with its target, there is a risk that it might fail to comply (between 50-95% confidence of failure)
- **Red** (failure) indicates that the river stretch does not comply with its target, and that this non-compliance is unlikely to be due to statistical chance (greater than 95% confidence of failure)

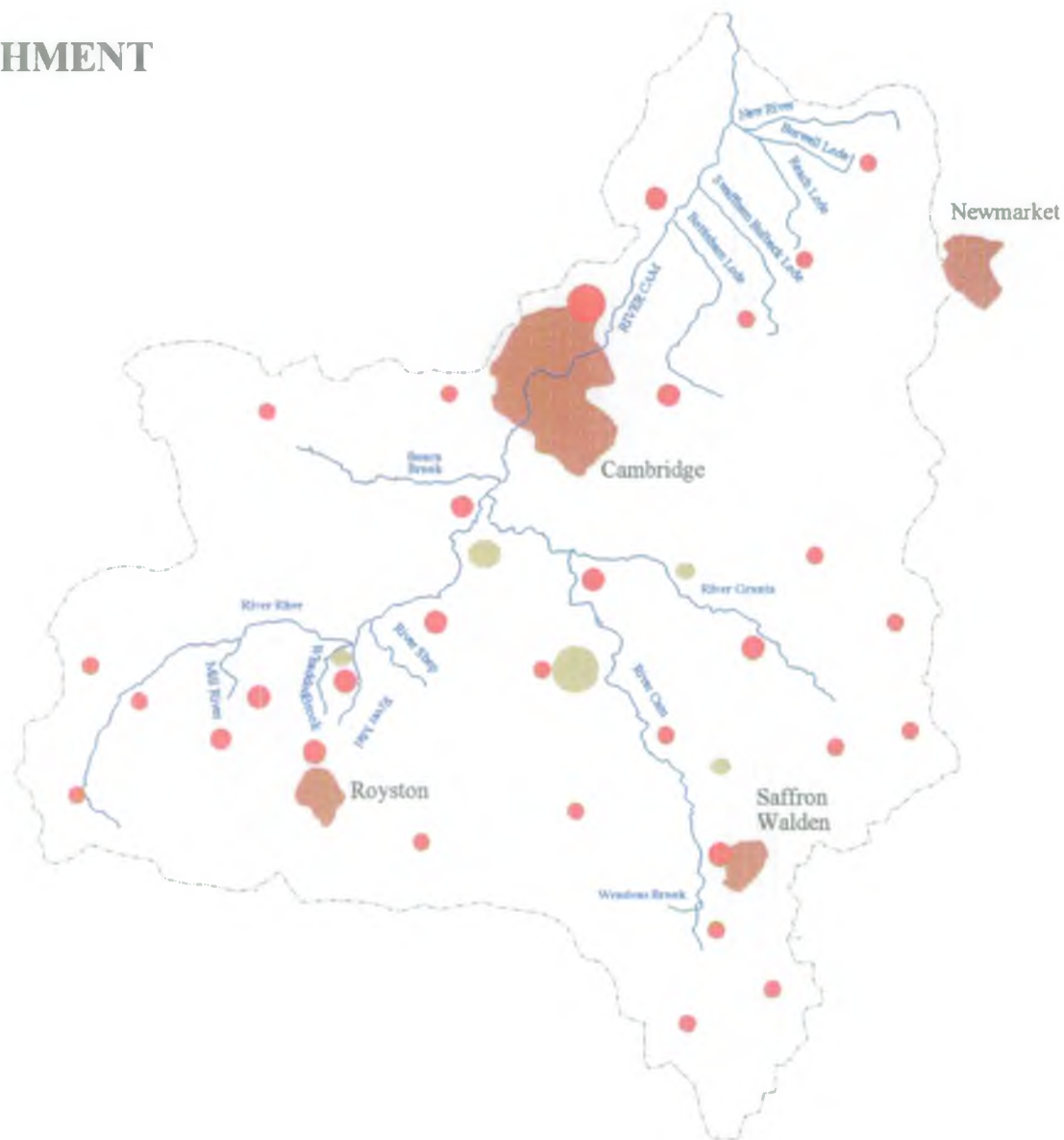
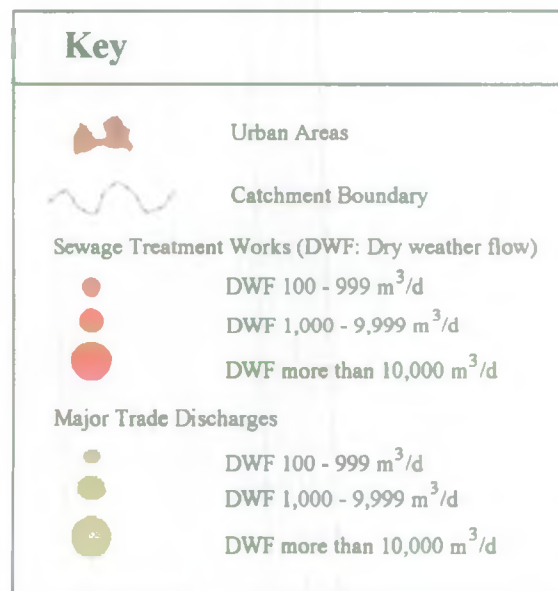
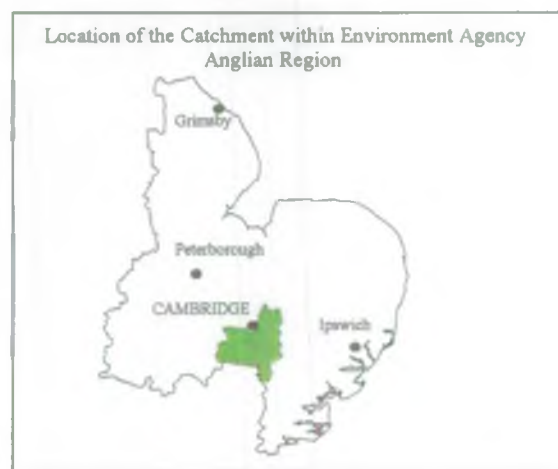
The small diagrams alongside the failing or marginal stretches depict those aspects of water quality which do not meet the standards. The rules for assessing compliance are set out exactly in *Water Quality Objectives: Procedures Used by the National Rivers Authority for the Purpose of the Surface Waters (River Ecosystem) (Classification) Regulations 1994*. This is available from the contact given at the foot of the Introduction page.

All the data used for Map 3 are on the Public Registers. The data for Stretch 1 were a combination of those from the old monitoring point, now redundant, and its replacement. For Stretch 32, Reach Lode, data from 1992 and 1993 have been omitted. The data from this period are atypical and influenced by natural conditions beyond the Agency's control.

Where compliance is marginal, or where a failure is noted, the actions available to rectify the problem and deliver the proposed SWQO are set out in Appendix II. In Maps 2, 3 and 4 the stretches are numbered for ease of comparison with Appendix I and Appendix II. The names of the rivers are on Map 1.

