

Environmental Protection Report

St Austell River and South
Cornwall Coastal Streams Catchment
River Water Quality
Classification 1991

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110251

**RIVER WATER QUALITY IN THE ST AUSTELL RIVER
AND SOUTH CORNWALL COASTAL STREAMS CATCHMENT**

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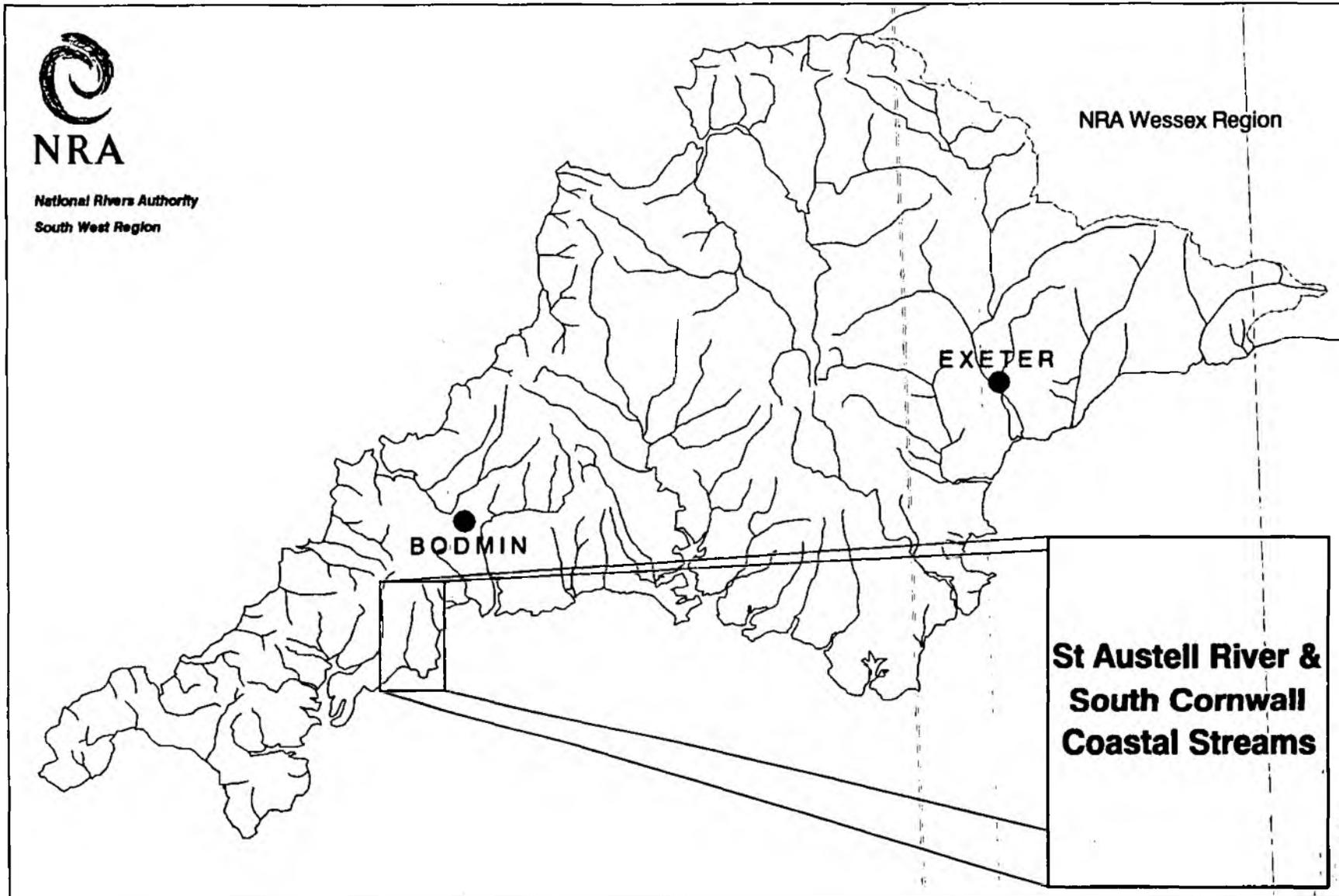
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St Austell River & South Cornwall Coastal Streams

1. INTRODUCTION

Monitoring to assess the quality of river waters is undertaken in thirty-four catchments within the region. As part of this monitoring programme samples are collected routinely from selected monitoring points at a pre-determined frequency per year, usually twelve spaced at monthly intervals. Each monitoring point provides data for the water quality of a river reach (in kilometres) upstream of the monitoring point.

Each water sample collected from each monitoring point is analysed for a range of chemical and physical constituents or properties known as determinands. The analytical results for each sample are entered into a computer database called the Water Quality Archive.

Selected data are accessed from the Archive so that the quality of each river reach can be determined based on a River Classification System developed by the National Water Council (NWC), (7.1).

This report presents the river-water quality classification for 1991 for monitored river reaches in the St Austell River and South Cornwall Coastal Streams catchments.

2. ST. AUSTELL RIVER AND SOUTH CORNWALL COASTAL STREAMS CATCHMENTS

The St. Austell River flows over a distance of 11 km from its source to the tidal limit, (Appendix 8.1). Water quality was monitored at approximately monthly intervals at five locations on the main river.

The Mevagissey Stream flows over a distance of 3.8 km from its source to the tidal limit, (Appendix 8.1) and was monitored at one site at approximately monthly intervals.

The Caerhays Stream flows over a distance of 13 km from its source to the tidal limit, (Appendix 8.1) and was monitored at three sites at approximately monthly intervals.

Portholland Stream flows over a distance of 6.7 km from its source to the tidal limit, (Appendix 8.1) and was monitored at one site at approximately monthly intervals.

