

ENVIRONMENTAL PROTECTION



*National Rivers Authority
South West Region*

River Tamar Catchment River Water Quality Classification 1990

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Suggestions for improvements that could be incorporated in the production of the next Classification report would be welcomed.

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RIVER WATER QUALITY IN THE RIVER TAMAR CATCHMENT

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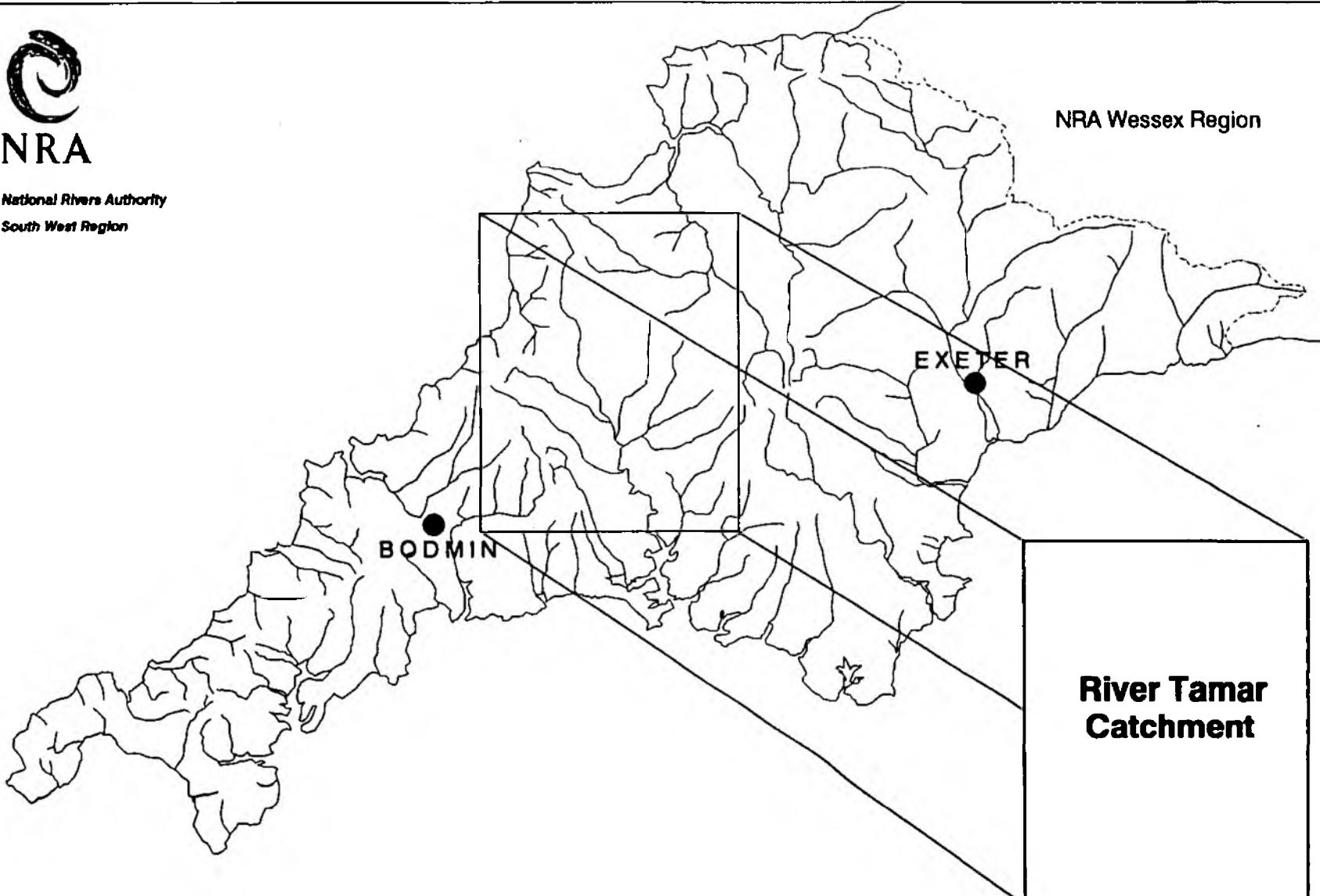
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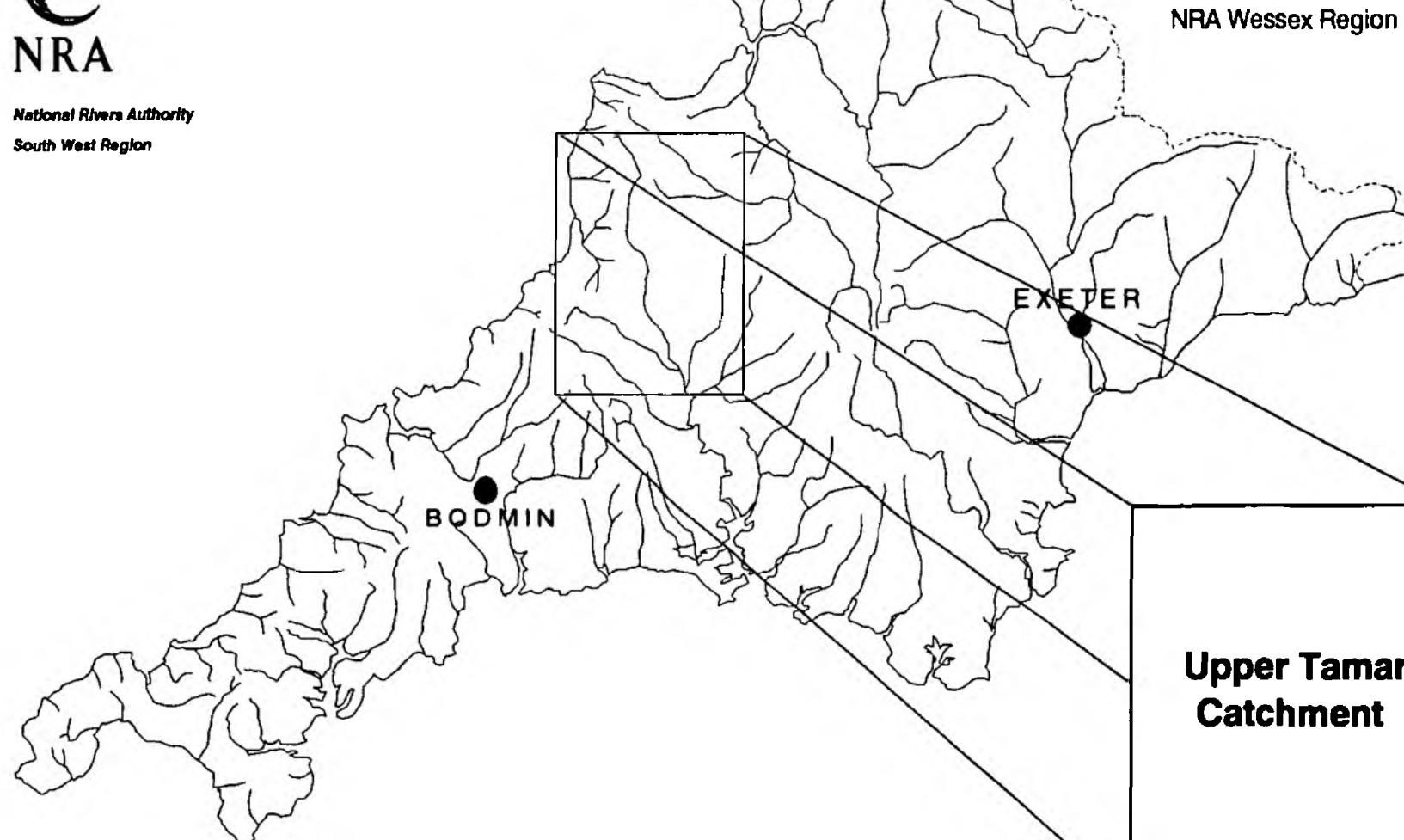
River Tamar Catchment



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**Upper Tamar
Catchment**

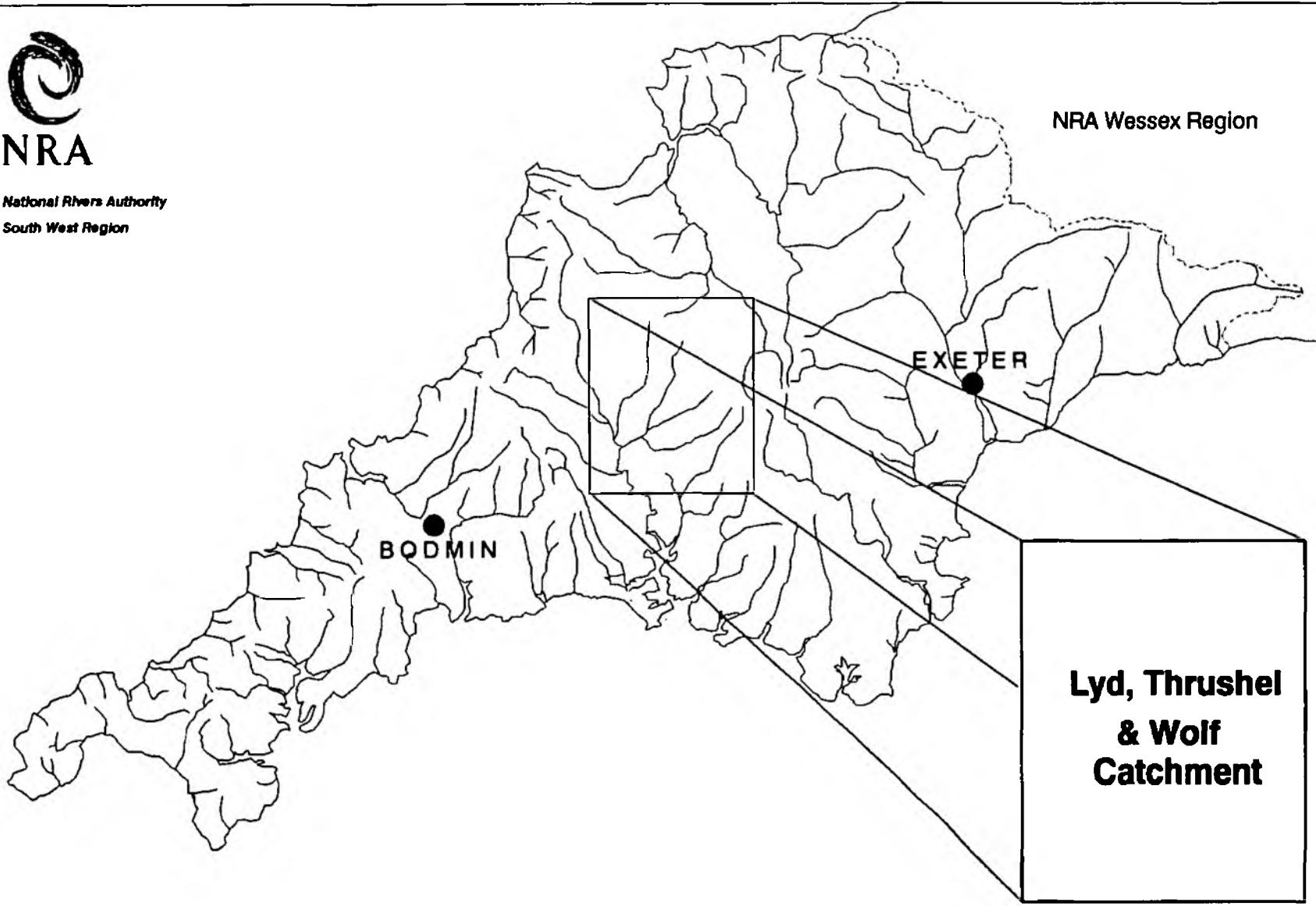
Upper Tamar Catchment

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Lyd, Thrushel & Wolf Catchment