## MAP 1: OVERVIEW OF THE CATCHMENT

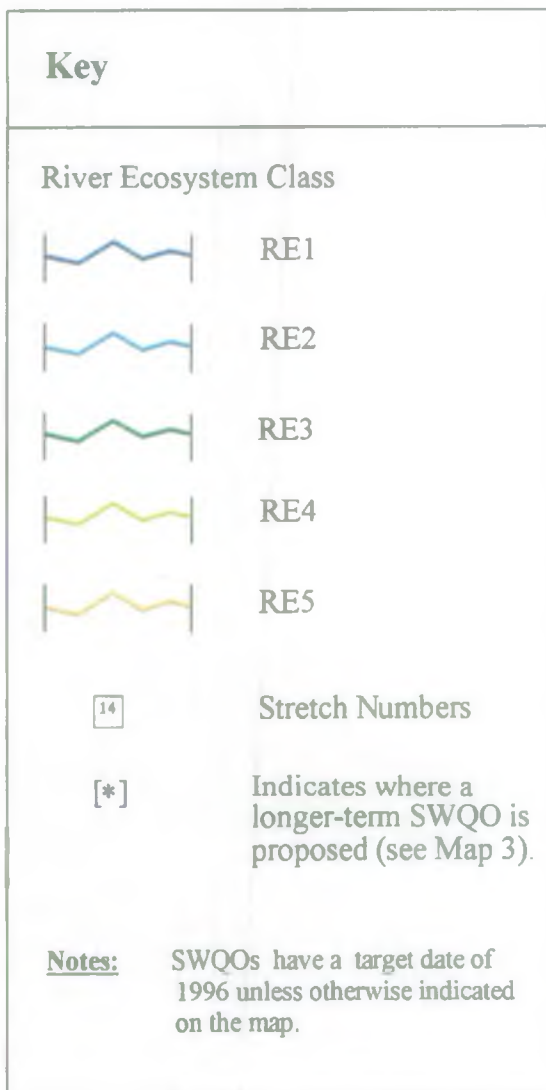
## MAP 1: OVERVIEW OF THE CATCHMENT





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## MAP 2: PROPOSED SWQOs

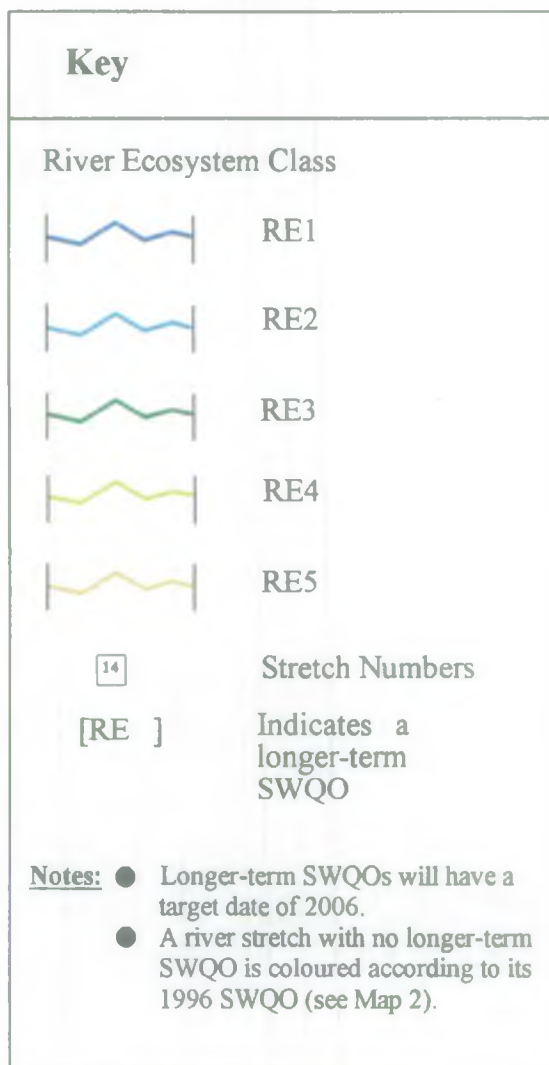




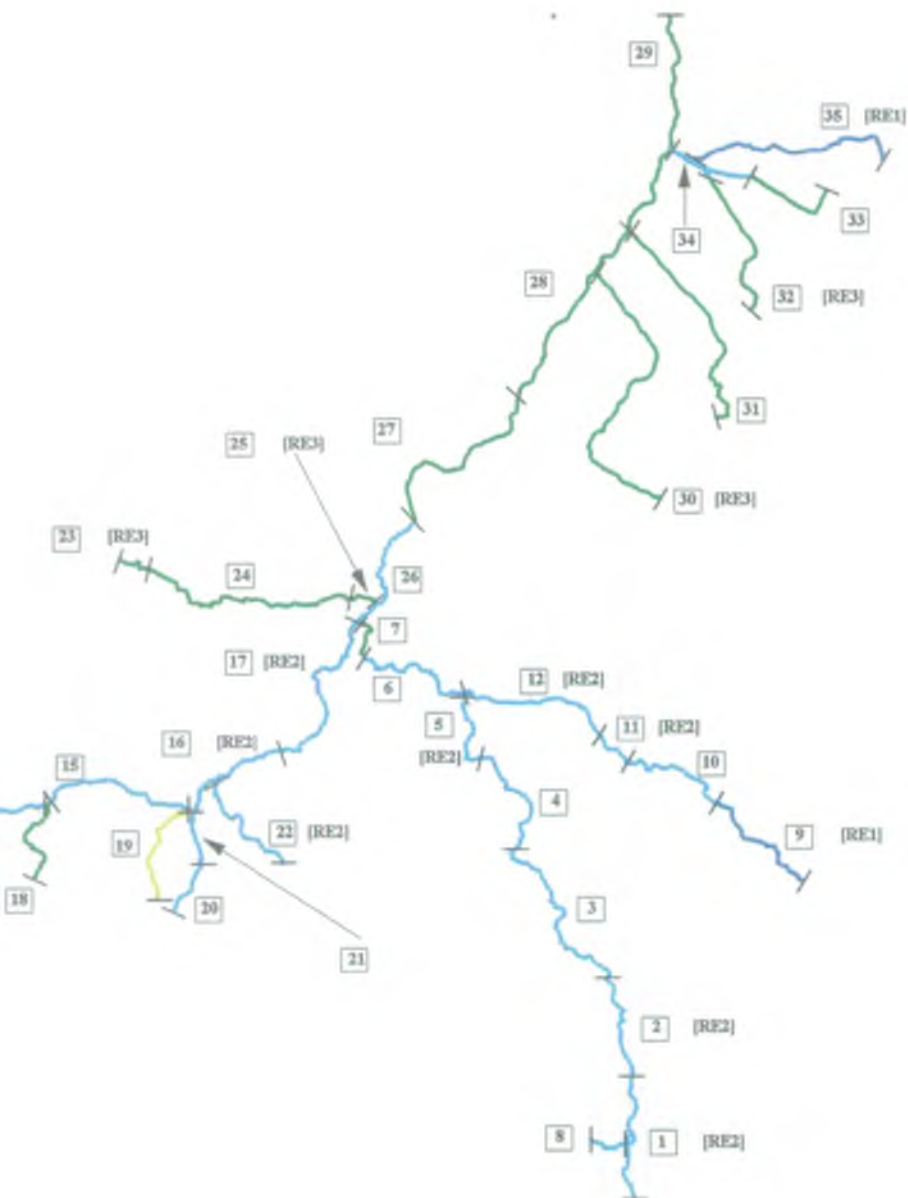


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## MAP 3: LONGER-TERM SWQOs



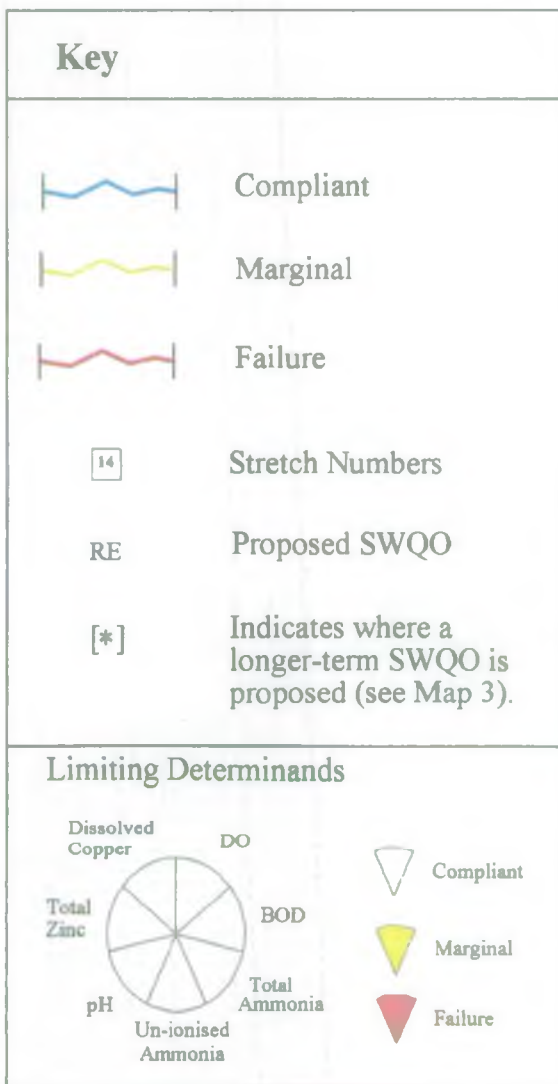


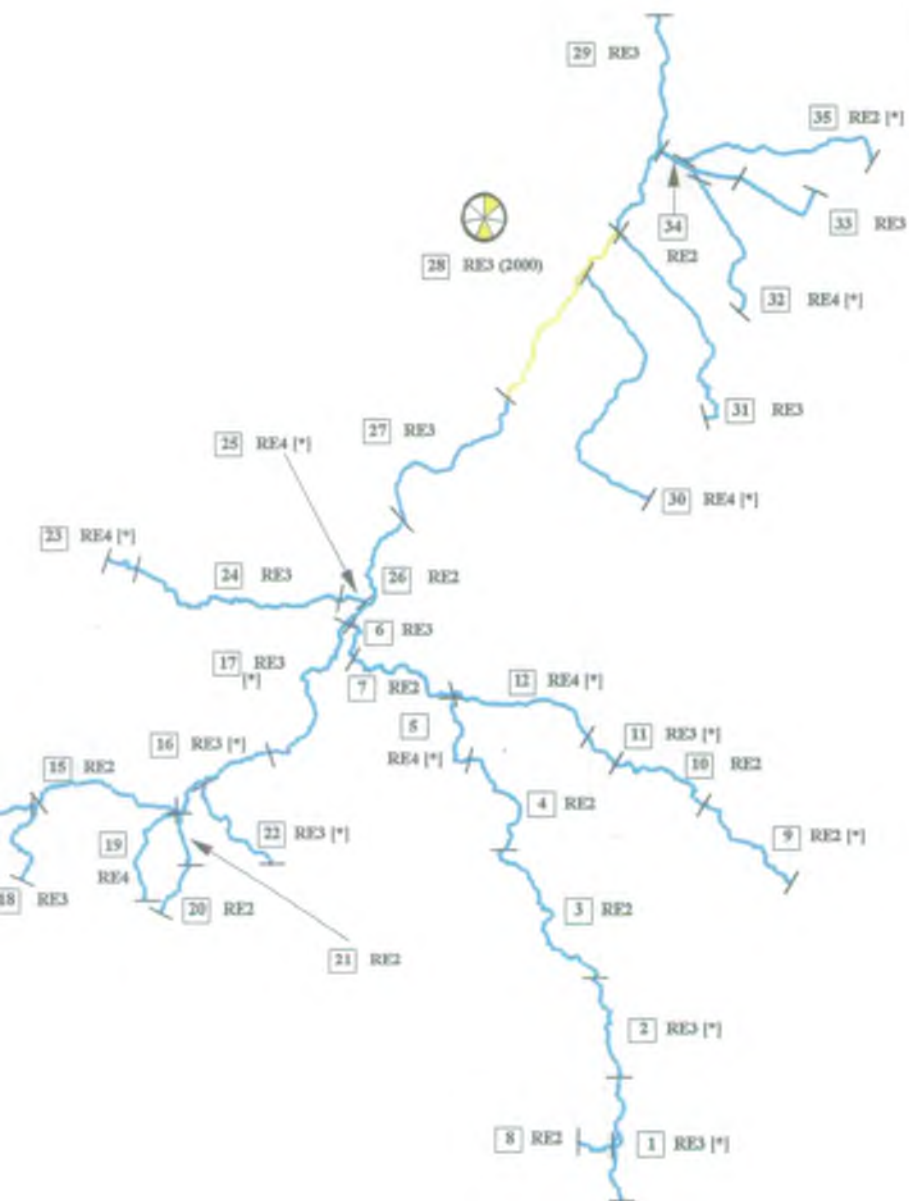




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## MAP 4: COMPLIANCE WITH SWQOs







## ASSESSMENT OF THE COSTS AND BENEFITS

### Costs

The costs associated with water quality schemes within the catchment are those necessary to prevent river quality from deteriorating or, where desirable and justifiable, to improve the quality of river stretches within the catchment. Maintenance of river quality, or improvement to support new river uses where recommended, is consistent with the future needs that we and future generations may have to place upon our water resources, and therefore with the broad aims of sustainable development.

These costs do not necessarily reflect new investment. Rather, they provide a summary of investment already sought or committed to meet various international commitments such as those identified by the EC Directive on Urban Waste Water Treatment, other national obligations such as Regulations governing farming practices, or other agreements already in place. Further investment, as yet uncommitted is also identified. The broad costs for the catchment as a whole are:

- £8 million of the additional investment by the water industry that has already been committed to support nationally-agreed priorities for environmental improvement.
- In addition to this investment, a further, as yet uncommitted, £6 million of water industry investment is identified to deliver longer-term SWQOs. This investment, which will be necessary to maintain the quality of river stretches at their planned level, is not being sought in the present water industry investment planning round, but will be put forward as candidates in future planning rounds, and will be assessed relative to other priorities at the time.

### Benefits

During consultation on the Catchment Management Plan, we identified the uses to which the local community wishes to put stretches of river in the Cam catchment. Some of these uses are reflected in our recommendations for SWQOs. The beneficiaries of proposed investment include not only the 250,000 people, and future generations, that live within the catchment, but also its 3.5 million annual visitors and the trade that they bring with them. Where legal requirements are in place (for example, compliance with EC Directives), we have not sought to justify the expenditure necessary to deliver them, although Appendix II indicates the broad benefits that will accrue from such investment.