The Carne Stream flows over a distance of 5 km from its source to the tidal limit, (Appendix 8.1) and was monitored at two sites at approximately monthly intervals.

Throughout the St. Austell River and South Cornwall Coastal Streams catchments two secondary tributaries of the St Austell River were monitored.

2.1 SECONDARY TRIBUTARIES

The Polgooth Stream flows over a distance of 4.0 km from its source to the confluence with the St. Austell River, (Appendix 8.1) and was monitored at two locations at approximately monthly intervals.

The Gover Stream flows over a distance of 3.5 km from its source to the confluence with the St. Austell River, (Appendix 8.1) and was monitored at one location in the lower reaches at approximately monthly intervals.

Each sample was analysed for a minimum number of determinands (Appendix 8.2) plus additional determinands based on local knowledge of the catchment. In addition, at selected sites, certain metal analyses were carried out.

The analytical results from all of these samples have been entered into the Water Quality Archive and can be accessed through the Water Resources Act Register, (7.2).

3. NATIONAL WATER COUNCIL'S RIVER CLASSIFICATION SYSTEM

3.1 River Quality Objectives

In 1978 River Quality Objectives (RQOs) were assigned to all river lengths that were part of the routine monitoring network and to those additional watercourses, which were not part of the routine network, but which received discharges of effluents.

For the majority of watercourses long term objectives were identified based on existing and assumed adequate quality for the long term protection of the watercourse. In a few instances short term objectives were identified but no timetable for the achievement of the associated long term objective was set.

The RQOs currently in use in the River St Austell catchment are identified in Appendix 8.1.

3.2 River Quality Classification

River water quality is classified using the National Water Council's (NWC) River Classification System (see Appendix 8.3), which identifies river water quality as being one of five quality classes as shown in Table 1 below:

Table 1 - National Water Council - River Classification System

<u>Class</u>	<u>Description</u>
1A	Good quality
1B	Lesser good quality
2	Fair quality
3	Poor quality
4	Bad quality

Using the NWC system, the classification of river water quality is based on the values of certain determinands as arithmetic means or as 95 percentiles (5 percentiles are used for pH and dissolved oxygen) as indicated in Appendices 8.4 and 8.4.1.

The quality classification system incorporates some of the European Inland Fisheries Advisory Commission (EIFAC) criteria (Appendix 8.3) recommended for use by the NWC system.

4. 1991 RIVER WATER QUALITY CLASSIFICATION

Analytical data collected from monitoring during 1989, 1990 and 1991 were processed through a computerised river water quality classification programme. This resulted in a quality class being assigned to each monitored river reach as indicated in Appendix 8.5.

The quality class for 1991 can be compared against the appropriate River Quality Objective and previous annual quality classes (1985-1990) also based on three years combined data, for each river reach in Appendix 8.5.

The river water classification system used to classify each river length is identical to the system used both in 1985 and 1990 for the Department of the Environment's Quinquennial River Quality Surveys. The determinand classification criteria used to determine the annual quality classes in 1985, subsequent years and for 1991 are indicated in Appendices 8.4 and 8.4.1.

The river quality classes for 1991 of monitored river reaches in the catchment are shown in map form in Appendix 8.6.

The calculated determinand statistics for pH, temperature, dissolved oxygen, biochemical oxygen demand (BOD), total ammonia, un-ionised ammonia, suspended solids, copper and zinc from which the quality class was determined for each river reach, are indicated in Appendix 8.7.

5. NON-COMPLIANCE WITH QUALITY OBJECTIVES

Those monitored river reaches within the catchment, which do not comply with their assigned (RQO), are shown in map form in Appendix 8.8.

Appendix 8.9 indicates the number of samples analysed for each determinand over the period 1989 to 1991 and the number of sample results per determinand, which exceed the determinand quality standard.

For those non-compliant river reaches in the catchment, the extent of exceedance of the calculated determinand statistic with the relevant quality standard (represented as a percentage), is indicated in Appendix 8.10.

6. GLOSSARY OF TERMS

RIVER REACH	A segment of water, upstream from sampling point to the next sampling point.
RIVER LENGTH	River distance in kilometres.
RIVER QUALITY OBJECTIVE	That NWC class, which protects the most sensitive use of the water.
95 percentiles	Maximum limits, which must be met for at least 95% of the time.
5 percentiles	Minimum limits, which must be met for at least 95% of the time.
BIOLOGICAL OXYGEN DEMAND (5 day carbonaceous ATU)	A standard test measuring the microbial uptake of oxygen - an estimate of organic pollution.
pH	A scale of acid to alkali.
UN-IONISED AMMONIA	Fraction of ammonia poisonous to fish, NH^3 .
SUSPENDED SOLIDS	Solids removed by filtration or centrifuge under specific conditions.
USER REFERENCE NUMBER	Reference number allocated to a sampling point.
INFERRED STRETCH	Segment of water, which is not monitored and whose water quality classification is assigned from the monitored reach upstream.