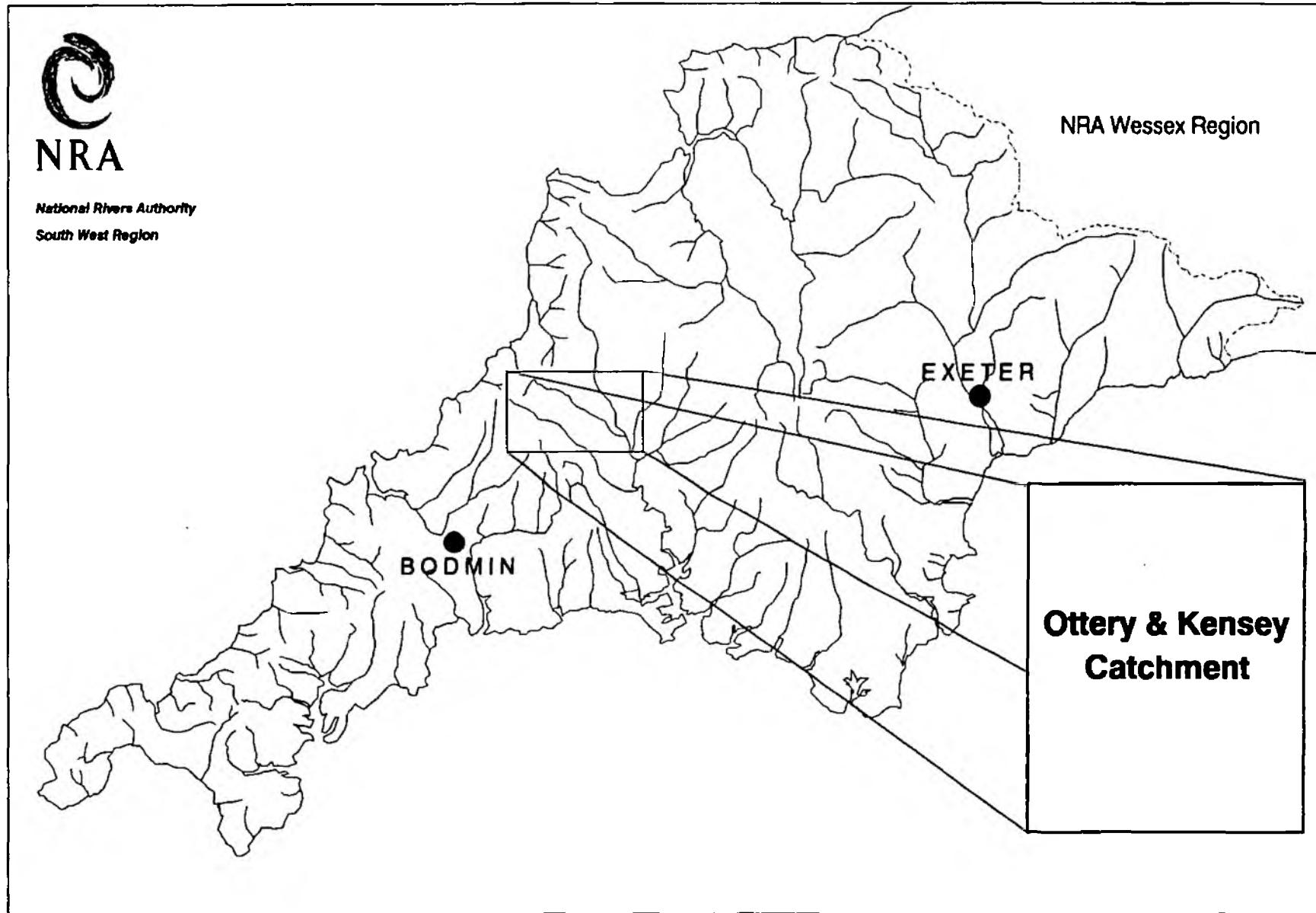


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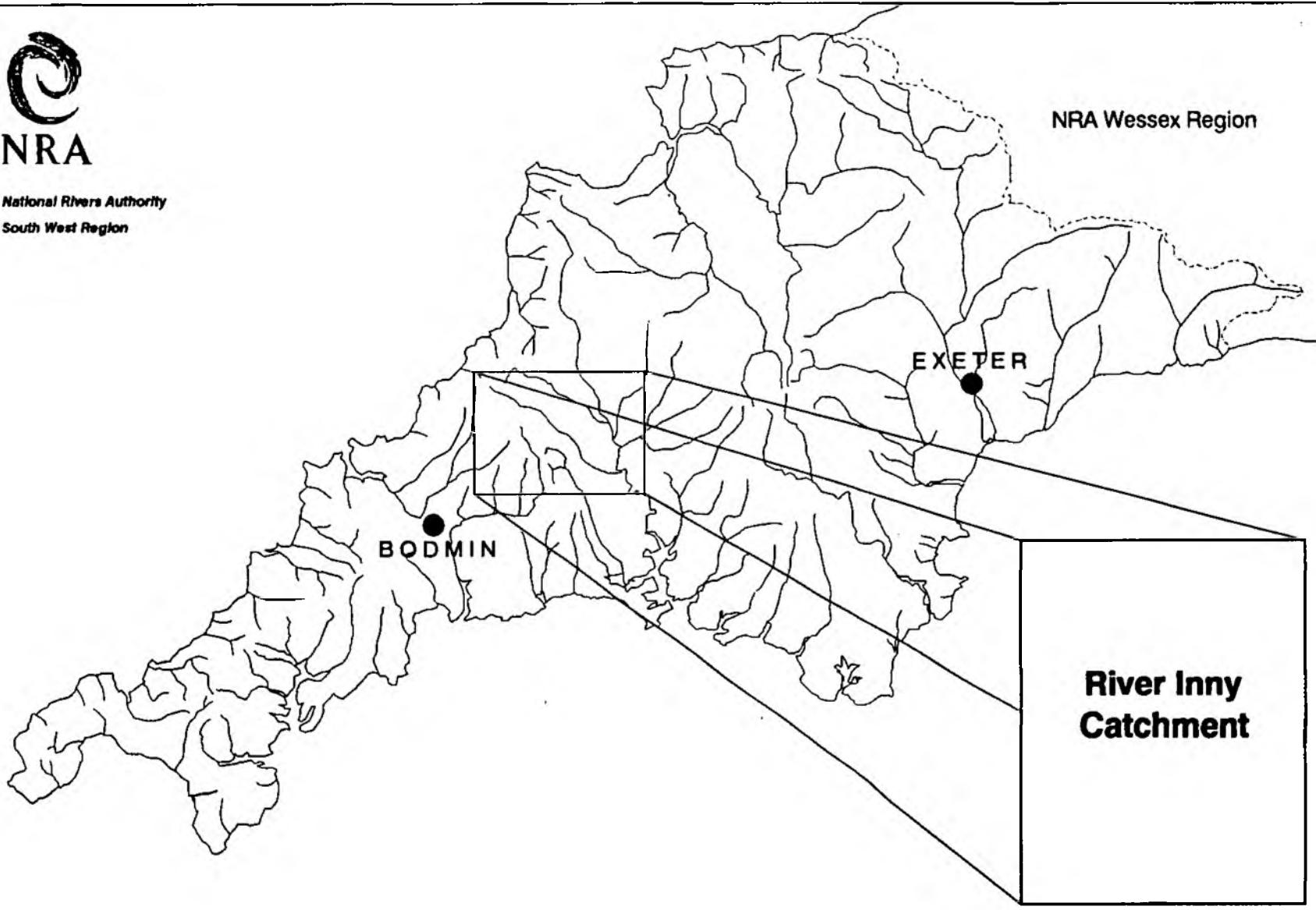
Ottery & Kensey Catchment

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River Inny Catchment



1. INTRODUCTION

Monitoring to assess the quality of river waters is undertaken in thirty-two 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.

River lengths have been re-measured and variations exist over those recorded previously.

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), (9.1).

This report presents the river water quality classification for 1990 for monitored river reaches in the River Tamar catchment.

2. RIVER TAMAR CATCHMENT

For reasons of clarity the following monitoring summary is not broken up into four separate sub-catchments of the River Tamar as represented by the Water Quality Maps attached.

The River Tamar flows over a distance of 78 km from its source to the tidal limit, (Appendix 10.1). Water quality was monitored at sixteen locations on the main river; fifteen of these sites were sampled at approximately monthly intervals. The site at Gunnislake, which is a National Water Quality monitoring point, was sampled fortnightly.

Throughout the Tamar catchment eighteen secondary, ten tertiary, four quaternary and one quinary tributaries of the River Tamar were monitored.

Tamerton Foliot Stream and Milton Brook flow over a distance of 4.3 km and 5.3 km respectively from their source to the tidal limit in the Tamar Estuary.

The following twenty-four tributaries were sampled on fifteen to twenty occasions during 1990 because of no recent water quality data: Tamerton Foliot Stream, Latchley Brook, Luckett Stream, Dameral Stream, Combebow Stream, Lowley Stream (R12E005), River Lyd (R12F012), Quither Brook (R12F003), Breazole Water (R12G010), Bratton Brook (R12G009), River Wolf

(R12G007), Broadwood Brook (R12G012), River Carey, Henford Water, Tala Water, Lana Lake, Derril Water (R12L012/005), Small Brook (R12L011/008), Lamberal Water (R12L010/007), Bolesbridge Water, Caudworthy Water, Canworthy Water, Tregeare Stream and Penpont Water (R12P010).

2.1 SECONDARY TRIBUTARIES

The River Inny flows over a distance of 32.5 km from its source to the confluence with the River Tamar, (Appendix 10.1) and was monitored at eight locations.

The Rivers Ottery and Carey flow over a distance of 33 km and 21.5 km respectively from their source to the confluence with the River Tamar, (Appendix 10.1) and were monitored at six locations.

The River Kensey flows over a distance of 16.8 km from its source to the confluence with the River Tamar, (Appendix 10.1) and was monitored at five locations.

The River Lyd flows over a distance of 25.2 km from its source to the confluence with the River Tamar, (Appendix 10.1).

The Lowley Brook (10.1 km), River Claw (12.1 km) and River Deer (16.8 km) were all monitored at three locations between their source and the confluence with the River Tamar, (Appendix 10.1).

The Derrill Water (7.4 km), Small Brook (9.1 km), Lamberal Water (9.6 km) and the River Luckett (5.7 km) were all monitored at two locations between their source and confluence with the River Tamar, (Appendix 10.1).

The Blanchdown Stream (0.7 km), Portontown Stream (6.4 km), Latchley Brook (1.9 km), Dameral Stream (5.5 km), Tala Water (9.5 km) and Lana Lake (4.9 km), were all monitored at one location. Monitoring points are all located in the lower reaches of these streams.

2.2 TERTIARY STREAMS

The River Thrushel flows over a distance of 21.4 km before joining the River Lyd, (Appendix 10.1) and was monitored at four locations.

Penpont Water flows over a distance of 15 km from its source to the confluence with the River Inny, (Appendix 10.1) and was monitored at three locations.

The River Lew and Caudworthy Water flow over a distance of 15.8 km and 11.7 km respectively from their source to the confluence with the River Ottery, (Appendix 10.1) and were monitored at two locations.

The Tregeare (3.8 km), Canworthy Water (5.2 km), Bolesbridge Water (9.9 km), Henford Water (5.5 km), Colesmill Stream (3.5 km) and Quither Brook (6.7 km) were all monitored at one location. Monitoring points are all located in the lower reaches of these streams.

2.3 QUARTERNARY TRIBUTARIES

Combebow Stream flows over a distance of (5.5 km) and was sampled at one site on fifteen occasions between its source and confluence with the River Lew.

Breazole Water (5.7 km) and Bratton Brook (6.1 km) were both sampled at one location on fifteen occasions between their sources and confluence with and River Thrushel.

The River Wolf flows over a distance of 15.3 km from its source to the confluence with the River Thrushel, (Appendix 10.1) and was monitored at two sites at approximately monthly intervals. One site was sampled on fifteen occasions because of no recent water quality data.

2.4 QUINARY TRIBUTARY

The Broadwood Brook flows over a distance of 6.3 km from its source to the confluence with the River Wolf, (Appendix 10.1) and was monitored at one location.

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, 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 Act Register, (9.2).

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 Tamar catchment are identified in Appendix 10.1.

3.2 River Quality Classification

River water quality is classified using the National Water Council's (NWC) River Classification System (see Appendix 10.3), 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 determinants as arithmetic means or as 95 percentiles (5 percentiles are used for pH and dissolved oxygen) as indicated in Appendices 10.4.1 and 10.4.2.

The quality classification system incorporates some of the European Inland Fisheries Advisory Commission (EIFAC) criteria (Appendix 10.3) recommended for use by the NWC system.

4. 1990 RIVER WATER QUALITY SURVEY

The 1990 regional classification of river water quality also includes the requirements of the Department of the Environment quinquennial national river quality survey. The objectives for the Department of the Environment 1990 River Quality Survey are given below:

- 1) To carry out a National Classification Survey based on procedures used in the 1985 National Classification Survey, including all regional differences.
- 2) To classify all rivers and canals included in the 1985 National Classification Survey.
- 3) To compare the 1990 Classification with those obtained in 1985.

In addition, those watercourses, which were not part of the 1985 Survey and have been monitored since that date, are included in the 1990 regional classification of river water quality.

5. 1990 RIVER WATER QUALITY CLASSIFICATION

Analytical data collected from monitoring during 1988, 1989 and 1990 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 10.5.

The quality class for 1990 can be compared against the appropriate River Quality Objective and previous annual quality classes (1985-1989) also based on three years combined data, for each river reach in Appendix 10.5.

The river water classification system used to classify each river length is identical to the system used in 1985 for the Department of the Environment's 1985 River Quality Survey. The determinand classification criteria used to determine the annual quality classes in 1985, subsequent years and for 1990 are indicated in Appendices 10.4 and 10.4.1.

Improvements to this classification system could have been made, particularly in the use of a different suspended solids standard for Class 2 waters. As the National Rivers Authority will be proposing new classification systems to the Secretary of State in the near future, it was decided to classify river lengths in 1990 with the classification used for the 1985-1989 classification period.

The adoption of the revised criteria for suspended solids in Class 2 waters would not have affected the classification of river reaches.