### Comparison of Costs and Benefits

Given the high recreational and tourism value of the river, and the provision of good quality angling to a large population, we believe that these benefits significantly outweigh the costs involved in achieving the necessary level of water quality.

## GLOSSARY

Action Plan	A document produced by the NRA as a result of a Catchment Management Plan (ibid). It lists the actions required in the next 5 - 10 years.
Aquifer	Layers of underground porous rock which contain water and allow water to flow through them.
ATU	Allyl Thio-Urea. See Biochemical Oxygen Demand.
Ammonia (or Total Ammonia)	A chemical found in water often as the result of pollution by sewage effluent. Ammonia affects fisheries and abstractions for potable water supply.
AMP2	An acronym for Asset Management Plan, Number 2. These are the plans of the Water Companies for future investment. This expenditure is committed and has been justified as part of the national negotiations with the Water Industry on future charges for water. See also Statutory Expenditure and Discretionary Expenditure.
BOD and BOD(ATU) Biochemical Oxygen Demand	A measure of the amount of oxygen consumed in water, usually by organic pollution (ibid). Oxygen is vital for life so the measurement of the BOD tests whether pollution could affect aquatic animals. The value can be misleading because much more oxygen is taken up by Ammonia (ibid) in the test than in the natural water. This effect is suppressed by adding a chemical (Allyl Thio-Urea) to the sample of water taken for testing. Hence BOD(ATU).
Catchment	The area of land over which rainfall drains to the river.
Catchment management planning	The consultative process by which the Agency plans to meet all the issues in any catchment, and not just water quality and RQOs. It involves the production of a Consultation Report and liaison with local people in forming an Action Plan (ibid). One outcome of the process is draft proposals for SWQOs (ibid).
Classified River or Classified Watercourse	Rivers big enough to be included in the national quinquennial reports on river water quality. Generally these are rivers whose flow is bigger than about 5 million litres per day, though smaller rivers may be included if they are particularly important. Only classified rivers are being considered for SWQOs (ibid), though all rivers can have RQOs (ibid).
Combined Sewer Overflows	Most sewers receive flows of sewage and flows of rainfall that run off our roads and paved areas. After heavy rainfall, the flows in the sewer may exceed the capacity of the sewers or the capacity of sewage treatment works. Combined Sewer Overflows allow the diluted and excess flows to discharge to a receiving water. The conditions under which flows may overflow into receiving waters are specified in the Consent (ibid).
Compliance Assessment	A procedure applied to the results of a monitoring programme to determine whether a water has met its Quality Standards (ibid).
Confidence of Failure	The outcome from compliance assessment (ibid). This might conclude with the statement, for example, that we are 93% certain of failure - the Confidence of Failure is 93%. We are often less than 100% sure of failure because we cannot monitor continuously everywhere.
Consent	A statutory document issued by the Agency which defines the legal limits and conditions on the discharge of an effluent to a water.
Copper	See Dissolved Copper.
CSO	An acronym for Combined Sewer Overflow (ibid).
Cyprinid Fish	Coarse fish belonging to the carp family (roach, dace, bream, etc).
Dangerous Substances Directive	Substances defined by the European Commission as in need of special control because they are toxic, accumulate in plants or animals and are persistent. Subjects of the Dangerous Substances Directive (76/464/EEC).
Directive	A type of legislation issued by the European Community which is binding on Member States in terms of the results to be achieved but which leaves to Member States the choice of methods.
Discretionary Expenditure	A special category within AMP2 (ibid) for expenditure over and above Statutory Expenditure (ibid). Discretionary Expenditure is targeted at meeting a specific national set of environmental improvements.
Dissolved Copper	A metal, toxic to fish.
Dissolved Oxygen	The amount of oxygen dissolved in water. Oxygen is vital for life so this measurement is a test of the health of a river.
Freshwater Fish Directive	A Directive (ibid) that sets water quality standards for rivers designated as freshwater fisheries (78/659/EEC).
Fisheries Directive	The Freshwater Fish (ibid) Directive (ibid) (78/659/EEC).
General Quality Assessment (GQA)	The Agency's way of placing waters in categories according to assessments of water quality based on measurements of BOD, Dissolved Oxygen and Ammonia. Used for the national reporting of trends.
Hardness	A measure of the dissolved minerals in water. Important because this affects the toxicity of Copper and Zinc (ibid).
Invertebrates	Animals which lack a vertebral column. They include, for example, insects, crustaceans, worms and molluscs.

MAFF	Ministry of Agriculture Fisheries and Food.
mg/l	Unit of concentration: Milligrammes per litre.
mg/l CaCO <sub>3</sub>	Unit of concentration: Milligrammes per litre (expressed as Calcium Carbonate).
mgN/l	Unit of concentration: Milligrammes per litre (expressed as nitrogen).
MI/d	Unit of river flow, megalitres per day - millions of litres per day.
NWC	National Water Scheme: classification scheme historically used by the NRA and its predecessors to manage and assess water quality.
Organic Pollution	A term used to describe the type of pollution which through the action of bacteria consumes the Dissolved Oxygen (ibid) in rivers. It applies to the effects of sewage, treated sewage effluent, farm wastes and the waste from many types of industry like dairies, breweries and abattoirs. The effects of organic pollution are described by the levels of BOD, Ammonia and Dissolved Oxygen (ibid).
Percent Saturation (% saturation)	Unit of measurement for Dissolved Oxygen. The amount of oxygen expressed as a proportion of the maximum which can be dissolved in pure, sterile, water.
Percentile	A level of water quality, usually a concentration, which is exceeded for a set percentage of the time. Hence: 90-percentile (ibid).
pH	A measure of the acidity of water.
90-percentile	A level of water quality, usually a concentration, which is exceeded for 10-percent of the time. Similarly, 95-percentile and 10-percentile.
90-percentile Standard	A level of water quality, usually a concentration, which must be achieved for at least 90-percent of the time. Similarly, 95-percentile and 10-percentile.
Quality Standard	A level of a substance or any calculated value of a measure of water quality which must be bettered. The pairing of a specific concentration or level of a substance with a summary statistic like a 90-percentile (ibid).
River Quality Objective (RQO)	The category of water quality that a body of water should match, usually in order to be satisfactory for use (ibid) as a fishery or water supply etc. Mostly expressed as the River Ecosystem Class.
Salmonid Fish	Game fish of the Salmon Family (trout, salmon, etc).
Sites of Special Scientific Interest	A legal designation applied by English Nature/Countryside Council for Wales to land of particular importance for nature conservation.
SSSI	Acronym for Site of Special Scientific Interest (ibid).
Statistically significant	A description of a conclusion which has been reached after making proper allowance for the effects of random chance.
Statutory Expenditure	AMP2 (ibid) expenditure which is mainly aimed at meeting legal duties, especially those imposed by European legislation. For sewage treatment, it is dominated by the requirements of the Directive on Urban Waste Water Treatment (ibid).
Statutory Water Quality Objective (SWQO)	A Quality Objective given a statutory basis by Regulations made under the Water Resources Act 1991.
STW	Acronym for Sewage Treatment Works.
Surface Water Abstraction (Directive on)	A Directive (ibid) that sets water quality standards for surface waters used, after treatment, as a supply of drinking water to the public (75/440/EEC).
Total Ammonia	See Ammonia.
Total Zinc	A metal, toxic to fish.
Unionised Ammonia	A species of Ammonia (ibid). A small component of the amount of Total Ammonia which is particularly toxic to fish and which therefore has its own standard.
Urban Waste Water Treatment (Directive on)	A Directive (ibid) that sets standards for discharges from sewage treatment works and sewerage systems (and similar discharges). The Directive also sets out the dates by which the standards must be achieved.
Use	Attributes of a river like a fishery or a water supply.
Use-related Objective	An aim to achieve a particular Use(ibid).
Use-related Standards	Water quality standards needed to protect a Use (ibid).
µg/l	Unit of concentration: Microgrammes per litre - one millionth of a gramme per litre.
Zinc	See Total Zinc.