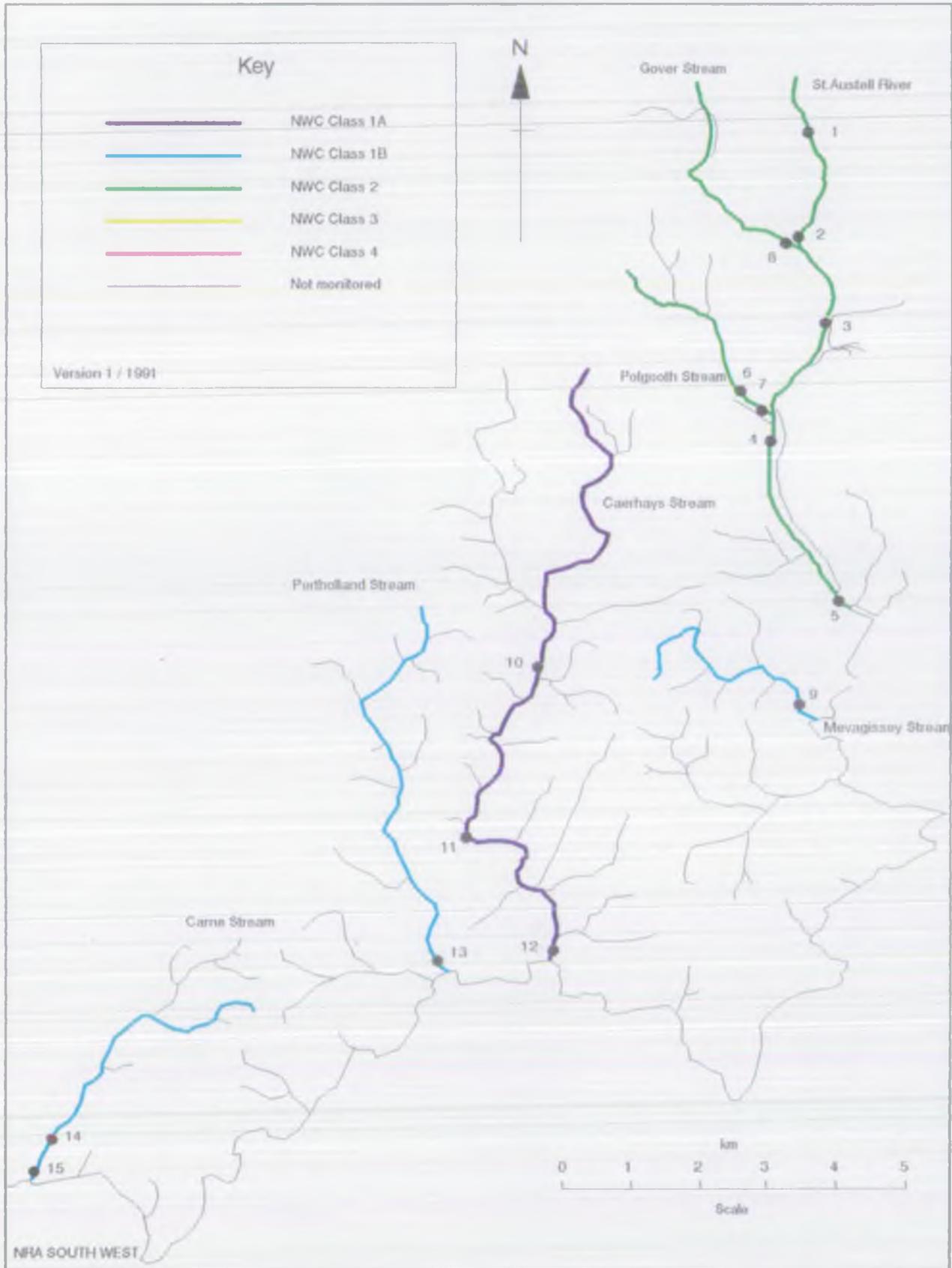
7. REFERENCES

Reference

- 7.1 National Water Council (1977). River Water Quality: The Next Stage. Review of Discharge Consent Conditions. London.
- 7.2 Water Resources Act 1991 Section 190.
- 7.3 Alabaster J. S. and Lloyd R. Water Quality Criteria for Freshwater Fish, 2nd edition, 1982. Butterworths.

St. Austell and South Cornwall Coastal Streams Appendix 8.1

River Quality Objectives



BASIC DETERMINAND ANALYTICAL SUITE FOR ALL CLASSIFIED RIVER SITES

pH as pH Units

Conductivity at 20 C as $\mu\text{S}/\text{cm}$

Water temperature (Cel)