The river quality classes for 1990 of monitored river reaches in the catchment are shown in map form in Appendix 10.6.

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 10.7.

6. 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 10.8.

Appendix 10.9 indicates the number of samples analysed for each determinand over the period 1988 to 1990 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 relevant quality standard (represented as a percentage), is indicated in Appendix 10.10.

7. CAUSES OF NON-COMPLIANCE

For those river reaches, which did not comply with their assigned RQOs, the cause of non-compliance (where possible to identify) is indicated in Appendix 10.11.

8. 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.
INFERRRED STRETCH	Segment of water, which is not monitored and whose water quality classification is assigned from the monitored reach upstream.

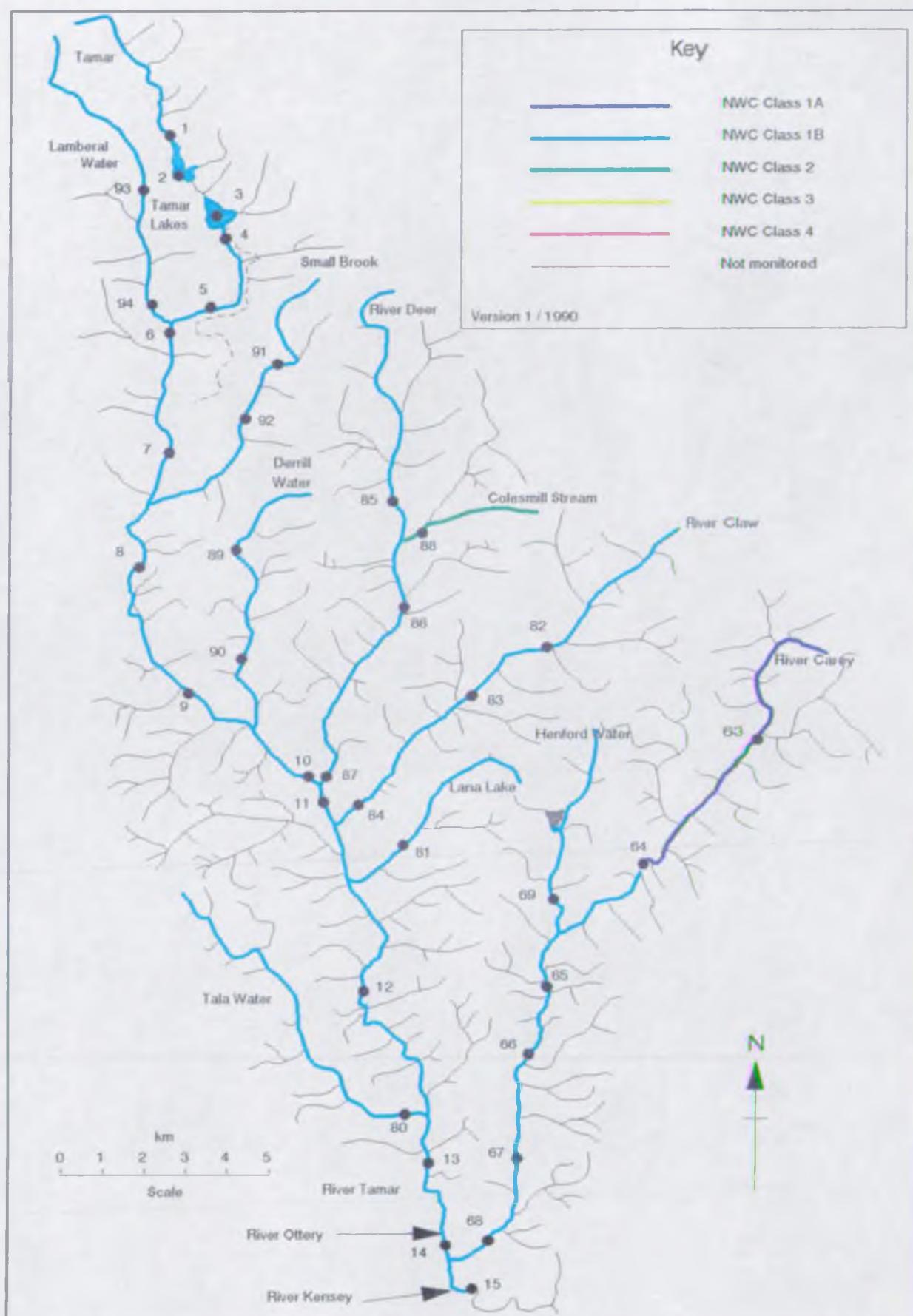
9. REFERENCES

Reference

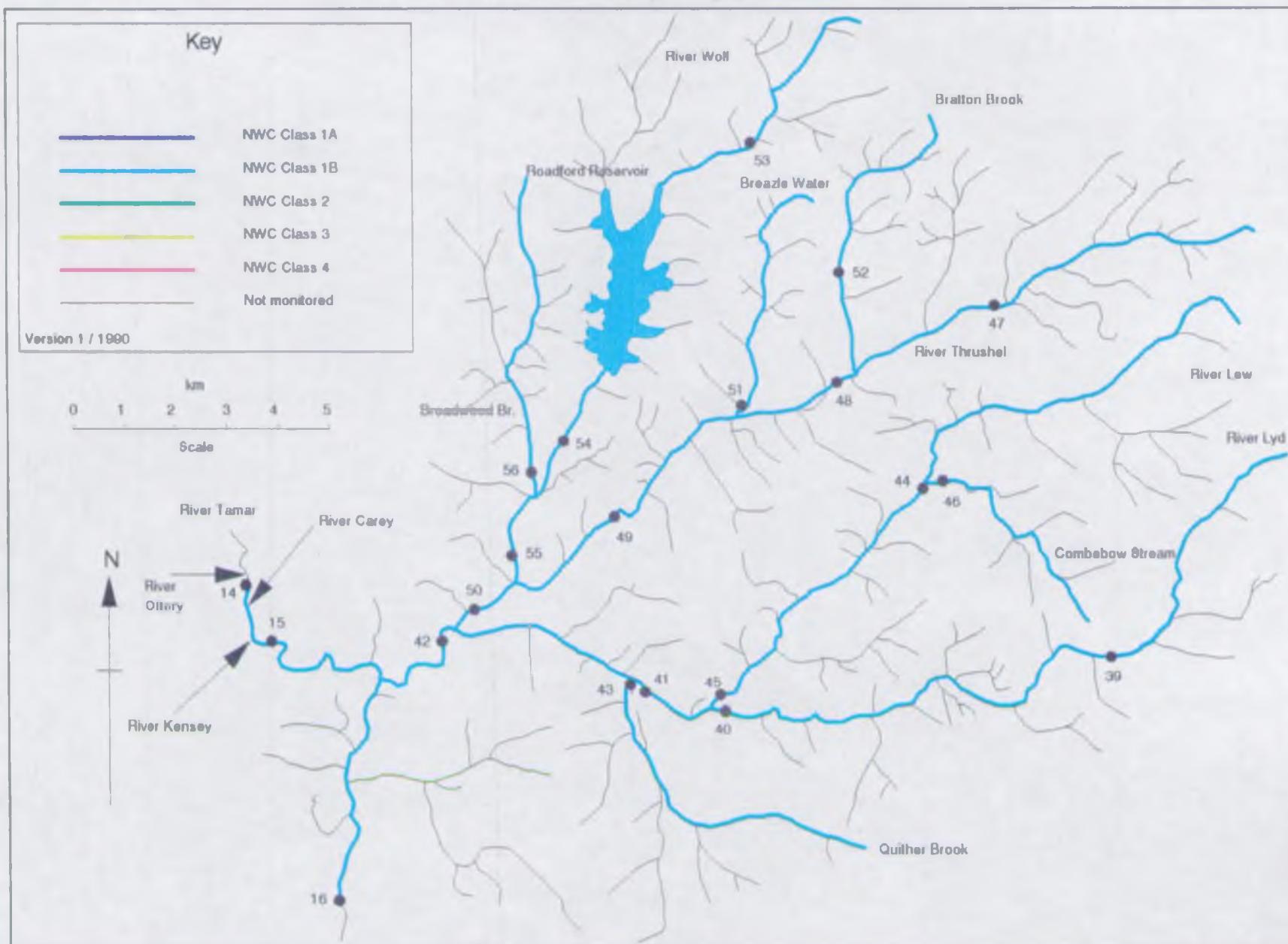
- 9.1 National Water Council (1977). River Water Quality: The Next Stage. Review of Discharge Consent Conditions. London.
- 9.2 Water Act 1989 Section 117
- 9.3 Alabaster J. S. and Lloyd R. Water Quality Criteria for Freshwater Fish, 2nd edition, 1982. Butterworths.