# APPENDIX I: PROPOSED SWQOs FOR THE CAM CATCHMENT

RIVER STRETCH	NAME OF WATERCOURSE	START OF STRETCH	MAP REF	END OF STRETCH	MAP REF	LENGTH OF STRETCH (km)	PROPOSED SWQOS (with date)
1	River Cam	Debden Water	TL5225034500	The Slade, Audley End	TL5220038500	4.3	RE3(1996); RE2(2006)
2	River Cam	The Slade, Audley End	TL5220038500	Little Chesterford	TL5140041900	3.8	RE3(1996); RE2(2006)
3	River Cam	Little Chesterford	TL5140041900	Duxford	TL4830046300	6.4	RE2(1996)
4	River Cam	Duxford	TL4830046300	Sawston Paper Mill	TL4700049300	4.3	RE2(1996)
5	River Cam	Sawston Paper Mill	TL4700049300	River Granta	TL4640051500	3.1	RE4(1996); RE2(2006)
6	River Cam	River Granta	TL4640051500	A10 Bridge	TL4315052750	4.3	RE2(1996)
7	River Cam	A10 Bridge	TL4315052750	River Rhee	TL4285054000	1.5	RE3(1996)
8	Wendons Brook	M11	TL5085036250	River Cam	TL5195036150	1.3	RE2(1996)
9	River Granta	Bardlow	TL5835045150	Fish Pond Moat, Little Linton	TL5515047800	4.8	RE2(1996); RE1(2006)
10	River Granta	Fish Pond Moat, Little Linton	TL5515047800	A11 Bridge	TL5210049200	4.1	RE2(1996)
11	River Granta	A11 Bridge	TL5210049200	Bridge, Babraham	TL5110050100	1.5	RE3(1996); RE2(2006)
12	River Granta	Road Bridge, Babraham	TL5110050100	River Cam	TL4640051500	5.3	RE4(1996); RE2(2006)
13	River Rhee	Ashwell Village	TL2700039800	Hooks Mill	TL2670045400	8.7	RE2(1996)
14	River Rhee	Hooks Mill	TL2670045400	Mill River, Meldreth	TL3200047800	6.3	RE2(1996)
15	River Rhee	Mill River, Meldreth	TL3000478000	Whaddon Brook	TL3715047560	1.3	RE2(1996)
16	River Rhee	Whaddon Brook	TL3715047560	Barrington	TL4020049500	4.2	RE3(1996); RE2(2006)
17	River Rhee	Barrington	TL4020049500	Cantelupe Farm	TL4290054200	6.5	RE3(1996); RE2(2006)
18	Mill River	Lidington	TL3110043200	River Rhee	TL3200047800	4.0	RE3(1996)
19	Whaddon Brook	Meldreth Road	TL3575045000	River Rhee	TL3715047560	3.8	RE4(1996)
20	River Mel	Melbourn Road	TL3750044000	Railway Bridge	TL3790045800	2.5	RE2(1996)
21	River Mel	Railway Bridge	TL3790045800	River Rhee	TL3720047650	2.3	RE2(1996)
22	River Shep	Black Peak	TL4040044800	River Rhee	TL3965049500	5.1	RE3(1996); RE2(2006)
23	Bourn Brook	Wimpole Way	TL3465056100	B1046 Bridge	TL3565055750	1.2	RE4(1996); RE3(2006)
24	Bourn Brook	B1046 Bridge	TL3565055750	M11 Bridge	TL4265054750	7.9	RE3(1996)
25	Bourn Brook	M11 Bridge	TL4265054750	River Cam	TL4355054650	1.2	RE4(1996); RE3(2006)
26	River Cam	Cantelupe Farm	TL4290054200	Newnham College	TL4480057450	4.3	RE2(1996)
27	River Cam	Newnham College	TL4480057450	A45 Bridge	TL4835061600	7.1	RE3(1996)
28	River Cam	A45 Bridge	TL4835061600	Swaffham Bulbeck Lode	TL5220067200	7.0	RE3(2000)
29	River Cam	Swaffham Bulbeck Lode	TL5220067200	Old West River	TL5355074600	8.3	RE3(1996)
30	Bottisham Lode/ Quay Water	Fulbourn Fen, Teversham	TL5110058000	River Cam	TL5100065850	9.6	RE4(1996); RE3(2006)
31	Swaffham Bulbeck Lode	Bottisham	TL5515060900	River Cam	TL5220067200	8.2	RE3(1996)
32	Reach Lode	Swaffham Prior	TL5625064400	Burwell Lode	TL5475069300	5.8	RE4(1996); RE3(2006)
33	Burwell Lode	Little Fen	TL5925068850	Priory Farm	TL5635069000	3.7	RE3(1996)
34	Burwell Lode	Priory Farm	TL5635069000	River Cam	TL5360069950	2.9	RE2(1996)
35	New River	B1102 Bridge	TL6085069550	Burwell Lode	TL5420069650	7.5	RE2(1996); RE1(2006)

## APPENDIX II: SUMMARY OF COSTS, BENEFITS AND ISSUES

### RIVER STRETCHES 1 TO 8:

These stretches of the Cam and Wendons Brook run through an area of arable farmland with many riverside villages. There are six significant discharges from sewage treatment works to the stretches between Newport and Great Chesterford. There are also two major trade effluent discharges from Ciba Polymers at Duxford and Agrevo UK at Hauxton.

The proposed SWQOs with a target date of 1996 are based on maintaining current water quality. Current water quality in stretches 1, 2 and 5 puts at risk the achievement of the proposed SWQOs.

### PROPOSED COSTS:

No planned investment to meet SWQOs with a target date of 1996.

Investment is required at Sawston Sewage Treatment Works (STW) to minimise the risk that the effluent will cause failure of the proposed longer-term SWQO of RE2 (2006) for stretch 5. Improvements to the works are estimated to cost less than £5 million (Environment Agency estimate).

Over-performing STW's will be considered as candidates for investment in future Water Industry investment plans.

BENEFITS	POTABLE SUPPLIES	AGRICULTURAL & INDUSTRIAL ABSTRACTION	FISHERIES	RIVER ECOSYSTEM	RECREATION	AMENITY & AESTHETICS	TOURISM
	Low	Medium	High	High	High	High	Medium

### SUBSTANTIVE BENEFITS:

**FISHERIES:** The habitat in the stretches upstream of Duxford is suitable for brown trout and the river supports a managed trout fishery. The stretches below Duxford support a high quality coarse fishery which is popular with anglers. In all seven angling clubs fish parts of these stretches. A deterioration in water quality would threaten the survival of brown trout eggs and fry in the upper reaches and adversely effect the trout fishery. It could also threaten the coarse fishery in the lower stretches.