Oxygen dissolved & saturation

Oxygen dissolved as $\text{mg}/\text{l O}$

Biochemical oxygen demand (5 day total ATU) as $\text{mg}/\text{l O}$

Total organic carbon as $\text{mg}/\text{l C}$

Nitrogen ammoniacal as $\text{mg}/\text{l N}$

Ammonia un-ionised as $\text{mg}/\text{l N}$

Nitrate as $\text{mg}/\text{l N}$

Nitrite as $\text{mg}/\text{l N}$

Suspended solids at 105 C as mg/l

Total hardness as $\text{mg}/\text{l CaCO}_3$

Chloride as $\text{mg}/\text{l Cl}$

Orthophosphate (total) as $\text{mg}/\text{l P}$

Silicate reactive dissolved as $\text{mg}/\text{l SiO}_2$

Sulphate (dissolved) as $\text{mg}/\text{l SO}_4$

Sodium (total) as $\text{mg}/\text{l Na}$

Potassium (total) as $\text{mg}/\text{l K}$

Magnesium (total) as $\text{mg}/\text{l Mg}$

Calcium (total) as $\text{mg}/\text{l Ca}$

Alkalinity as pH 4.5 as $\text{mg}/\text{l CaCO}_3$

NWC RIVER QUALITY CLASSIFICATION SYSTEM

River Class	Quality criteria	Remarks	Current potential uses
Class limiting criteria (95 percentile)			
1A Good Quality	(i) Dissolved oxygen saturation greater than 80%	(i) Average BOD probably not greater than 1.5 mg/l	(i) Water of high quality suitable for potable supply abstractions and for all abstractions
	(ii) Biochemical oxygen demand not greater than 3 mg/l	(ii) Visible evidence of pollution should be absent	(ii) Game or other high class fisheries
	(iii) Ammonia not greater than 0.4 mg/l		(iii) High amenity value
	(iv) Where the water is abstracted for drinking water, it complies with requirements for A2* water		
	(v) Non-toxic to fish in EIFAC terms (or best estimates if EIFAC figures not available)		
1B Good Quality	(i) DO greater than 60% saturation	(i) Average BOD probably not greater than 2 mg/l	Water of less high quality than Class 1A but usable for substantially the same purposes
	(ii) BOD not greater than 5 mg/l	(ii) Average ammonia probably not greater than 0.5 mg/l	
	(iii) Ammonia not greater than 0.9 mg/l	(iii) Visible evidence of pollution should be absent	
	(iv) Where water is abstracted for drinking water, it complies with the requirements for A2* water	(iv) Waters of high quality which cannot be placed in Class 1A because of the high proportion of high quality effluent present or because of the effect of physical factors such as canalisation, low gradient or eutrophication	
	(v) Non-toxic to fish in EIFAC terms (or best estimates if EIFAC figures not available)	(v) Class 1A and Class 1B together are essentially the Class 1 of the River Pollution Survey (RPS)	
2 Fair Quality	(i) DO greater than 40% saturation	(i) Average BOD probably not greater than 5 mg/l	(i) Waters suitable for potable supply after advanced treatment
	(ii) BOD not greater than 9 mg/l	(ii) Similar to Class 2 of RPS	(ii) Supporting reasonably good coarse fisheries
	(iii) Where water is abstracted for drinking water it complies with the requirements for A3* water	(iii) Water not showing physical signs of pollution other than humic colouration and a little foaming below weirs	(iii) Moderate amenity value
	(iv) Non-toxic to fish in EIFAC terms (or best estimates if EIFAC figures not available)		

3 Poor Quality	(i) DO greater than 10% saturation (ii) Not likely to be anaerobic (iii) BOD not greater than 17 mg/l. This may not apply if there is a high degree of re-aeration	Similar to Class 3 of RPS	Waters which are polluted to an extent that fish are absent only sporadically present. May be used for low grade industrial abstraction purposes. Considerable potential for further use if cleaned up
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4 Bad Quality	Waters which are inferior to Class 3 in terms of dissolved oxygen and likely to be anaerobic at times	Similar to Class 4 of RPS	Waters which are grossly polluted and are likely to cause nuisance
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X	DO greater than 10% saturation		Insignificant watercourses and ditches not usable, where the objective is simply to prevent nuisance developing
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- Notes--
- (a) Under extreme weather conditions (eg flood, drought, freeze-up), or when dominated by plant growth, or by aquatic plant decay, rivers usually in Class 1, 2, and 3 may have BODs and dissolved oxygen levels, or ammonia content outside the stated levels for those Classes. When this occurs the cause should be stated along with analytical results.
 - (b) The BOD determinations refer to 5 day carbonaceous BOD (ATU). Ammonia figures are expressed as NH₄. **
 - (c) In most instances the chemical classification given above will be suitable. However, the basis of the classification is restricted to a finite number of chemical determinands and there may be a few cases where the presence of a chemical substance other than those used in the classification markedly reduces the quality of the water. In such cases, the quality classification of the water should be down-graded on the basis of biota actually present, and the reasons stated.
 - (d) EIFAC (European Inland Fisheries Advisory Commission) limits should be expressed as 95 percentile limits.

* EEC category A2 and A3 requirements are those specified in the EEC Council directive of 16 June 1975 concerning the Quality of Surface Water intended for Abstraction of Drinking Water in the Member State.

** Ammonia Conversion Factors

(mg NH₄/l to mg N/l)

Class 1A	0.4 mg NH ₄ /l = 0.31 mg N/l
Class 1B	0.9 mg NH ₄ /l = 0.70 mg N/l
	0.5 mg NH ₄ /l = 0.39 mg N/l

NWC RIVER CLASSIFICATION SYSTEM

CRITERIA USED BY NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION FOR NON-METALLIC DETERMINANDS

River Class	Quality Criteria
1A	Dissolved oxygen % saturation greater than 80% BOD (ATU) not greater than 3 mg/l O Total ammonia not greater than 0.31 mg/l N Non-ionised ammonia not greater than 0.021 mg/l N Temperature not greater than 21.5 C pH greater than 5.0 and less than 9.0 Suspended solids not greater than 25 mg/l
1B	Dissolved oxygen % saturation greater than 60% BOD (ATU) not greater than 5 mg/l O Total ammonia not greater than 0.70 mg/l N Non-ionised ammonia not greater than 0.021 mg/l N Temperature not greater than 21.5 C pH greater than 5.0 and less than 9.0 Suspended solids not greater than 25 mg/l
2	Dissolved oxygen & saturation greater than 40% BOD (ATU) not greater than 9 mg/l O Total ammonia not greater than 1.56 mg/l N Non-ionised ammonia not greater than 0.021 mg/l N Temperature not greater than 28 C pH greater than 5.0 and less than 9.0 Suspended solids not greater than 25 mg/l
3	Dissolved oxygen % saturation greater than 10% BOD (ATU) not greater than 17 mg/l O
4	Dissolved oxygen % saturation not greater than 10% BOD (ATU) greater than 17 mg/l O

STATISTICS USED BY NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION

Determinand	Statistic
Dissolved oxygen	5 percentile
BOD (ATU)	95 percentile
Total ammonia	95 percentile
Non-ionised ammonia	95 percentile
Temperature	95 percentile
pH	5 percentile
	95 percentile
Suspended solids	arithmetic mean

NWC RIVER CLASSIFICATION SYSTEM

CRITERIA USED BY NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION FOR METALLIC DETERMINANDS

SOLUBLE COPPER

Total Hardness (mean) mg/l CaCO ₃	Statistic	Soluble Copper*	
		Class 1 ug/l Cu	Class 2
0 - 10	95 percentile	< = 5	> 5
10 - 50	95 percentile	< = 22	> 22
50 - 100	95 percentile	< = 40	> 40
100 - 300	95 percentile	< = 112	> 112

* Total copper is used for classification until sufficient data on soluble copper can be obtained.