Upper Tamar Catchment River Quality Objectives

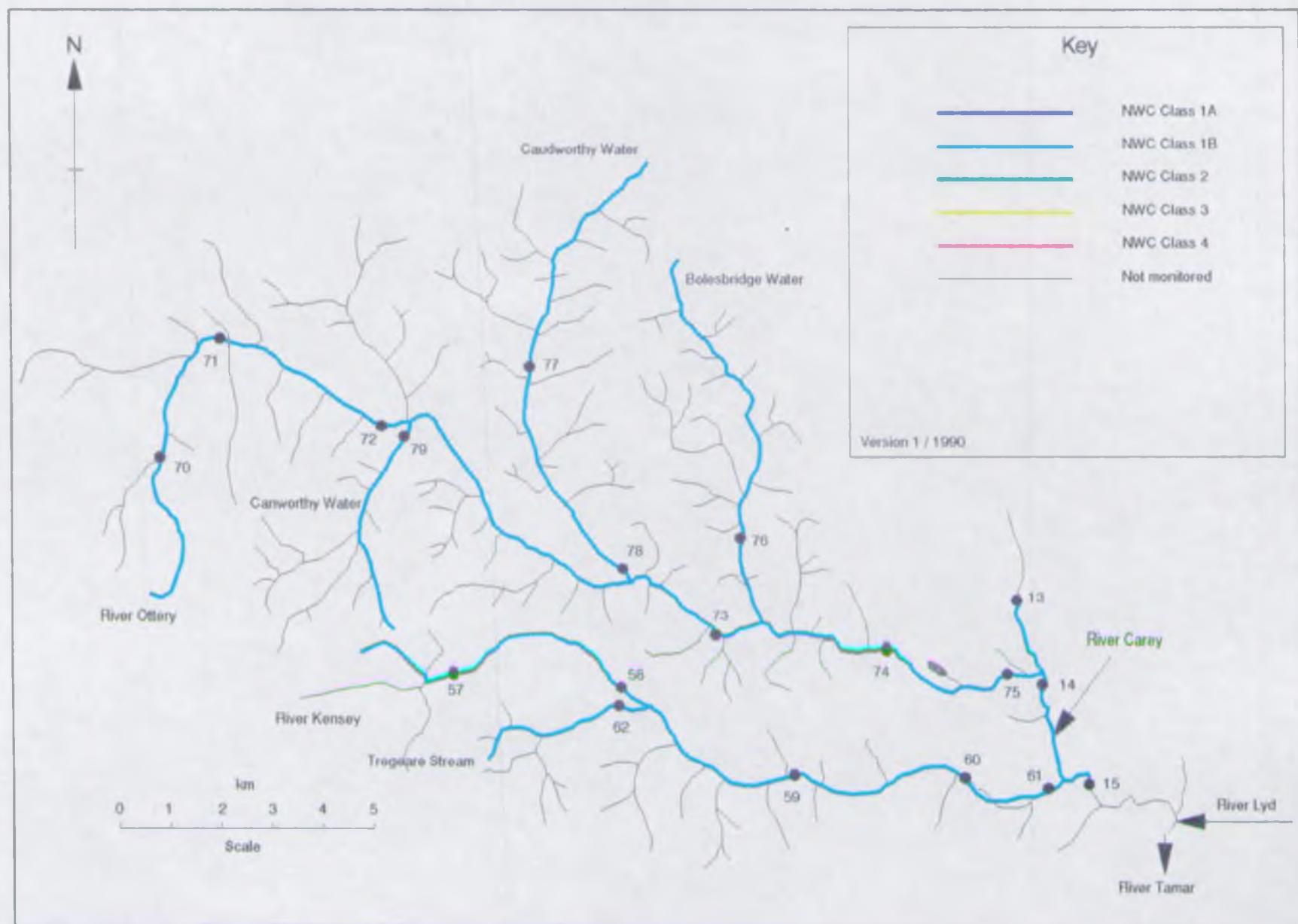
Appendix 10.1



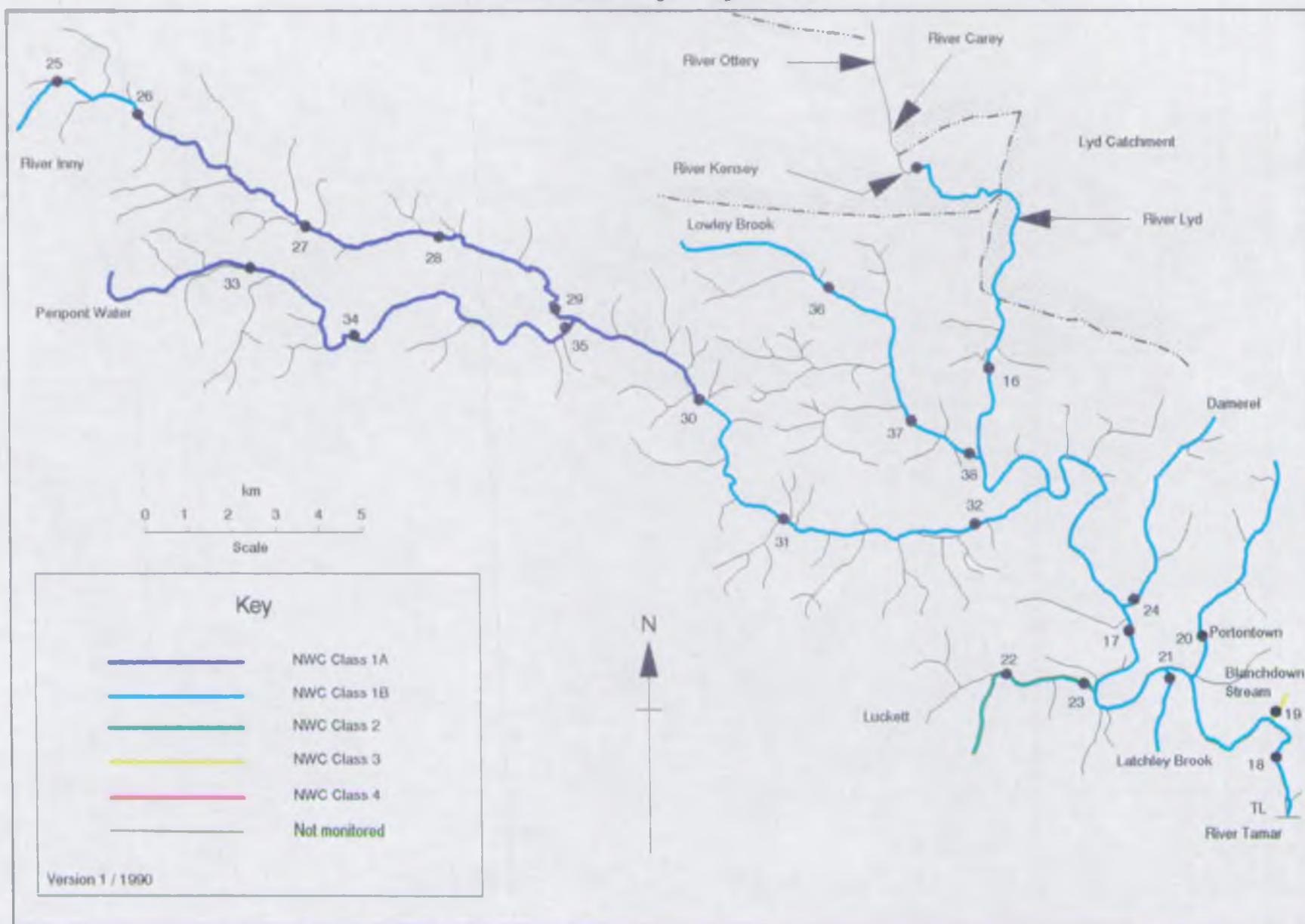
Lyd, Thrushel & Wolf Catchments River Quality Objectives



Ottery & Kensey Catchments River Quality Objectives



Inny Catchment River Quality Objectives



BASIC DETERMINAND ANALYTICAL SUITE FOR ALL CLASSIFIED RIVER SITES

pH as pH Units

Conductivity at 20 C as uS/cm

Water temperature (Cel)

Oxygen dissolved % saturation

Oxygen dissolved as mg/l O₂

Biochemical oxygen demand (5 day total ATU) as mg/l O₂

Total organic carbon as mg/l C

Nitrogen ammoniacal as mg/l N

Ammonia un-ionised as mg/l N

Nitrate as mg/l N

Nitrite as mg/l N

Suspended solids at 105 C as mg/l

Total hardness as mg/l CaCO₃

Chloride as mg/l Cl

Orthophosphate (total) as mg/l P

Silicate reactive dissolved as mg/l SiO₂

Sulphate (dissolved) as mg/l SO₄

Sodium (total) as mg/l Na

Potassium (total) as mg/l K

Magnesium (total) as mg/l Mg

Calcium (total) as mg/l Ca

Alkalinity as pH 4.5 as mg/l CaCO₃

NWC RIVER QUALITY CLASSIFICATION SYSTEM

River Class	Quality criteria	Remarks	Current potential uses
Class limiting criteria (95 percentile)			
1A Good Quality	<ul style="list-style-type: none"> (i) Dissolved oxygen saturation greater than 80% (ii) Biochemical oxygen demand not greater than 3 mg/l (iii) Ammonia not greater than 0.4 mg/l (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) 	<ul style="list-style-type: none"> (i) Average BOD probably not greater than 1.5 mg/l (ii) Visible evidence of pollution should be absent 	<ul style="list-style-type: none"> (i) Water of high quality suitable for potable supply abstractions and for all abstractions (ii) Game or other high class fisheries (iii) High amenity value
1B Good Quality	<ul style="list-style-type: none"> (i) DO greater than 60% saturation (ii) BOD not greater than 5 mg/l (iii) Ammonia not greater than 0.9 mg/l (iv) Where water is abstracted for drinking water, it complies with the requirements for A2* water (v) Non-toxic to fish in EIFAC terms (or best estimates if EIFAC figures not available) 	<ul style="list-style-type: none"> (i) Average BOD probably not greater than 2 mg/l (ii) Average ammonia probably not greater than 0.5 mg/l (iii) Visible evidence of pollution should be absent (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) Class 1A and Class 1B together are essentially the Class 1 of the River Pollution Survey (RPS) 	Water of less high quality than Class 1A but usable for substantially the same purposes
2 Fair Quality	<ul style="list-style-type: none"> (i) DO greater than 40% saturation (ii) BOD not greater than 9 mg/l (iii) Where water is abstracted for drinking water it complies with the requirements for A3* water (iv) Non-toxic to fish in EIFAC terms (or best estimates if EIFAC figures not available) 	<ul style="list-style-type: none"> (i) Average BOD probably not greater than 5 mg/l (ii) Similar to Class 2 of RPS (iii) Water not showing physical signs of pollution other than humic colouration and a little foaming below weirs 	<ul style="list-style-type: none"> (i) Waters suitable for potable supply after advanced treatment (ii) Supporting reasonably good coarse fisheries (iii) Moderate amenity value

1 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
2 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
3 Good Quality	DO greater than 10% saturation		Insignificant watercourses and ditches not usable, where the objective is simply to prevent nuisance developing
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 NH ₄ . ** (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
Suspended solids	95 percentile
	arithmetic mean

APPENDIX 10.4.1**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*	
		ug/l Cu Class 1	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 ug/l Zn		
		Class 1	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
 1990 RIVER WATER QUALITY CLASSIFICATION
 CATCHMENT: TAMAR (13)

1990 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
1	TAMAR	BUSES BRIDGE	R12L001	SS 2808 1338	4.2	4.2	1B	2	2	2	2	1B	1B
	TAMAR	INFLOW, UPPER TAMAR LAKE (INF. STRETCH)			0.2	4.4	1B	2	2	2	2	1B	1B
2	TAMAR	UPPER TAMAR LAKE	R12L017	SS 2891 1188	1.7	6.1	1B	2	2	2	2	1B	1B
	TAMAR	INFLOW, LOWER TAMAR LAKE (UNMON. STRETCH)			0.4	6.5	1B	2	2	2	2	1B	2
3	TAMAR	LOWER TAMAR LAKE	R12L018	SS 2962 1085	0.9	7.4	1B	2	2	2	2	1B	1B
4	TAMAR	FOOTERIDGE BELOW LOWER TAMAR LAKE	R12L009	SS 2956 1070	0.1	7.5	1B	2	2	2	2	1B	1B
5	TAMAR	DEXBEER BRIDGE	R12L006	SS 2953 0895	3.0	10.5	1B	2	2	2	2	1B	1B
6	TAMAR	MORETON MILL	R12L016	SS 2833 0845	1.8	12.3	1B	2	2	2	2	1B	3
7	TAMAR	TAMARSTONE BRIDGE	R12L002	SS 2835 0548	4.5	16.8	1B	2	2	1B	2	1B	2
8	TAMAR	BRIDGERULE	R12L015	SS 2748 0288	4.4	21.2	1B	2	2	2	2	2	1B
9	TAMAR	CROWFORD BRIDGE	R12L003	SX 2873 9944	5.4	26.6	1B	2	2	2	2	2	2
10	TAMAR	TAMERTON BRIDGE	R12L004	SX 3176 9738	5.1	31.7	1B	2	2	2	2	2	2
11	TAMAR	BELLOW CONFLUENCE WITH RIVER DEER	R12L013	SX 3190 9726	0.3	32.0	1B	2	2	2	2	2	3
12	TAMAR	BOYTON BRIDGE	R12J001	SX 3284 9228	7.0	39.0	1B	2	2	2	2	2	3
13	TAMAR	DRUXTON BRIDGE	R12J002	SX 3444 8833	5.9	44.9	1B	2	2	2	2	2	3
14	TAMAR	NETHERBRIDGE	R12J003	SX 3483 8675	1.9	46.8	1B	2	2	2	2	2	3
15	TAMAR	POLSON BRIDGE	R12J004	SX 3559 8490	2.5	49.3	1B	2	1B	1B	2	2	3
16	TAMAR	GREYSTONE BRIDGE	R12E001	SX 3683 8038	6.6	55.9	1B	2	1B	1B	2	2	3
17	TAMAR	HORSEBRIDGE	R12E002	SX 4001 7486	11.9	67.8	1B	2	1B	1B	2	1B	3
18	TAMAR	GUNNISLAKE BRIDGE	R12E003	SX 4332 7224	9.0	76.8	1B	2	2	2	1B	1B	3
	TAMAR	NORMAL TIDAL LIMIT (INFERRED STRETCH)			1.2	78.0	1B	2	2	2	1B	1B	3
19	BLANCHDOWN STREAM	PRIOR TO RIVER TAMAR	R12E004	SX 4325 7291	0.7	0.7	3				3	3	3
20	PORTONTOWN STREAM	GRENOVEN WOOD	R12E015	SX 4138 7439	5.6	5.6	1B	1B	1B	1B	2	2	2
	PORTONTOWN STREAM	TAMAR CONFLUENCE (INFERRED STRETCH)			0.8	6.4	1B	1B	1B	1B	2	2	2
21	LATCHLEY BROOK	LATCHLEY	R12E028	SX 4088 7374	1.7	1.7	1B						2
	LATCHLEY BROOK	TAMAR CONFLUENCE (INFERRED STRETCH)			0.2	1.9	1B						2
22	LUCKETT	OLDMILL	R12E016	SX 3700 7385	3.2	3.2	2	2	2	2	2	2	1B
23	LUCKETT	LUCKETT BRIDGE	R12E007	SX 3888 7368	2.1	5.3	2	2	2	2	2	2	2
	LUCKETT	TAMAR CONFLUENCE (INFERRED STRETCH)			0.4	5.7	2	2	2	2	2	2	2
24	DAMEREL STREAM	PRIOR TO RIVER TAMAR	R12E014	SX 3989 7549	5.4	5.4	1B	1B	1B	2	2	2	1B
	DAMEREL STREAM	TAMAR CONFLUENCE (INFERRED STRETCH)			0.1	5.5	1B	1B	1B	2	2	2	1B
25	INNY	UPSTREAM OF DAVIDSTOW CREAMERY	R12P001	SX 1533 8702	1.4	1.4	1B	1B	2	2	2	2	2
26	INNY	TREWINNOW BRIDGE	R12P002	SX 1701 8650	2.0	3.4	1B	1B	1B	2	2	2	2
27	INNY	ST. CLEATHER BRIDGE	R12P003	SX 2061 8418	4.7	8.1	1A	1B	1B	1B	1B	1B	1B
28	INNY	GIMBLETT'S MILL	R12P012	SX 2419 8339	4.5	12.6	1A	1B	1B	1B	1B	2	1B
29	INNY	TWO BRIDGES	R12P004	SX 2706 8175	4.3	16.9	1A	1B	1B	1B	1B	2	1B
30	INNY	TREKELLAND BRIDGE	R12P005	SX 3002 7987	4.3	21.2	1A	1B	1B	1B	1B	1B	1B
31	INNY	TRECARRELL BRIDGE	R12P013	SX 3202 7713	4.6	25.8	1B	1B	2	2	2	1B	1B
32	INNY	SEALS MILL BRIDGE	R12P006	SX 3588 7706	4.3	30.1	1B	1B	2	2	2	1B	1B

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 1990 RIVER WATER QUALITY CLASSIFICATION
 CATCHMENT: TAMAR (13)