**RIVER ECOSYSTEM:** Aquatic plant and animal communities vary between average to high diversity and a deterioration in water quality may have an adverse impact on these and the fisheries which they support. Otters are beginning to establish populations on these stretches and are dependant on a healthy fish population.

**AMENITY/AESTHETICS:** The river has important aesthetic and amenity value where it passes through an impounded section in landscaped gardens at the popular National Trust attraction of Audley End mansion. In other parts of the catchment, there is moderate public access and several lengths of riverside footpaths which are important for recreation and amenity. A deterioration in water quality could adversely impact on the aesthetic and amenity value of the river.

**IRRIGATION:** There is agricultural abstraction for spray irrigation and livestock watering throughout, and there are also abstractions for industry. In total, nine abstractors take up to 187 tcm per year.

### OTHER ISSUES:

During periods of low flow, some stretches may have low concentrations of dissolved oxygen. This is the result of natural processes and is not indicative of pollution. The stretches which have SWQOs, with 1996 target dates, that are less stringent than existing RQOs have so because of this phenomenon. The longer-term SWQOs will continue as targets for planning purposes and this will serve to protect against deteriorations in water quality.

**RIVER STRETCHES 9 TO 12:**

These stretches of the Granta run through a rural area of arable farmland. There are four significant discharges from sewage treatment works and one large trade effluent discharge. Proposed SWQOs with a target date of 1996 are based on maintaining current water quality. Current water quality in stretches 9, 11 and 12 puts at risk the achievement of the proposed longer-term SWQOs.

**PROPOSED COSTS:**

No planned investment to deliver compliance with proposed SWQOs with a target date of 1996.

BENEFITS	POTABLE SUPPLIES	AGRICULTURAL & INDUSTRIAL ABSTRACTION	FISHERIES	RIVER ECOSYSTEM	RECREATION	AMENITY & AESTHETICS	TOURISM
	Low	Medium	Medium	High	Medium	Medium	Low

**SUBSTANTIVE BENEFITS:**

**RIVER ECOSYSTEM/FISHERIES:** The Granta has a high aquatic diversity and the headwaters support rare invertebrate species. The river is not used as a fishery, but supports small breeding populations of brown trout in the upper stretches and tributaries. It is one of the few East Anglian rivers with a natural brown trout population and is therefore a valuable contribution to East Anglia's biodiversity. Maintenance of water quality is essential to conserve the aquatic plants and invertebrates and to ensure continued spawning and maintenance of fish stocks.

**AMENITY/AESTHETICS:** The river flows through the villages of Linton and Hildersham and has public access and footpaths along much of its length. A deterioration in water quality could adversely effect the aesthetic and amenity value of the river.

**IRRIGATION:** Water is abstracted for agricultural uses including spray irrigation and livestock watering. In total, three abstractors take up to 189 tcm per year.

**OTHER ISSUES:**

Stretch 10 currently meets the proposed SWQO of RE2. There is a risk that the proposed SWQO will not be achieved if the current quality of Linton Sewage Treatment Works effluent deteriorates to the legally consented limits. The risk of this situation arising is considered low provided that current levels of operational maintenance are continued and only modest population growth occurs in Linton and other villages served by Linton Sewage Treatment Works. The South Cambridgeshire District Council Local Plan identifies only limited rural growth for this locality.

During periods of low flow some stretches may have low concentrations of dissolved oxygen. This is the result of natural processes and is not indicative of pollution. The stretches which have proposed SWQOs, with 1996 target dates, that are less stringent than their existing RQOs have so because of this phenomenon. Longer-term SWQOs will continue to be used by the Environment Agency as the basis for consenting and other water quality planning activities.

#### RIVER STRETCHES 13 TO 22:

These stretches of the River Rhee and its tributaries flow through the intensive cereal growing areas of the chalk land between Royston and Cambridge. There are ten significant discharges from sewage treatment works into these stretches. There is also a major trade effluent discharge from Eternit UK at Meldreth. Proposed SWQOs with 1996 target dates are based on maintaining current water quality. Where longer-term SWQOs are proposed (stretches 16, 17 and 22), these are generally consistent with existing RQOs

#### PROPOSED COSTS:

No planned investment.

BENEFITS	POTABLE SUPPLIES	AGRICULTURAL/ INDUSTRIAL ABSTRACTION	FISHERIES	RIVER ECOSYSTEM	RECREATION	AMENITY & AESTHETICS	TOURISM
	Low	Medium	High	High	Medium	High	Low

#### SUBSTANTIVE BENEFITS:

**RIVER ECOSYSTEM/FISHERIES:** The chalk spring source of the River Rhee in the village of Ashwell is a designated SSSI. Another important water-dependent SSSI is the Fowlmere site at the head of the River Shep. Brown trout have been recorded in the upper Rhee, Mill River, River Mel and River Shep. Lower stretches of the Rhee hold excellent stocks of coarse fish in terms of a high species diversity and exceptional biomass of fish. Fish species present include Bullhead and Brook Lamprey which are important in terms of biodiversity. The lower stretches are fished by two angling clubs with a total of around 200 members. Habitat enhancements have been carried out to encourage otters which are beginning to establish populations on these stretches. Otters are dependent on a healthy fish population. Maintaining and improving water quality is necessary to protect the existing plant and animal communities.

**AMENITY/AESTHETICS:** The springs and headwaters are also an important aesthetic feature in Ashwell, which is a popular conservation village. A deterioration in the water quality could have an adverse impact on the aesthetic and amenity value of the river.

**IRRIGATION:** Throughout most parts of the Rhee system, water is abstracted for spray irrigation and also used for livestock watering. Water from the River Shep supports a trout farm. In total nine abstractors take up to 198 tcm per year.

#### OTHER ISSUES:

Stretch 18, Mill River, currently complies with the proposed SWQO of RE3 (1996). There is a risk that the proposed SWQO will not be met if the current effluent quality of Litlington Sewage Treatment Works deteriorates to the legally consented limits. The risk of this situation arising is low provided current levels of operational maintenance are continued and spare capacity exists following the removal of a major trade effluent discharge. Only minimal population growth from infill settlement is identified in the South Cambridgeshire District Council Local Plan.

Stretch 19, Whaddon Brook, currently complies with the proposed SWQO of RE4 (1996). There is a risk that the proposed SWQO will not be met if the current effluent quality of Royston deteriorates to the legally consented limits. The risk of this situation arising is considered low provided that current levels of operational maintenance are continued. Only modest population growth is identified for Royston in the North Hertfordshire District Local Plan.

Stretch 21, River Mel, currently complies with the proposed SWQO of RE2 (1996). There is a risk that the proposed SWQO will not be met if the current effluent quality of Melbourn Sewage Treatment Works deteriorates to the legally consented limits. The risk of this situation arising is considered low provided that current levels of operational maintenance are continued. The South Cambridgeshire District Council Local Plan identifies only limited rural growth.

During periods of low flow, some stretches may have low concentrations of dissolved oxygen. This is the result of natural processes and is not indicative of pollution. The stretches which have proposed SWQOs, with 1996 target dates, that are less stringent than their existing RQOs have so because of this phenomenon. Longer-term SWQOs will continue to be used by the Environment Agency as the basis for consenting and other water quality planning activities.