TOTAL ZINC

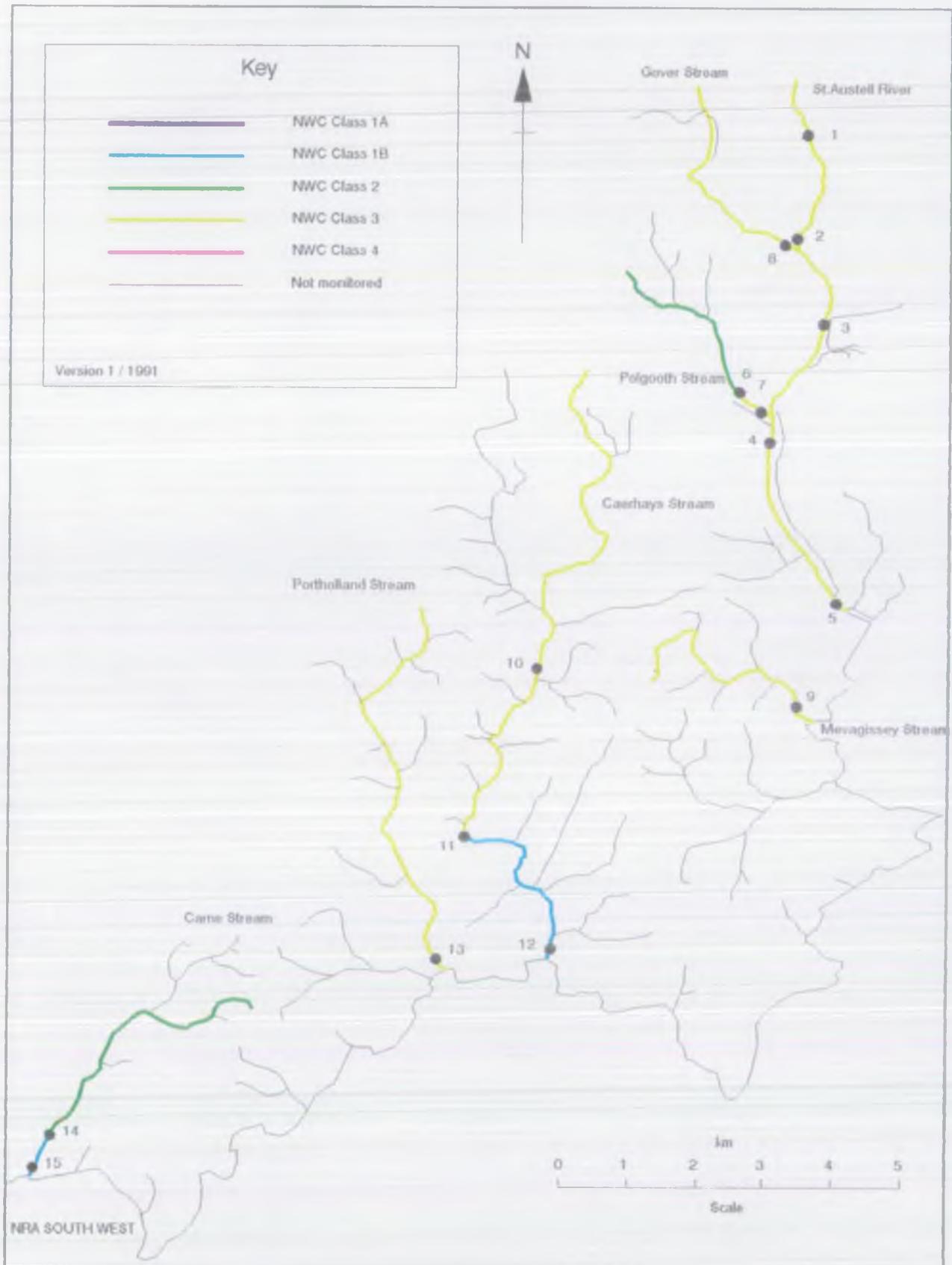
Total Hardness (mean) mg/l CaCO ₃	Statistic	Total Zinc		
		Class 1 ug/l Zn	Class 2	Class 3
0 - 10	95 percentile	< = 30	< = 300	> 300
10 - 50	95 percentile	< = 200	< = 700	> 700
50 - 100	95 percentile	< = 300	< = 1000	> 1000
100 - 300	95 percentile	< = 500	< = 2000	> 2000

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 1991 RIVER WATER QUALITY CLASSIFICATION
 CATCHMENT: ST. AUSTELL AND SOUTH CORNWALL STREAMS