1990 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
	INNY	TAMAR CONFLUENCE (INFERRED STRETCH)			2.4	32.5	1B	1B	2	2	2	1B	1B
33	PENPONT WATER	TRELYN BRIDGE	R12P010	SX 2002 8286	4.0	4.0	1A	1B	2	2	2	2	1B
34	PENPONT WATER	ALTARNUN BRIDGE	R12P007	SX 2233 8130	3.7	7.7	1A	1B	1B	1B	1B	1B	1B
35	PENPONT WATER	TWO BRIDGES	R12P008	SX 2695 8165	7.1	14.8	1A	1B	1B	1B	1B	1B	1B
	INNY	TAMAR CONFLUENCE (INFERRED STRETCH)			0.2	15.0	1A	1B	1B	1B	1B	1B	1B
36	LOWLEY BROOK	LANDLAKE BRIDGE	R12E005	SX 3287 8235	3.7	3.7	1B	1B	1B	1B	2	2	3
37	LOWLEY BROOK	LANDUE BRIDGE	R12E017	SX 3473 7970	4.0	7.7	1B	1B	1B	1B	2	2	2
38	LOWLEY BROOK	LOWLEY BRIDGE	R12E006	SX 3593 7873	1.8	9.5	1B	1B	1B	1B	2	2	1B
	LOWLEY BROOK	LEW CONFLUENCE (INFERRED STRETCH)			0.6	10.1	1B	1B	1B	1B	2	2	1B
39	LYD	A386 ROADBRIDGE LYDFORD	R12F012	SX 5205 8446	6.5	6.5	1B	1A	2	2	2	2	1A
40	LYD	GREENLANES BRIDGE	R12F001	SX 4436 8325	9.5	16.0	1B	1A	1A	1A	1A	1B	1B
41	LYD	SYDENHAM BRIDGE	R12F011	SX 4288 8388	1.9	17.9	1B	1A	1A	1B	1B	1B	1A
42	LYD	LIFTON BRIDGE	R12F002	SX 3892 8480	5.1	23.0	1B	1B	1B	1B	1B	1B	1B
	LYD	TAMAR CONFLUENCE (INFERRED STRETCH)			2.2	25.2	1B	1B	1B	1B	1B	1B	1B
43	QUITHER BROOK	PRIOR TO RIVER LYD	R12F013	SX 4265 8398	6.7	6.7	1B	1B	1B	1B	1B	1B	1A
44	LEW	COMBEHOW BRIDGE	R12F003	SX 4853 8793	8.4	8.4	1B	1B	1B	1B	1B	1B	1A
45	LEW	PRIOR TO RIVER LYD	R12F004	SX 4410 8340	7.3	15.7	1B	1B	1B	1B	1B	1B	1A
	LEW	LYD CONFLUENCE (INFERRED STRETCH)			0.1	15.8	1B	1B	1B	1B	1B	1B	1A
46	COMBEHOW STREAM	ROAD CULVERT NEAR COMBEHOW QUARRY	R12F010	SX 4881 8798	5.2	5.2	1B	1B					1B
	COMBEHOW STREAM	LEW CONFLUENCE (INFERRED STRETCH)			0.3	5.5	1B	1B					1B
47	THRUSHIEL	RIVERHEAD BRIDGE	R12G001	SX 4988 9128	5.9	5.9	1B	1B	2	2	2	1B	1B
48	THRUSHIEL	WRIGHILL BRIDGE	R12G002	SX 4655 8985	4.3	10.2	1B	1B	1B	1B	1B	1B	1B
49	THRUSHIEL	STOWFORD BRIDGE	R12G003	SX 4280 8735	5.9	16.1	1B	1B	2	2	2	3	3
50	THRUSHIEL	TINHAY BRIDGE	R12G004	SX 3938 8538	4.8	20.9	1B	1B	1B	1B	1B	1B	1B
	THRUSHIEL	LYD CONFLUENCE (INFERRED STRETCH)			0.5	21.4	1B	1B	1B	1B	1B	1B	1B
51	BREAZELE WATER	PRIOR TO RIVER THRUSHIEL	R12G010	SX 4476 8917	5.6	5.6	1B	1B	2	1B	1B	1B	1B
	BREAZELE WATER	THRUSHIEL CONFLUENCE (INFERRED STRETCH)			0.1	5.7	1B	1B	2	1B	1B	1B	1B
52	BRATTON BROOK	BRATTON CLOVELLY	R12G009	SX 4676 9202	4.1	4.1	1B	2	3	3	2	1B	1A
	BRATTON BROOK	THRUSHIEL CONFLUENCE (INFERRED STRETCH)			2.0	6.1	1B	2	3	3	2	1B	1A
53	WOLF	WEEK'S MILL BRIDGE	R12G005	SX 4461 9423	3.8	3.8	1B	1B	1B	1B	1B	1B	2
54	WOLF	REXON BRIDGE	R12G006	SX 4133 8885	7.5	11.3	1B	1B	1B	1B	1B	1B	1B
55	WOLF	PRIOR TO RIVER THRUSHIEL	R12G007	SX 4031 8629	3.6	14.9	1B	1B	2	1B	1B	1B	1B
	WOLF	THRUSHIEL CONFLUENCE (INFERRED STRETCH)			0.4	15.3	1B	1B	2	1B	1B	1B	1B
56	BROADWOOD BROOK	KELLACOTT BRIDGE	R12G012	SX 4066 8799	5.9	5.9	1B	2	2	2	1B	1B	1B

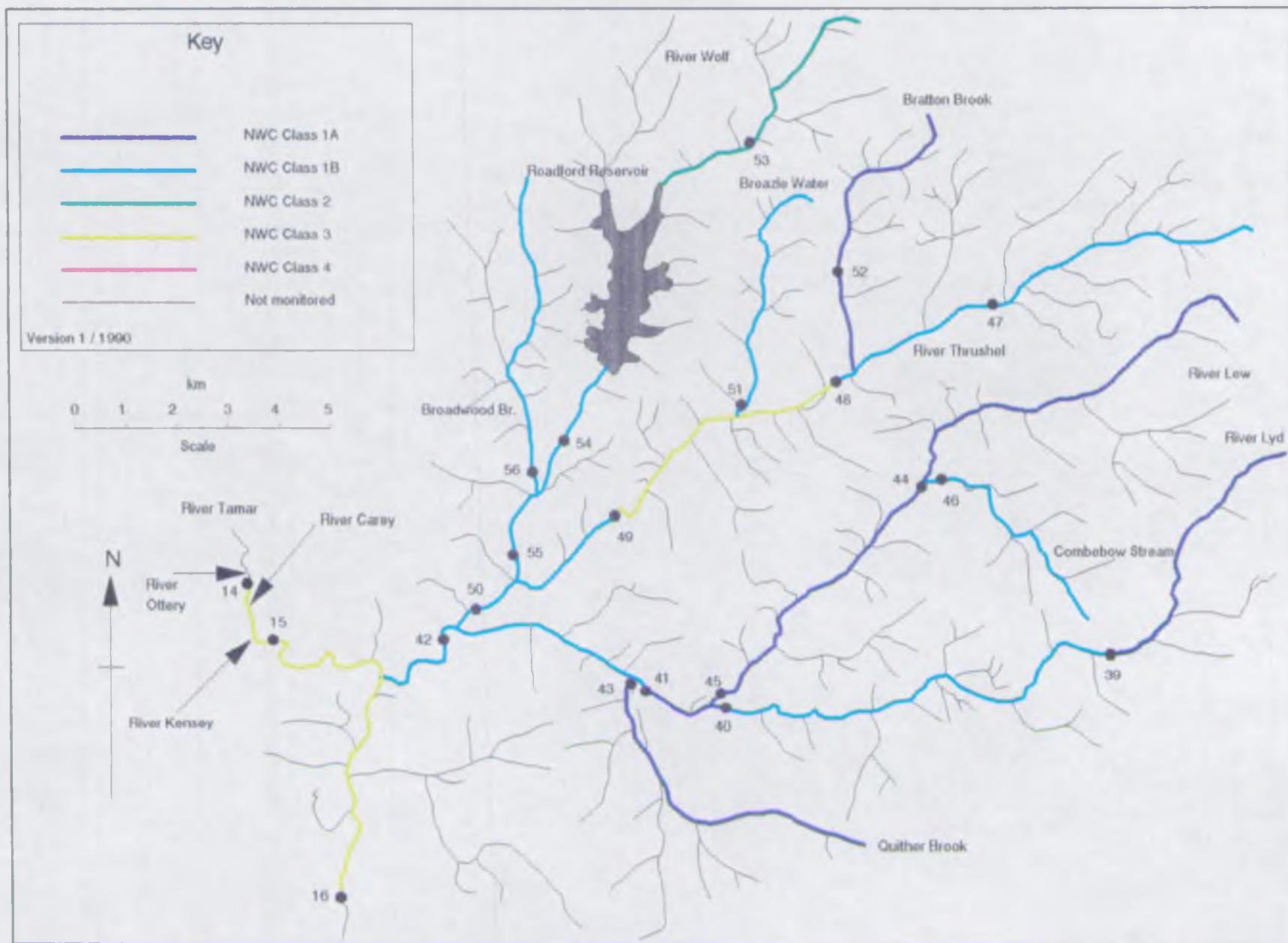
NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 1990 RIVER WATER QUALITY CLASSIFICATION
 CATCHMENT: TAMAR (13)

1990 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
	BROADWOOD BROOK	WOLF CONFLUENCE (INFERRED STRETCH)			0.4	6.3	1B	2	2	2	1B	1B	1B
57	KENSEY	BADGALL BRIDGE	R12N003	SX 2317 8692	2.4	2.4	1B	1A	3	1B	1B	1B	2
58	KENSEY	BADHARLICK BRIDGE	R12N001	SX 2675 8643	4.2	6.6	1B	1B	2	1B	1B	2	2
59	KENSEY	TRUSCOTT BRIDGE	R12N004	SX 2987 8499	4.0	10.6	1B	1B	2	2	2	2	2
60	KENSEY	NEWPORT	R12N005	SX 3270 8511	3.3	13.9	1B	1B	2	1B	1B	1B	3
61	KENSEY	ST. LEONARDS BRIDGE	R12N002	SX 3517 8478	2.8	16.7	1B	1B	1B	1B	1B	1B	2
		TAMAR CONFLUENCE (INFERRED STRETCH)			0.1	16.8	1B	1B	1B	1B	1B	1B	2
62	TREGEARE STREAM	RED DOWN BRIDGE	R12N006	SX 2671 8628	3.4	3.4	1B		2	1B	1B	2	2
	TREGEARE STREAM	KENSEY CONFLUENCE (INFERRED STRETCH)			0.4	3.8	1B		2	1B	1B	2	2
63	CAREY	HALMILL BRIDGE - QUODITCH	R12H006	SX 4202 9846	3.6	3.6	1A	2	2	2	1B	1B	2
64	CAREY	ASHMILL BRIDGE	R12H001	SX 3935 9534	4.7	8.3	1A	2	2	2	1B	1B	1B
65	CAREY	MIDDLE BRIDGE VIRGINSTOW	R12H007	SX 3710 9263	4.0	12.3	1B	2	2	1B	2	2	2
66	CAREY	TOWERHILL BRIDGE	R12H003	SX 3683 9056	2.4	14.7	1B	2	2	1B	2	2	2
67	CAREY	BOLDFORD BRIDGE	R12H008	SX 3642 8828	2.7	17.4	1B	2	2	2	2	1B	2
68	CAREY	HEALE BRIDGE	R12H002	SX 3600 8631	2.7	20.1	1B	2	2	2	2	1B	1B
		TAMAR CONFLUENCE (INFERRED STRETCH)			1.4	21.5	1B	2	2	2	2	1B	1B
69	HENFORD WATER	HENFORD	R12H005	SX 3735 9472	4.3	4.3	1B		2	2	2	2	2
	HENFORD WATER	CAREY CONFLUENCE (INFERRED STRETCH)			1.2	5.5	1B		2	2	2	2	2
70	OTTERY	OTTERHAM MILL	R12M004	SX 1745 9095	6.0	6.0	1B	2	3	2	2	2	3
71	OTTERY	TRENGUNE BRIDGE	R12M005	SX 1889 9328	3.5	9.5	1B	2	3	2	1B	1B	1B
72	OTTERY	CANNWORTHY WATER BRIDGE	R12M001	SX 2240 9173	5.0	14.5	1B	2	2	2	1B	1B	1B
73	OTTERY	HELLESCOTT BRIDGE	R12M002	SX 2855 8777	10.6	25.1	1B	1B	2	2	1B	1B	1B
74	OTTERY	YEOLMBRIDGE	R12M006	SX 3182 8738	4.1	29.2	1B	1B	2	2	2	1B	1B
75	OTTERY	HAM MILL BRIDGE	R12M007	SX 3445 8682	3.4	32.6	1B	1B	2	2	2	1B	1B
	OTTERY	TAMAR CONFLUENCE (INFERRED STRETCH)			0.4	33.0	1B	1B	2	2	2	1B	1B
76	BOLESBRIDGE WATER	200 METRES D/S OF NAVARINO BRIDGE	R12M012	SX 2895 8920	8.0	8.0	1B	2	3	3	2	3	3
	BOLESBRIDGE WATER	OTTERY CONFLUENCE (INFERRED STRETCH)			1.9	9.9	1B	2	3	3	2	3	3
77	CAUDWORTHY WATER	CAUDWORTHY BRIDGE	R12M010	SX 2470 9263	5.7	5.7	1B	2	3	2	1B	1B	1B
78	CAUDWORTHY WATER	PRIOR TO RIVER OTTERY	R12M011	SX 2676 8887	5.9	11.6	1B	2	2	2	1B	1B	1B
	CAUDWORTHY WATER	OTTERY CONFLUENCE (INFERRED STRETCH)			0.1	11.7	1B	2	2	2	1B	1B	1B
79	CANWORTHY WATER	PRIOR TO RIVER OTTERY	R12M008	SX 2240 9147	4.8	4.8	1B		3	1B	1B	2	3
	CANWORTHY WATER	OTTERY CONFLUENCE (INFERRED STRETCH)			0.4	5.2	1B		3	1B	1B	2	3
80	TALA WATER	BRIDGETOWN	R12J006	SX 3418 8913	9.3	9.3	1B	2	2	2	2	2	2
	TALA WATER	TAMAR CONFLUENCE (INFERRED STRETCH)			0.2	9.5	1B	2	2	2	2	2	2
81	LANA LAKE	LANA BRIDGE	R12J005	SX 3407 9591	3.1	3.1	1B	2	2	3	3	3	2