**RIVER STRETCHES 23 TO 25:**

These stretches of Bourn Brook flow through a rural area of clay land used for arable farming and with some intensive livestock farms. There is one significant discharge from Bourn sewage treatment works.

Proposed SWQOs with target dates of 1996 are based on maintaining current water quality. Current water quality in stretches 23 and 25 puts at risk the achievement of the proposed longer-term SWQOs of RE3.

**PROPOSED COSTS:**

No planned investment to meet SWQOs with 1996 target dates.

Investment is required at Bourn Sewage Treatment Works (STW) to minimise the risk that the effluent will cause failure of the proposed longer-term SWQO for stretch 23. Improvements to the works are estimated to cost up to £1 million (Environment Agency estimate).

Over-performing STW's will be considered as candidates for investment in future Water Industry investment plans.

BENEFITS	POTABLE SUPPLIES	AGRICULTURAL & INDUSTRIAL ABSTRACTION	FISHERIES	RIVER ECOSYSTEM	RECREATION	AMENITY & AESTHETICS	TOURISM
	Low	Medium	Medium	High	Low	Medium	Low

**SUBSTANTIVE BENEFITS:**

**FISHERIES:** The brook supports a moderate coarse fish population and is used for angling in the wider lower stretches near the confluence with the river Cam.

**RIVER ECOSYSTEM:** Plant and animal diversity in the river itself and the associated river corridor are average. Habitat enhancements have been carried out to encourage otters which are beginning to establish populations in the catchment. Maintenance of water quality is necessary to protect the existing plant and animal communities.

**AMENITY/AESTHETICS:** The brook has moderate public access near roads and footpath crossings. Any deterioration in water quality may have an adverse impact on amenity and aesthetic value.

**IRRIGATION:** Water is abstracted for spray irrigation and also used for livestock watering.

**OTHER ISSUES:**

Stretch 23 currently meets the proposed SWQO of RE4 and falls short of the long term SWQO of RE3. The proposed SWQO of RE4 may not be achieved if the current effluent load from Bourn Sewage Treatment Works increases to the legal consent limits. The risk of not meeting this is low provided current operational practice continues and only modest population growth occurs at Bourn and other villages served by Bourn Sewage Treatment Works. The South Cambridgeshire District Council Local Plan identifies only group and infill development in Bourn.

Most years, during periods of low flow some stretches have low dissolved oxygen concentrations. This effect is the result of natural processes in the watercourse and is not indicative of pollution. The stretches, which have proposed SWQOs that are less stringent than the existing RQOs, are affected by this phenomenon. The long-term SWQOs are targets for planning purposes and in all cases are only non-compliant for dissolved oxygen. Hence, they will serve to protect against deteriorations in water quality.

**RIVER STRETCHES 26 & 27:**

These stretches of the river Cam run through Grantchester and the city of Cambridge. There are no significant discharges in these stretches. The proposed SWQOs are based on maintaining current water quality.

**PROPOSED COSTS:**

No planned investment.

BENEFITS	POTABLE SUPPLIES	AGRICULTURAL & INDUSTRIAL ABSTRACTION	FISHERIES	RIVER ECOSYSTEM	RECREATION	AMENITY & AESTHETICS	TOURISM
	Low	Low	High	High	High	High	High

**SUBSTANTIVE BENEFITS:**

**AMENITY/AESTHETICS:** The city of Cambridge is internationally known for its university and attracts around 3.5 million tourists annually from all over the world. The river provides an important amenity through Grantchester Meadows and the centre of the city of Cambridge. The aesthetic and amenity value of the river are particularly important to tourism and recreation. Any deterioration in water quality could cause a reduction in the aesthetic quality of the river and impact on the amenity value of the river.

**TOURISM/RECREATION:** Punting is a popular leisure activity for tourists, students and the local population. The lower stretch is navigable to pleasure craft and is important for the many rowing clubs which use it for training and competition. The River Cam is an important feature of the city and a major asset as a tourist attraction. A deterioration in water quality would adversely effect the aesthetic and amenity value of the river and reduce the suitability of the river for recreational use.

**RIVER ECOSYSTEM/FISHERIES:** The river supports an excellent coarse fishery and is important for recreation as it provides free fishing in parts of the city. About 400 local resident fishing permits are issued annually. The stretches are fished by two clubs which together have more than 1200 members, and day tickets are also available. Maintenance of current water quality is essential to protect the fishery and the aquatic plant and animal community which support it.

**IRRIGATION:** There are minor abstractions for spray irrigation and the river is used for livestock watering.

**RIVER STRETCH 28:**

This stretch of the Cam flows from the outskirts of the City of Cambridge towards Waterbeach. There is one significant discharge from Cambridge Sewage Treatment Works. Currently water quality marginally fails to meet the proposed SWQO of RE3 (2000).

**PROPOSED COSTS:**

Eight million pounds committed as an outcome of the recent national negotiations on charges for water.

BENEFITS	POTABLE SUPPLIES	AGRICULTURAL & INDUSTRIAL ABSTRACTION	FISHERIES	RIVER ECOSYSTEM	RECREATION	AMENITY & AESTHETICS	TOURISM
	Low	Low	High	High	High	High	Medium

**SUBSTANTIVE BENEFITS:**

**FISHERIES:** The River Cam downstream of Cambridge is an important coarse fishery for roach, bream and pike. It supports an excellent stock of these species and is an important match angling venue. The stretch is fished by two angling clubs with more than 1200 members and day tickets are also available. Currently the water quality is adversely affected by the impact of effluent from Cambridge Sewage Treatment Works and the fish populations are at risk. To prevent fish mortalities, fixed aerators are intermittently used to re-oxygenate the river. Improvement in water quality is essential to minimise the risk of fish mortalities and will eliminate the need for the aerators, and associated maintenance and operating costs.

**RIVER ECOSYSTEM:** The aquatic animal community in this stretch is currently less diverse than would be typical for this type of river. An improvement in water quality will protect and enhance the existing aquatic diversity.

**RECREATION:** This stretch of the Cam is extensively used by pleasure craft and there are several moorings in the area. Part of the stretch is used for rowing and there are proposals to develop a rowing lake adjacent to this stretch of the river.

**AMENITY/AESTHETICS:** There is good public access to the river via footpaths along this stretch. These provide a link to the City Centre and are extensively used by walkers and cyclists. The amenity and aesthetic value of the river is high and an improvement in water quality will ensure it is protected.

**TOURISM:** The City of Cambridge attracts about 3.5 million tourists annually who contribute substantially to the local economy. Some of these visitors use the river for recreation, in particular boating and for riverside walks. An improvement in water quality will ensure and enhance the attractiveness of the river for tourists.

**RIVER STRETCH 29:**

This stretch of the River Cam flows through low lying fenland used for intensive arable farming. There are no significant discharges to this stretch. The proposed SWQO is based on maintaining current water quality.

**PROPOSED COSTS:**

No planned investment.

BENEFITS	POTABLE SUPPLIES	AGRICULTURAL & INDUSTRIAL ABSTRACTION	FISHERIES	RIVER ECOSYSTEM	RECREATION	AMENITY & AESTHETICS	TOURISM
	Low	Medium	High	High	High	High	Medium

**SUBSTANTIVE BENEFITS:**

**RIVER ECOSYSTEM/FISHERIES:** The river supports a high diversity of plants and an excellent coarse fishery. It is popular for angling, especially match angling and in 1994 was one of the venues for the National Championships. The stretch is fished by five angling clubs with a large annual membership. Maintenance of current water quality is essential to protect the fishery and the aquatic plant and animal community which support it.