1991 Map Position Number	River	Reach upstream of	User Reference Number	National Grid Reference	Reach Length (km)	Distance from source (km)	River Quality Objective	85 NWC Class	86 NWC Class	87 NWC Class	88 NWC Class	89 NWC Class	90 NWC Class	91 NWC Class
1	ST.AUSTELL RIVER	LANSALSON BRIDGE	R18A003	SX 0089 5478	2.0	2.0	2	3	2	2	1B	1B	3	3
2	ST.AUSTELL RIVER	ABOVE GOVER STREAM	R18A004	SX 0075 5268	2.4	4.4	2	3	2	2	1A	1B	3	3
3	ST.AUSTELL RIVER	IRON BRIDGE	R18A006	SX 0122 5114	1.8	6.2	2	3	2	2	1A	1B	3	3
4	ST.AUSTELL RIVER	MOLINGEY GAUGING STATION	R18A007	SX 0071 4945	1.8	8.0	2	3	2	2	2	2	3	3
5	ST.AUSTELL RIVER	PENTEWAN BRIDGE	R18A008	SX 0175 4725	2.7	10.7	2	3	2	2	1B	2	3	3
	ST.AUSTELL RIVER	MEAN HIGH WATER (INFERRED STRETCH)			0.3	11.0	2	3	2	2	1B	2	3	3
6	POLGOOTH STREAM	ABOVE POLGOOTH S T W	R18A014	SX 0001 5023	3.0	3.0	2	3	3	3	3	3	2	2
7	POLGOOTH STREAM	PRIOR TO ST. AUSTELL RIVER	R18A010	SX 0071 4983	0.9	3.9	2	3	3	3	3	3	3	3
	POLGOOTH STREAM	ST.AUSTELL R. CONFL. (INFERRED STRETCH)			0.1	4.0	2	3	3	3	3	3	3	3
8	GOVER STREAM	PRIOR TO ST. AUSTELL RIVER	R18A005	SX 0075 5268	3.4	3.4	2	3	2	2	1B	1B	3	3
	GOVER STREAM	ST.AUSTELL R. CONFL. (INFERRED STRETCH)			0.1	3.5	2	3	2	2	1B	1B	3	3
9	MEVAGISSEY STREAM	CAR PARK MEVAGISSEY	R18A009	SX 0130 4500	3.5	3.5	1B	1B					3	3
	MEVAGISSEY STREAM	NORMAL TIDAL LIMIT (INFERRED STRETCH)			0.3	3.8	1B	1B					3	3
10	CAERHAYS STREAM	POLMASSICK BRIDGE	R18A001	SW 9718 4560	6.8	6.8	1A	2	3	2	2	2	4	3
11	CAERHAYS STREAM	TUBBS MILL	R18A015	SW 9609 4329	3.0	9.8	1A	2	3	2	2	2	1B	3
12	CAERHAYS STREAM	CAERHAYS BEACH BRIDGE	R18A002	SW 9746 4145	3.0	12.8	1A	2	3	2	2	2	1B	1B
	CAERHAYS STREAM	NORMAL TIDAL LIMIT (INFERRED STRETCH)			0.2	13.0	1A	2	3	2	2	2	1B	1B
13	PORTHOLLAND STREAM	PORTHOLLAND	R18A017	SW 9593 4130	6.6	6.6	1B	2					1B	3
	PORTHOLLAND STREAM	NORMAL TIDAL LIMIT (INFERRED STRETCH)			0.1	6.7	1B	2					1B	3
14	CARNE STREAM	MELINSEY MILL	R18A011	SW 9056 3928	3.5	3.5	1B	2	3	3	3	1B	1B	2
15	CARNE STREAM	PENDOWER BEACH	R18A012	SW 8975 3820	1.4	4.9	1B	2	3	3	3	1B	1B	1B
	CARNE STREAM	MEAN HIGH WATER (INFERRED STRETCH)			0.1	5.0	1B	2	3	3	3	1B	1B	1B