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 1990 RIVER WATER QUALITY CLASSIFICATION
 CATCHMENT: TAMAR (13)

1990 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
	LANA LAKE	TAMAR CONFLUENCE (INFERRED STRETCH)			1.8	4.9	1B	2	2	3	3	3	2
82	CLAW	CLAW BRIDGE	R12K016	SS 3746 0071	4.2	4.2	1B	2	2	2	2	2	2
83	CLAW	CLAWTON BRIDGE	R12K001	SX 3533 9932	2.9	7.1	1B	2	2	2	2	2	2
84	CLAW	TETCOTT BRIDGE	R12K002	SX 3267 9692	4.3	11.4	1B	2	2	2	2	2	3
	CLAW	TAMAR CONFLUENCE (INFERRED STRETCH)			0.7	12.1	1B	2	2	2	2	2	3
85	DEER	RYDON BRIDGE	R12K003	SS 3356 0415	6.8	6.8	1B	2	2	2	2	2	2
86	DEER	WINSMOTT BRIDGE	R12K004	SS 3386 0142	3.8	10.6	1B	2	2	2	2	2	1B
87	DEER	DEER BRIDGE	R12K005	SX 3195 9741	6.0	16.6	1B	2	2	2	2	2	2
	DEER	TAMAR CONFLUENCE (INFERRED STRETCH)			0.2	16.8	1B	2	2	2	2	2	2
88	COLESMILL STREAM	100 METRES BELOW OF HOLSWORTHY STW	R12K007	SS 3387 0317	3.3	3.3	2	2					2
	COLESMILL STREAM	DEER CONFLUENCE (INFERRED STRETCH)			0.2	3.5	2	2					2
89	DERRIL WATER	DUX BRIDGE	R12L012	SS 2962 0272	2.7	2.7	1B	2			2	2	2
90	DERRIL WATER	DUALSTONE BRIDGE	R12L005	SS 3013 0058	2.5	5.2	1B	2			2	2	2
	DERRIL WATER	TAMAR CONFLUENCE (INFERRED STRETCH)			2.2	7.4	1B	2			2	2	2
91	SMALL BROOK	HEADON BRIDGE	R12L011	SS 3100 0731	3.7	3.7	1B				3	3	3
92	SMALL BROOK	YOULDON BRIDGE	R12L008	SS 2995 0528	2.5	6.2	1B				3	3	3
	SMALL BROOK	TAMAR CONFLUENCE (INFERRED STRETCH)			2.9	9.1	1B				3	3	3
93	LAMBERAL WATER	FORDA	R12L010	SS 2771 1119	5.3	5.3	1B	2	2	2	2	2	1B
94	LAMBERAL WATER	MORETON POUND BRIDGE	R12L007	SS 2758 0893	3.2	8.5	1B	2	2	2	2	2	2
	LAMBERAL WATER	TAMAR CONFLUENCE (INFERRED STRETCH)			1.1	9.6	1B	2	2	2	2	2	2

Lyd, Thrushel & Wolf Catchments Water Quality - 1990

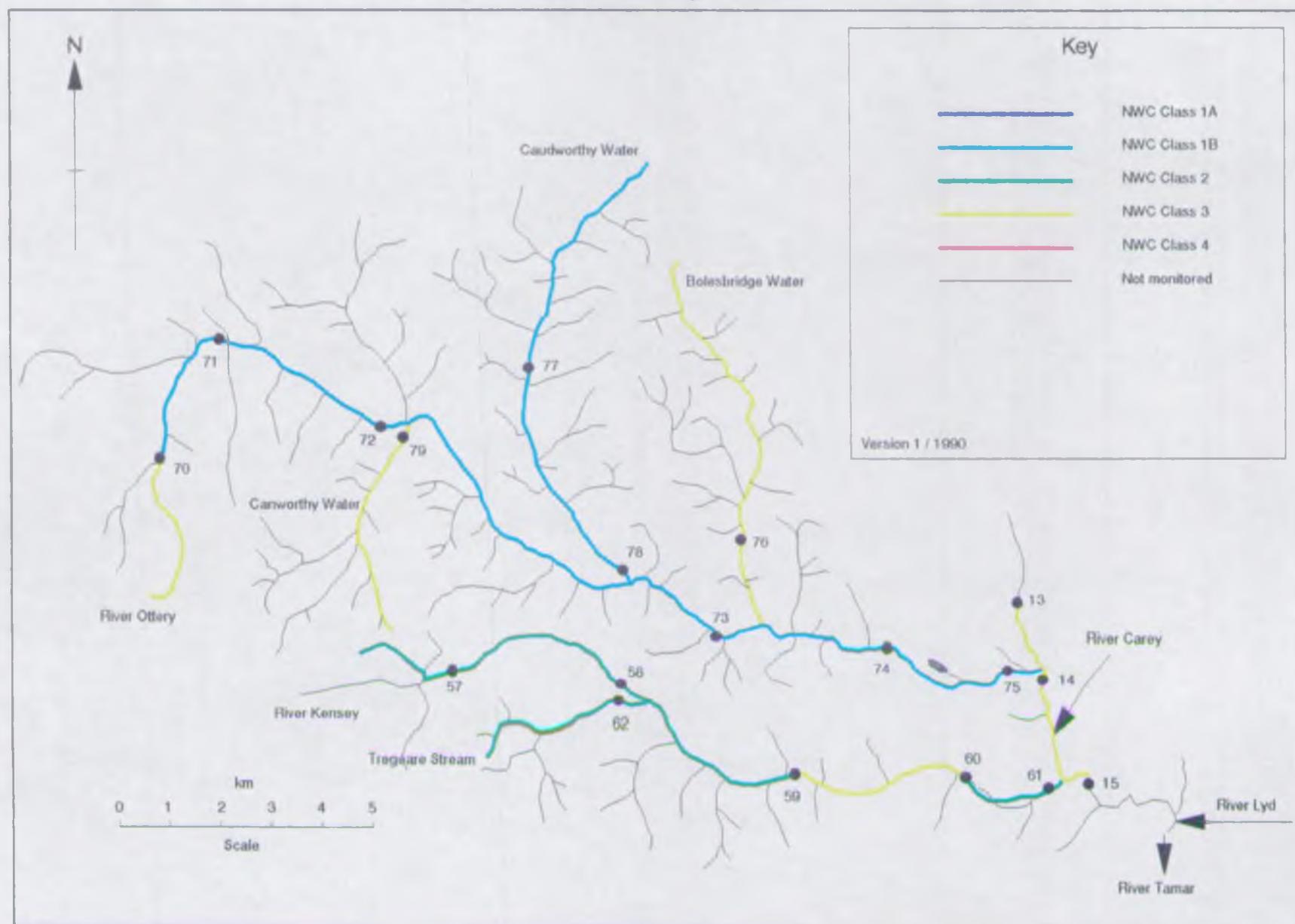


Upper Tamar Catchment Water Quality - 1990

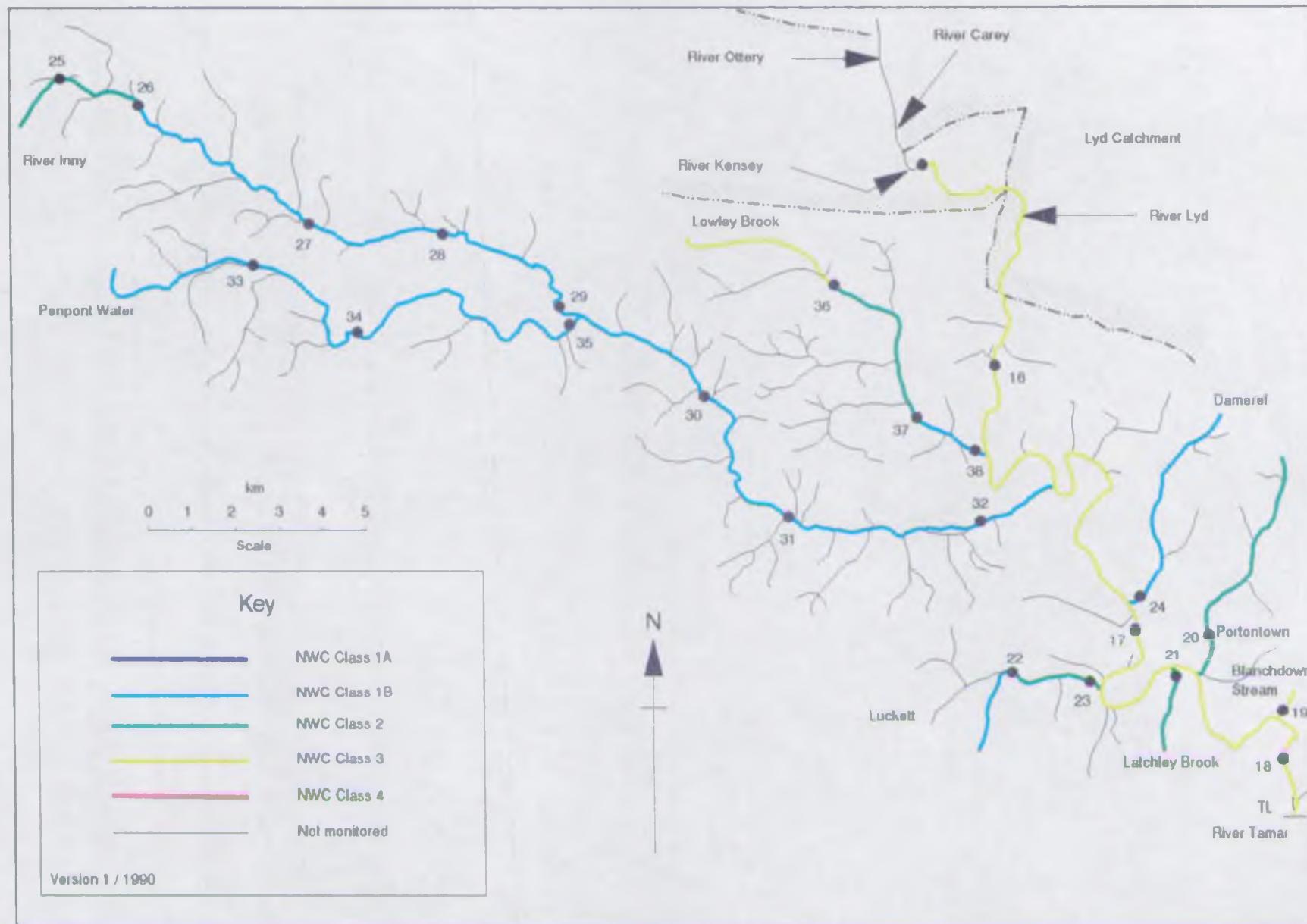
Appendix 10.6



Ottery & Kensey Catchments Water Quality - 1990



Inny Catchment Water Quality - 1990



NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 1990 RIVER WATER QUALITY CLASSIFICATION
 CALCULATED DETERMINAND STATISTICS USED FOR QUALITY ASSESSMENT
 CRITERION: TMR (13)