**IRRIGATION:** The river provides water for spray irrigation of the surrounding intensively farmed fenland and is also used for livestock watering.

**RECREATION:** Boating is a popular recreational activity on this stretch, which is extensively used by pleasure craft travelling between the cities of Ely and Cambridge, and two marinas are located on this stretch of the river.

**AMENITY/AESTHETICS:** There is good public access via riverside footpaths. Maintaining current water quality is important to protect the aesthetic and amenity value of the river.



**RIVER STRETCHES 30 TO 35:**

These stretches are known as the Lodes. They rise from chalk springs and drain land on the edge of the Cambridgeshire Fens that is used for intensive arable farming. There are discharges from four significant sewage treatment works into the Lodes system.

Proposed SWQOs with 1996 target dates are based on maintaining current water quality.

Current water quality in stretches 30, 32 and 35 puts at risk the achievement of the proposed longer-term SWQOs.

**PROPOSED COSTS:**

No planned investment.

BENEFITS	POTABLE SUPPLIES	AGRICULTURAL & INDUSTRIAL ABSTRACTION	FISHERIES	RIVER ECOSYSTEM	RECREATION	AMENITY & AESTHETICS	TOURISM
	Low	Medium	High	High	High	Medium	Low

**SUBSTANTIVE BENEFITS:**

**FISHERIES:** Burwell and Reach Lode support good quality coarse fish stocks. Burwell and Reach Lode are popular venues for pleasure and match fishing. In addition to stocks of common coarse fish species, the Lodes also support populations of the spined loach, a rare member of the carp family, which is protected under the EU Habitats Directive. Maintenance of current water quality is essential to conserve the current diversity of aquatic plants, invertebrates and fish species.

**RIVER ECOSYSTEM:** New River supports a high diversity of aquatic plants and invertebrates. Water from the New River and Burwell Lode system is used to support the important Wicken Fen National Nature Reserve (NNR). This site relies on high quality water and supports a large number of rare plant and animal species. Wicken Fen is a unique site and a deterioration in water quality would have an adverse impact on the plant and animal communities it supports.

**AMENITY/AESTHETICS:** Footpaths run alongside almost the entire length of the Lode system and provide excellent public access into a unique countryside area. A deterioration in quality could have an adverse impact on the aesthetic and amenity value of the Lodes.

**IRRIGATION:** In addition to the recreational activities of fishing and walking, Burwell Lode is navigable and is used by pleasure boats. Water from the Lodes is used for irrigation of intensively farmed fenland. In total six abstractors take up to 97 tcm per year.

**OTHER ISSUES:**

During periods of low flow, some stretches may have low concentrations of dissolved oxygen. This is the result of natural processes and is not indicative of pollution. The stretches which have proposed SWQOs with 1996 target dates, that are less stringent than their existing RQOs, have so because of this phenomenon. Longer-term SWQOs will continue to be used by the Environment Agency as the basis for consenting and other water quality planning activities.

### APPENDIX III: DIGEST OF RESPONSES TO CONSULTATION

A total of 211 copies of our document *The Cam Catchment: Proposals for Statutory Water Quality Objectives* were issued during the three-month consultation period. These were also supported by a press conference and radio interviews. We received 22 responses, and these are summarised below in Table 3.1. None of the responses we received suggest that the Agency should revise its proposed SWQOs for any river stretch, although we have recognised the need to clarify details of the likely benefits and costs associated with proposed investment in water quality schemes.

**TABLE 2: RESPONSES AND ACTIONS ARISING FROM SWQO CONSULTATION**

No.	Organisation/Individual	Key Points	Actions Taken by Agency
1	Agrevo U.K. Limited	Concerned that their consent limits may be changed to achieve SWQO.	None. Proposals in this document do not require change in consent limits.
2	Anglian Water Services Limited	Concerned that no funding has been allocated to ensure continued overperformance of Boum, Linton, Melbourne, Royston and Sawston STW's.	None. Over-performing STW's will be considered as candidates for investment in future Water Industry investment plans.
3	Babraham Institute	Concerned that their consent limits may be changed to achieve SWQO.	None. Proposals in the document do not require a change in consent limits.
4	Cambridge City Council	Supported inclusion and recognition of recreational and amenity values.	None.
5	Cambridgeshire Canoeing Association	No specific comments.	None.
6	Cambridgeshire County Council	Welcomed proposals to introduce SWQO's.	None.
7	Cambridge Izaak Walton Society	Concerned that short term SWQO's may be set lower than desirable because dissolved oxygen is affected by low river flows exacerbated by abstraction.	Long term objectives are proposed which will protect and enhance water quality to protect potential water uses, flora and fauna.
8	Ciba Polymers	Concerned that their consent limits may be changed to achieve SWQO.	None. Proposals in the document do not require change of consent limits.
9	Conservators of the River Cam	Supported the proposed SWQO's for stretches 26,27 and 28.	None.
10	Country Landowners Association	Commented on the detail of Appendix II.	Minor additions of detail to Appendix II.

No.	Organisation/Individual	Key Points	Actions Taken by Agency
11	Elliot P.S.	Commented on the limited range of chemicals covered by the proposals for SWQO's.	None. Statutory objectives have already been set for EC List 1 Dangerous Substances and are prepared for a wide range of List 2 substances. At present non-statutory River Quality Objectives exist for a wide range of other substances.
12	English Nature	Supported the proposals particularly regarding New River and Burwell Lode. Provided information on Ashwell Spring SSSI.	None.
13	Eternit U.K. Ltd.	Provided details of plans for improvements at the site which may result in further improvements of Whaddon Brook, stretch 19.	None.
14	Hertfordshire County Council	Welcomed the proposals for SWQO's. Commented on the value of SWQO's to encourage sustainable development.	None.
15	Inst. of Civil Engineers	Supported proposals for SWQO's. Commented on the need to ensure timescales for achieving SWQO's are realistic.	None.
16	M.A.F.F.	Supported the proposals for realistic SWQO's.	None.
17	N.F.U. Anglian Region	Opposed to the principle of SWQO's. But support the principle of improved water quality. Commented on detail of text in Appendix II.	None. Minor additions of detail to Appendix II.
18	OFWAT	Commented on the need for estimates of cost for achieving long term SWQO's.  Concerned that the proposals are driven by the aim of maintaining and improving water quality rather than river needs.	None. Where STW's are not compliant with the standards necessary to meet river needs, costs have been identified for achievement of long-term objectives.  Proposals in the document are based on an assessment of current river uses. Long-term objectives are based on protection of water quality and preventing future deterioration.
19	Otter Trust	Concerned that proposed SWQO's and long term objectives are "unambitious".	None.
20	Plant Breeding International Angling Club.	Commented on the increasing demands on water resources and reduced river flows affecting achievement of SWQO's.	None. Only additional abstractions at times of high river flow is currently considered as an acceptable option.
21	Sports Council, Eastern Region	Supports the setting of SWQO's.	None.
22	Trumpington Farming Company	Commented on detail of text in Appendix II.	Minor additions of detail to Appendix II.

## MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

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