St. Austell and South Cornwall Coastal Streams Water Quality - 1991

Appendix 8.6

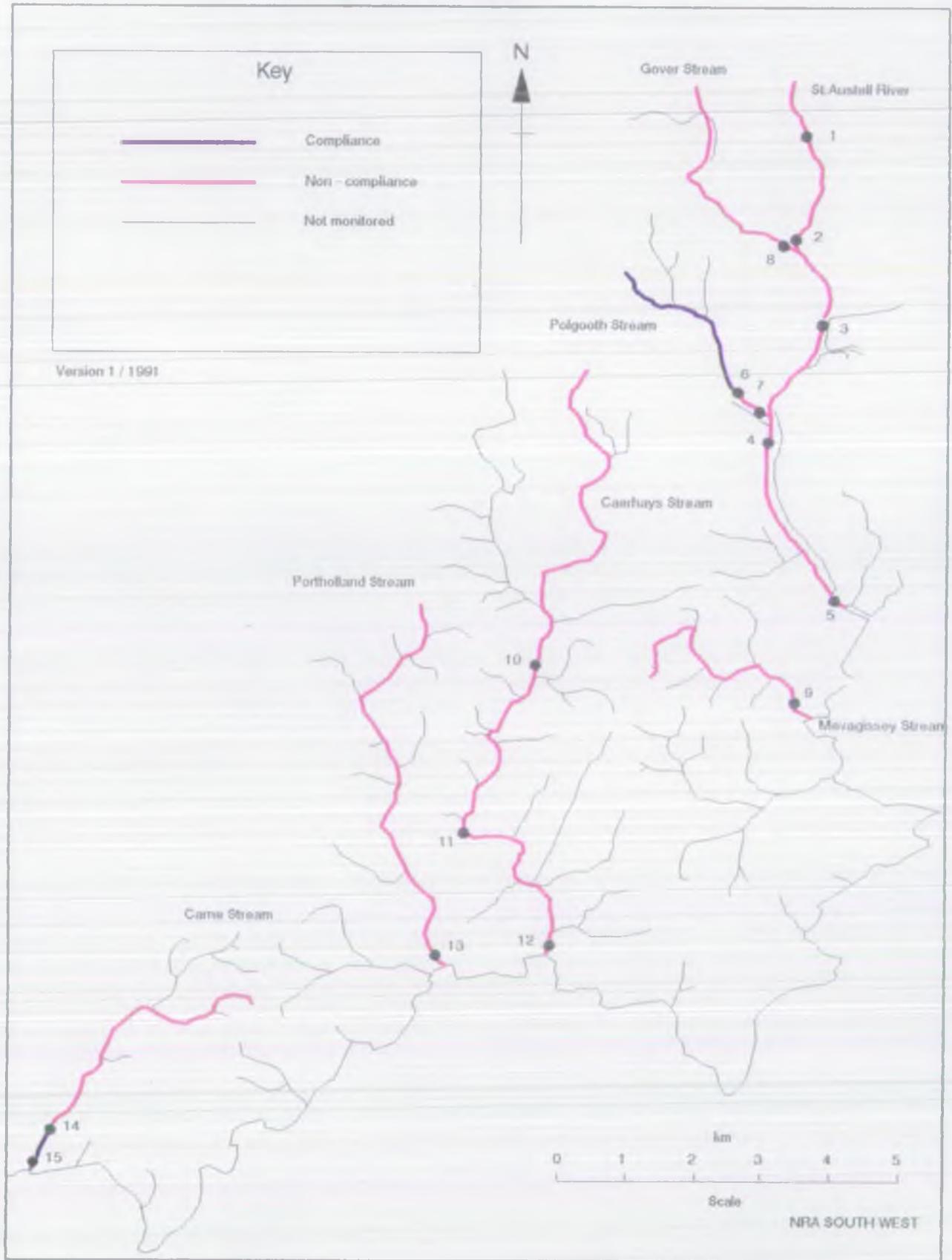


NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 1991 RIVER WATER QUALITY CLASSIFICATION
 CALCULATED DETERMINAND STATISTICS USED FOR QUALITY ASSESSMENT
 CATCHMENT: ST. ALSTELL AND SOUTH CORNWALL STREAMS

River	Reach upstream of	User Ref. Number	RQD	Calculated Determinand Statistics used for Quality Assessment																			
				pH Lower Class 5tile		pH Upper Class 95tile		Temperature Class 95tile		DO (%) Class 5tile		BOD (ATU) Class 95tile		Total Ammonia Class 95tile		Union. Ammonia Class 95tile		S.Solids Class Mean		Total Oxygen Class 95tile		Total Zinc Class 95tile	
ST. ALSTELL RIVER	LANSALCON BRIDGE	RL8A003	2	1A	5.7	1A	7.3	1A	15.1	1B	62.4	1B	3.3	1A	0.282	1A	0.010	3	41.1	2	40.1	1A	59.0
ST. ALSTELL RIVER	ABOVE COVER STREAM	RL8A004	2	1A	6.2	1A	7.4	1A	15.3	2	51.6	1A	2.3	1A	0.254	1A	0.010	3	73.3	1A	13.0	1A	28.0
ST. ALSTELL RIVER	IRON BRIDGE	RL8A006	2	1A	6.0	1A	7.5	1A	17.0	1B	79.1	1B	3.4	1A	0.240	1A	0.010	3	63.6	1A	17.2	1A	138.2
ST. ALSTELL RIVER	MOLINGEY GAUGING STATION	RL8A007	2	1A	6.3	1A	7.4	1A	17.0	1B	65.2	2	6.6	2	1.011	1A	0.010	3	48.0	1A	16.0	1A	63.2
ST. ALSTELL RIVER	PENIDAWN BRIDGE	RL8A008	2	1A	6.4	1A	7.4	1A	17.0	1B	65.2	2	5.5	1B	0.697	1A	0.010	3	48.6	1A	11.0	1A	113.5
FOLGOOTH STREAM	ABOVE FOLGOOTH S T W	RL8A014	2	1A	6.5	1A	7.5	1A	15.9	2	5.8	2	5.8	2	0.974	1A	0.010	1A	21.7	1A	30.1	1A	174.6
FOLGOOTH STREAM	PRIOR TO ST. ALSTELL RIVER	RL8A010	2	1A	6.6	1A	7.4	1A	16.1	2	48.6	1B	4.6	2	1.079	1A	0.010	3	34.9	1A	16.0	1A	157.8
COVER STREAM	PRIOR TO ST. ALSTELL RIVER	RL8A005	2	1A	5.9	1A	7.2	1A	14.7	1B	71.4	1A	2.9	1A	0.175	1A	0.010	3	46.0	2	43.6	1A	55.5
MEVAGISSEY STREAM	OWR PARK MEVAGISSEY	RL8A009	1B	1A	7.0	1A	7.8	1A	16.2	1B	76.3	1B	3.6	1B	0.619	1A	0.010	3	41.3	1A	19.0	1A	60.6
CAERWAS STREAM	POUMASSUCK BRIDGE	RL8A001	1A	1A	6.9	1A	7.8	1A	16.4	3	9.4	2	1.056	1A	0.010	3	37.6	1A	14.3	1A	146.8		
CAERWAS STREAM	TUBBS MILL	RL8A015	1A	1A	7.2	1A	7.9	1A	16.6	1B	84.5	1B	4.0	1B	0.392	1A	0.010	3	25.9	1A	9.8	1A	56.4
CAERWAS STREAM	CAERWAS BEACH BRIDGE	RL8A002	1A	1A	7.2	1A	7.9	1A	17.7	1B	67.9	1B	4.1	1A	0.240	1A	0.010	1A	18.8	1A	13.7	1A	72.9
FORDHOLLAND STREAM	FORDHOLLAND	RL8A017	1B	1A	7.1	1A	8.4	1A	17.0	1A	81.4	2	6.1	1B	0.612	1A	0.010	3	35.6	1A	9.0	1A	80.0
CARNE STREAM	MELINGEY MILL	RL8A011	1B	1A	7.4	1A	8.0	1A	16.6	1B	74.8	2	5.3	2	0.782	1A	0.010	1A	21.9	1A	5.0	1A	15.0
CARNE STREAM	PENCONER BEACH	RL8A012	1B	1A	7.3	1A	8.0	1A	15.3	1B	75.8	1B	4.8	1B	0.554	1A	0.010	1A	22.8	1A	8.9	1A	13.8

St. Austell and South Cornwall Coastal Streams Compliance - 1991

Appendix 8.8



NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION

1991 RIVER WATER QUALITY CLASSIFICATION

NUMBER OF SAMPLES (N) AND NUMBER OF SAMPLES EXCEEDING QUALITY STANDARD (F)