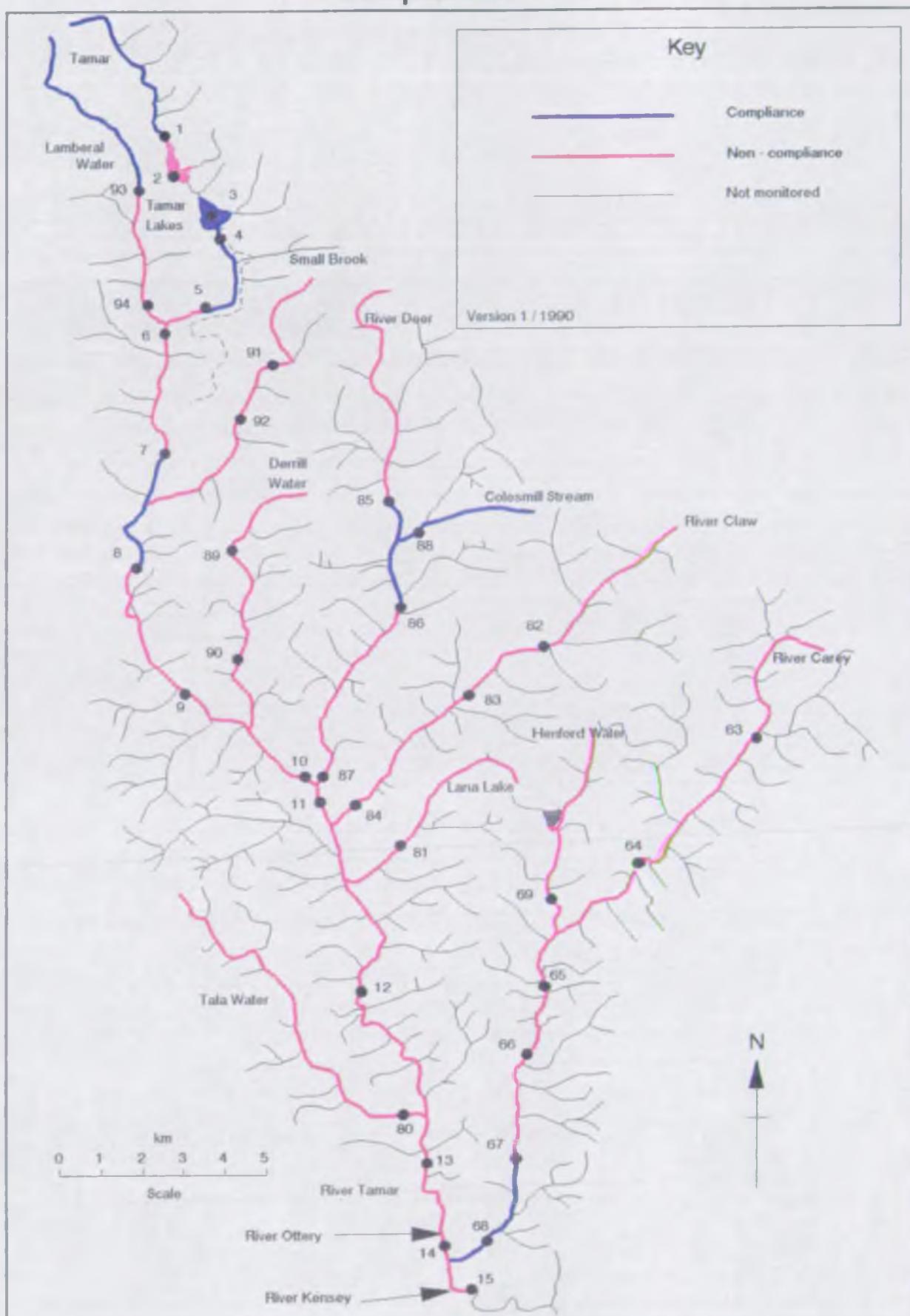
River	Reach upstream of	User Ref.	90% NWC Number	Calculated Determinand Statistics used for Quality Assessment											
				pH Lower Class 5tile	pH Upper Class 95tile	Temperature Class 95tile	TD (%) Class 5tile	BOD (mg/l) Class 95tile	Total Ammonia Class 95tile	Union. Ammonia Class 95tile	S. Solids Class Mean	Total Copper Class 95tile	Total Zinc Class 95tile	-	-
LOWLEY BROOK	LAPLICE BRIDGE	R12E017	2	1A 7.0	1A 8.0	1A 15.8	1B 75.7	2 6.2	1A 0.128	1A 0.010	1A 14.8	1A 11.0	1A 45.0		
LOWLEY BROOK	LOWLEY BRIDGE	R12E006	1B	1A 7.1	1A 7.9	1A 15.5	1B 62.4	1B 5.0	1A 0.157	1A 0.010	1A 15.6	1A 12.2	1A 76.7		
EDD	A386 RONDRIDGE DIFORD	R12F012	1A	1A 5.2	1A 7.2	1A 15.7	1A 88.7	1A 2.9	1A 0.081	1A 0.010	1A 9.8	1A 5.0	1A 5.7		
EDD	GREENLANES BRIDGE	R12F001	1B	1A 6.4	1A 7.5	1A 16.7	1A 84.0	1B 3.1	1A 0.180	1A 0.010	1A 3.3	1A 6.0	1A 7.4		
EDD	SIDENHAM BRIDGE	R12F011	1A	1A 6.8	1A 8.0	1A 16.4	1A 91.3	1A 2.8	1A 0.118	1A 0.010	1A 4.3	1A 5.9	1A 14.9		
EDD	LIPTON BRIDGE	R12F002	1B	1A 6.9	1A 7.7	1A 18.0	1A 88.1	1B 3.2	1A 0.140	1A 0.010	1A 6.5	1A 6.6	1A 75.4		
QUETHER BROOK	PRIOR TO RIVER EDD	R12F013	1A	1A 6.9	1A 7.7	1A 16.0	1A 85.3	1A 2.4	1A 0.094	1A 0.010	1A 8.0	1A 23.9	1A 8.0		
LEW	COPPERBOW BRIDGE	R12F003	1A	1A 7.0	1A 7.8	1A 16.2	1A 89.5	1A 2.8	1A 0.193	1A 0.010	1A 5.9	1A 5.0	1A 9.2		
LEW	PRIOR TO RIVER EDD	R12F004	1A	1A 6.7	1A 8.1	1A 16.5	1A 86.9	1A 2.8	1A 0.131	1A 0.010	1A 7.0	1A 10.8	1A 27.0		
COPPERBOW STREAM	ROAD CULVERT NEAR COPPERBOW QUARRY	R12F010	1B	1A 6.8	1A 7.5	1A 14.5	1A 87.0	1B 3.2	1A 0.290	1A 0.010	1A 24.1	-	-	-	-
THRUSHIEL	RIVERMEAD BRIDGE	R12G001	1B	1A 6.7	1A 7.5	1A 15.8	1B 64.8	1A 3.0	1B 0.477	1A 0.010	1A 4.6	1A 5.7	1A 12.7		
THRUSHIEL	MERRILL BRIDGE	R12G002	1B	1A 6.8	1A 7.5	1A 15.6	1B 68.8	1B 4.1	1A 0.305	1A 0.010	1A 6.0	1A 10.5	1A 16.3		
THRUSHIEL	SCHOOLBRIDGE	R12G003	3	1A 6.9	1A 8.0	1A 18.5	1B 70.3	1B 3.6	2 0.910	3 0.030	1A 8.0	1A 6.7	1A 10.7		
THRUSHIEL	TINNY BRIDGE	R12G004	1B	1A 6.9	1A 7.7	1A 17.8	1A 84.1	1B 3.4	1A 0.176	1A 0.010	1A 7.5	1A 6.0	1A 13.6		
BREAZE WAKER	PRIOR TO RIVER THRUSHIEL	R12G010	1B	1A 6.9	1A 7.6	1A 15.6	1A 80.4	1B 3.3	1A 0.172	1A 0.010	1A 10.0	1A 6.0	1A 16.8		
BRATION BROOK	BRATION CLOVELY	R12G009	1A	1A 6.8	1A 7.5	1A 14.8	1A 81.6	1A 2.6	1A 0.266	1A 0.010	1A 5.8	1A 5.0	1A 14.5		
NOLP	NEEK'S MILL BRIDGE	R12G005	2	1A 6.5	1A 7.5	1A 16.5	1B 79.3	1B 3.1	1B 0.335	1A 0.010	1A 4.4	2 23.3	1A 37.5		
NOLP	NEWTON BRIDGE	R12G006	1B	1A 6.8	1A 7.6	1A 18.3	1B 75.5	1B 3.1	1B 0.360	1A 0.010	1A 7.0	1A 11.0	1A 14.0		
NOLP	PRIOR TO RIVER THRUSHIEL	R12G007	1B	1A 6.7	1A 7.7	1A 17.8	1B 77.9	1B 3.3	1A 0.154	1A 0.010	1A 8.0	1A 10.8	1A 19.6		
HORNWOOD BROOK	KELLACOTT BRIDGE	R12G012	1B	1A 6.9	1A 7.6	1A 15.5	1B 78.8	1B 3.1	1A 0.168	1A 0.010	1A 6.6	1A 5.0	1A 27.2		
KENSEY	BADGALL BRIDGE	R12H003	2	1A 6.6	1A 7.5	1A 14.8	1A 84.3	1B 4.8	1A 0.298	1A 0.010	1A 17.6	1A 9.5	2 23.5		
KENSEY	BACHARICK BRIDGE	R12H001	2	1A 6.7	1A 7.5	1A 15.0	1A 82.0	2 6.1	1B 0.625	1A 0.010	1A 14.6	1A 18.5	1A 109.0		
KENSEY	BLAUSCOTT BRIDGE	R12H004	2	1A 6.8	1A 7.6	1A 15.0	1B 78.8	2 6.2	2 0.750	1A 0.010	1A 9.9	1A 22.1	1A 104.5		
KENSEY	NEWPORT	R12H005	3	1A 6.8	1A 8.0	1A 16.2	1B 79.8	2 7.9	1B 0.373	1A 0.010	3 26.6	1A 12.8	1A 91.3		
KENSEY	ST. LEONARDS BRIDGE	R12H002	2	1A 6.9	1A 7.9	1A 15.7	1A 84.1	2 5.3	1A 0.292	1A 0.010	1A 20.8	1A 14.3	1A 59.0		
TREGEAR STREAM	RED DOWN BRIDGE	R12H006	2	1A 6.6	1A 7.4	1A 15.6	1A 81.6	1B 4.7	2 0.920	1A 0.010	1A 18.0	1A 10.8	1A 47.4		
CAREY	HAINHILL BRIDGE - QUAICH	R12H005	2	1A 6.6	1A 7.9	1A 15.8	1B 71.8	2 8.4	2 0.765	1A 0.010	1A 13.3	1A 13.0	1A 16.0		
CAREY	ASHMILL BRIDGE	R12H001	1B	1A 6.7	1A 7.7	1A 16.1	1B 60.5	1B 4.5	1B 0.352	1A 0.010	1A 15.3	1A 21.9	1A 24.1		
CAREY	MIDDLE BRIDGE VIRGINSTON	R12H007	2	1A 6.6	1A 7.6	1A 16.2	1B 79.1	2 5.3	1B 0.499	1A 0.010	1A 14.5	1A 11.0	1A 20.0		
CAREY	POWERHILL BRIDGE	R12H003	2	1A 6.7	1A 7.6	1A 16.5	2 44.8	2 5.2	1B 0.442	1A 0.010	1A 22.4	1A 13.5	1A 23.3		
CAREY	BOLDFORD BRIDGE	R12H008	2	1A 6.6	1A 7.8	1A 18.5	1B 77.2	1B 4.4	2 1.262	1A 0.020	1A 12.0	1A 6.0	1A 13.0		
CAREY	HEALE BRIDGE	R12H002	1B	1A 6.7	1A 7.6	1A 17.4	1B 63.0	1B 4.9	1B 0.459	1A 0.010	1A 21.5	1A 14.3	1A 22.5		

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 1990 RIVER WATER QUALITY CLASSIFICATION
 CALCULATED DETERMINED STATISTICS USED FOR QUALITY ASSESSMENT
 CRITERION: TSMR (13)