CATCHMENT: ST. ALSTELL AND SOUTH CORNWALL STREAMS

River	Reach upstream of	User Ref. Number	pH Lower		pH Upper		Temperature		DD (%)		BOD (ATU)		Total Ammonia		Union. Ammonia		S.Solids		Total Copper		Total Zinc	
			N	F	N	F	N	F	N	F	N	F	N	F	N	F	N	F	N	F	N	F
ST. ALSTELL RIVER	LANSALSON BRIDGE	RL8A003	33	-	33	-	33	-	33	-	33	-	33	-	27	-	33	9	17	-	17	-
ST. ALSTELL RIVER	ABOVE COVER STREAM	RL8A004	23	-	23	-	23	-	23	-	23	-	23	-	22	-	23	6	12	-	12	-
ST. ALSTELL RIVER	IRON BRIDGE	RL8A006	38	-	38	-	37	-	37	-	38	-	38	-	31	-	38	11	27	-	27	-
ST. ALSTELL RIVER	MOLINGEY GAUGING STATION	RL8A007	36	-	36	-	35	-	35	-	36	-	36	-	32	-	36	10	26	-	26	-
ST. ALSTELL RIVER	PENDEWYN BRIDGE	RL8A008	38	-	38	-	38	-	38	-	38	-	38	1	34	-	38	11	21	-	21	-
FOLGOOTH STREAM	ABOVE FOLGOOTH S T W	RL8A014	33	-	33	-	33	-	33	-	33	-	33	-	33	-	33	8	22	-	22	-
FOLGOOTH STREAM	PRIOR TO ST. ALSTELL RIVER	RL8A010	33	-	33	-	33	-	33	-	33	-	33	-	33	-	33	9	20	-	20	-
COVER STREAM	PRIOR TO ST. ALSTELL RIVER	RL8A005	33	-	33	-	32	-	32	-	33	-	33	-	32	-	33	11	20	-	20	-
MEVAGISSEY STREAM	CAR PARK MEVAGISSEY	RL8A009	32	-	32	-	32	-	32	-	32	-	32	1	32	-	32	5	21	-	21	-
CHEHPAYS STREAM	FOLMASCICK BRIDGE	RL8A001	35	-	35	-	34	-	34	2	35	2	35	3	34	-	35	2	24	-	24	-
CHEHPAYS STREAM	TUBBS MILL	RL8A015	35	-	35	-	35	-	34	-	35	2	35	2	34	-	35	3	23	-	23	-
CHEHPAYS STREAM	CHEHPAYS BEACH BRIDGE	RL8A002	37	-	37	-	37	-	37	5	37	3	37	1	36	-	37	3	32	-	32	-
FORTHOLLAND STREAM	FORTHOLLAND	RL8A017	32	-	32	-	31	-	31	-	32	1	32	1	29	-	32	2	11	-	11	-
CARNE STREAM	MELINSEY MILL	RL8A011	23	-	23	-	23	-	23	-	23	1	23	1	23	-	23	2	11	-	11	-
CARNE STREAM	PENDOWER BEACH	RL8A012	35	-	35	-	35	-	35	-	35	1	35	1	35	-	35	3	20	-	20	-

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 1991 RIVER WATER QUALITY CLASSIFICATION
 PERCENTAGE EXCEEDENCE OF DETERMINAND STATISTICS FROM QUALITY STANDARDS
 CATCHMENT: ST. AUSTELL AND SOUTH CORNWALL STREAMS

River	Reach upstream of	User Ref. Number	PERCENTAGE EXCEEDENCE OF STATISTIC FROM QUALITY STANDARD									
			pH Lower	pH Upper	Temperature	DO (%)	BOD (ATU)	Total Ammonia	Un-ionised Ammonia	Suspended Solids	Total Copper	Total Zinc
ST.AUSTELL RIVER	LANSALSON BRIDGE	R18A003	-	-	-	-	-	-	-	-	-	-
ST.AUSTELL RIVER	ABOVE GOVER STREAM	R18A004	-	-	-	-	-	-	-	-	-	-
ST.AUSTELL RIVER	IRON BRIDGE	R18A006	-	-	-	-	-	-	-	-	-	-
ST.AUSTELL RIVER	MOLINGEY GAUGING STATION	R18A007	-	-	-	-	-	-	-	-	-	-
ST.AUSTELL RIVER	PENTEWAN BRIDGE	R18A008	-	-	-	-	-	-	-	-	-	-
POLGOOTH STREAM	ABOVE POLGOOTH S T W	R18A014	-	-	-	-	-	-	-	-	-	-
POLGOOTH STREAM	PRIOR TO ST. AUSTELL RIVER	R18A010	-	-	-	-	-	-	-	-	-	-
GOVER STREAM	PRIOR TO ST. AUSTELL RIVER	R18A005	-	-	-	-	-	-	-	-	-	-
MEVAGISSEY STREAM	CAR PARK MEVAGISSEY	R18A009	-	-	-	-	-	-	-	65	-	-
CAERHAYS STREAM	POLMASSICK BRIDGE	R18A001	-	-	-	6	212	241	-	50	-	-
CAERHAYS STREAM	TUBBS MILL	R18A015	-	-	-	-	32	26	-	3	-	-
CAERHAYS STREAM	CAERHAYS BEACH BRIDGE	R18A002	-	-	-	15	36	-	-	-	-	-
PORTHOLLAND STREAM	PORTHOLLAND	R18A017	-	-	-	-	21	-	-	42	-	-
CARNE STREAM	MELINSEY MILL	R18A011	-	-	-	-	6	12	-	-	-	-
CARNE STREAM	PENDOWER BEACH	R18A012	-	-	-	-	-	-	-	-	-	-