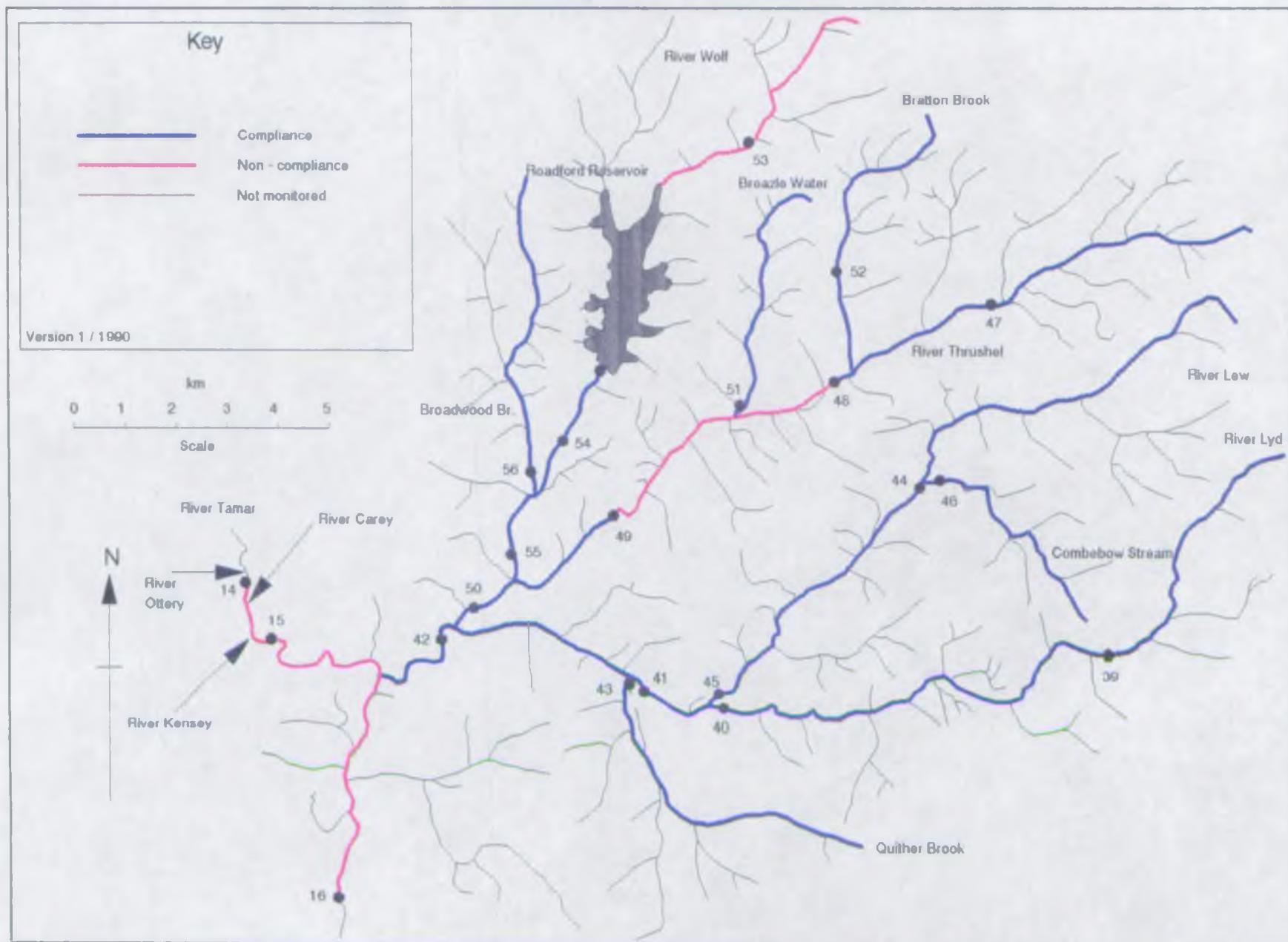
River	Reach upstream of	User Ref. Number	SO NAC Class	Calculated Determined Statistics used for Quality Assessment											
				pH Lower Class 5tile	pH Upper Class 95tile	Temperature Class 95tile	DO (%) Class 5tile	BOD (mg/l) Class 95tile	Total Ammonia Class 95tile	Union. Ammonia Class 95tile	S.Solids Class Mean	Total Copper Class 95tile	Total Zinc Class 95tile	-	-
HENFORD WATER	HENFORD	RL2H005	2	1A 6.7	1A 7.5	1A 13.5	2	50.3	1B 4.7	1B 0.482	1A 0.010	1A 13.7	1A 8.0	1A 15.0	-
OTTERY	OTTENHAM MILL	RL2O004	3	1A 6.6	1A 7.4	1A 15.9	1B 79.8	2 6.3	2 1.225	1A 0.010	3 25.0	1A 16.1	1A 174.2	-	
OTTERY	TRENCLE BRIDGE	RL2O005	1B	1A 6.8	1A 7.7	1A 16.9	1A 83.8	1B 4.6	1B 0.450	1A 0.010	1A 22.7	1A 11.2	1A 69.8	-	
OTTERY	CROWNING WATER BRIDGE	RL2O001	1B	1A 6.8	1A 8.3	1A 19.2	1A 81.0	1B 4.4	1B 0.475	1A 0.010	1A 12.1	1A 6.3	1A 31.0	-	
OTTERY	HELSCOTT BRIDGE	RL2O002	1B	1A 6.8	1A 7.7	1A 18.2	1B 80.0	1B 3.2	1B 0.350	1A 0.010	1A 9.9	1A 6.0	1A 22.2	-	
OTTERY	YEDMORBRIDGE	RL2O006	1B	1A 6.9	1A 7.8	1A 18.5	1B 78.0	1A 2.8	1A 0.248	1A 0.010	1A 8.2	1A 6.5	1A 16.5	-	
OTTERY	HPM MILL BRIDGE	RL2O007	1B	1A 6.9	1A 7.9	1A 18.6	1A 80.6	1B 3.1	1A 0.264	1A 0.010	1A 6.5	1A 7.0	1A 19.9	-	
HOLEBROOK WATER	200 METRES D/S OF NEWARING BRIDGE	RL2H012	3	1A 6.9	1A 7.5	1A 16.0	2	40.6	3 16.0	3 1.675	1A 0.010	1A 19.2	1A 7.0	1A 23.5	-
COLDWORTHY WATER	COLDWORTHY BRIDGE	RL2C010	1B	1A 6.9	1A 7.6	1A 16.0	1B 67.6	1B 4.3	1A 0.294	1A 0.010	1A 13.4	1A 5.5	1A 25.5	-	
COLDWORTHY WATER	PRIOR TO RIVER OTTERY	RL2C011	1B	1A 6.9	1A 7.7	1A 15.7	1B 72.0	1B 3.1	1B 0.361	1A 0.010	1A 20.4	1A 5.0	1A 11.0	-	
COLDWORTHY WATER	PRIOR TO RIVER OTTERY	RL2C008	3	1A 6.7	1A 7.6	1A 15.6	1B 76.8	1B 3.9	1B 0.520	1A 0.010	3 35.5	1A 23.6	1A 224.2	-	
TEA WATER	BRIDGESIDE	RL2T006	2	1A 6.6	1A 7.6	1A 16.0	2	56.0	1B 4.7	1B 0.641	1A 0.010	1A 13.3	1A 11.8	1A 197.8	-
LAW LAKE	LAW BRIDGE	RL2L005	2	1A 6.7	1A 7.5	1A 15.9	2	53.5	2 6.9	2 1.300	1A 0.010	1A 24.0	1A 8.6	1A 19.2	-
CLAW	CLAW BRIDGE	RL2C016	2	1A 6.7	1A 7.8	1A 17.5	2	46.4	2 5.4	2 1.010	1A 0.010	1A 11.7	1A 6.0	1A 25.3	-
CLAW	CLAMON BRIDGE	RL2C001	2	1A 6.6	1A 8.2	1A 18.1	1B 61.5	1B 4.5	2 0.715	1A 0.010	1A 11.4	1A 10.5	1A 12.8	-	
CLAW	METCOTT BRIDGE	RL2C002	3	1A 6.7	1A 7.7	1A 16.8	3 33.2	1B 4.7	1B 0.674	1A 0.010	1A 16.2	1A 16.1	1A 59.0	-	
DEER	REDON BRIDGE	RL2D003	2	1A 6.6	1A 7.7	1A 16.0	2	53.5	1B 4.3	1B 0.697	1A 0.010	1A 10.5	1A 7.0	1A 17.8	-
DEER	WINSORT BRIDGE	RL2D004	1B	1A 6.6	1A 7.7	1A 17.0	1B 64.1	1B 4.9	1B 0.518	1A 0.010	1A 12.7	1A 10.0	1A 36.5	-	
DEER	DEER BRIDGE	RL2D005	2	1A 6.8	1A 7.8	1A 17.5	2	57.0	1B 5.0	1A 0.305	1A 0.010	1A 12.9	1A 7.4	1A 30.4	-
COTEMILL STREAM	100 METRES BELOW OF HOLEBROOK SWM	RL2C007	2	1A 6.5	1A 7.8	1A 17.8	1B 60.2	1B 4.7	2 0.965	1A 0.010	1A 11.6	1A 12.7	1A 25.0	-	
DEVIL WATER	DUR BRIDGE	RL2D012	2	1A 6.9	1A 7.6	1A 15.3	1B 66.9	2 6.9	1B 0.573	1A 0.010	1A 20.6	1A 11.3	1A 99.3	-	
DEVIL WATER	DUNLSTONE BRIDGE	RL2D005	2	1A 6.9	1A 7.6	1A 15.9	2 48.0	1B 4.8	1B 0.490	1A 0.010	1A 18.8	1A 5.0	1A 15.0	-	
SPAL BROOK	HENDON BRIDGE	RL2S011	3	1A 6.7	1A 7.5	1A 15.1	2 54.1	2 7.3	3 1.580	1A 0.010	1A 18.4	1A 6.7	1A 15.5	-	
SPAL BROOK	HOLTON BRIDGE	RL2S008	3	1A 6.7	1A 7.5	1A 15.9	2 50.0	2 8.8	3 1.828	1A 0.010	1A 17.1	1A 14.6	1A 16.0	-	
LAMERLA WATER	FORDA	RL2L010	1B	1A 6.9	1A 7.8	1A 15.4	1B 72.2	1B 3.9	1B 0.332	1A 0.010	1A 8.6	1A 5.7	1A 13.4	-	
LAMERLA WATER	MORETON POND BRIDGE	RL2L007	2	1A 6.6	1A 7.6	1A 16.5	2 57.1	2 5.2	1B 0.679	1A 0.010	1A 17.4	1A 12.3	1A 18.1	-	

Upper Tamar Catchment Compliance - 1990

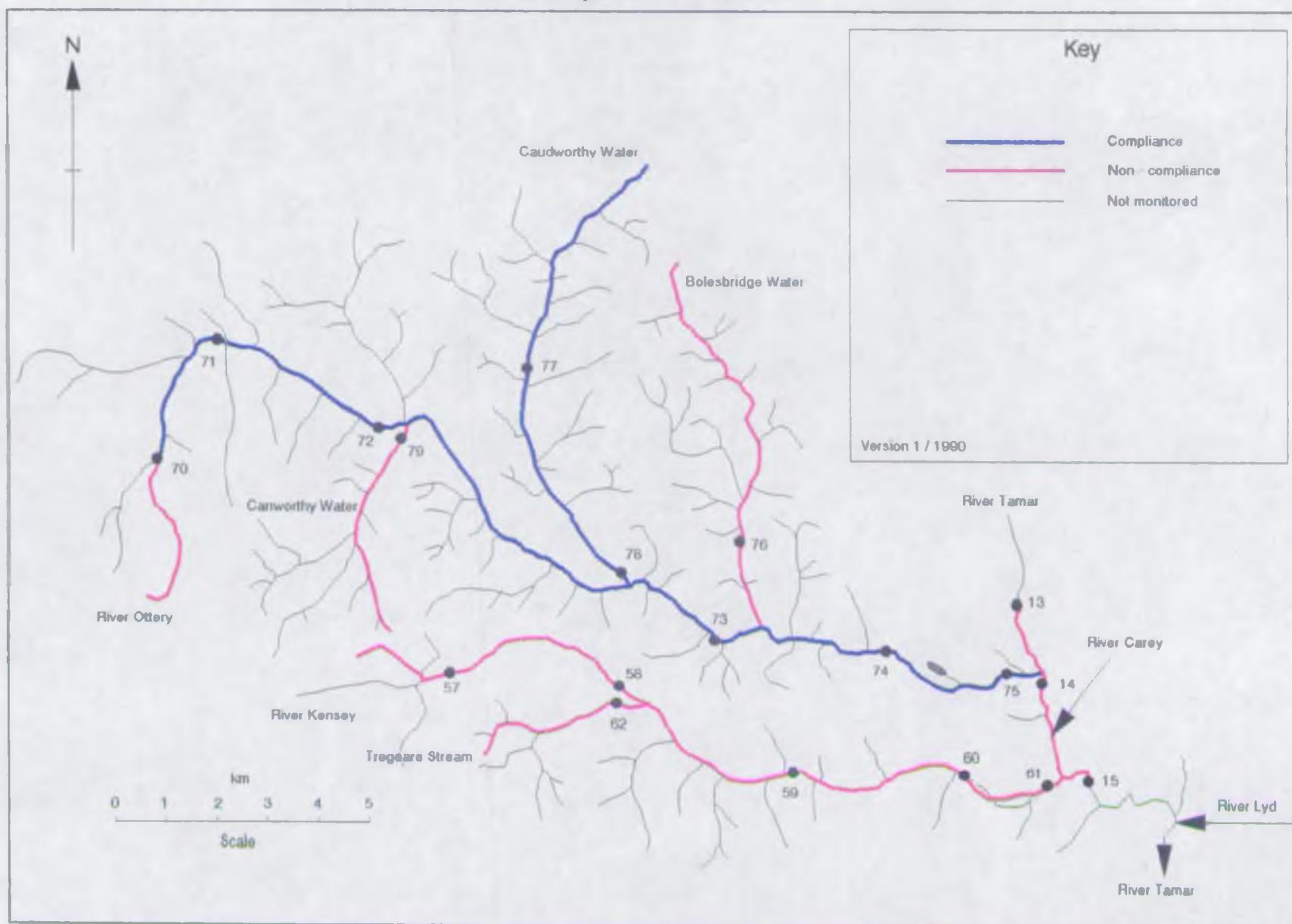
Appendix 10.8



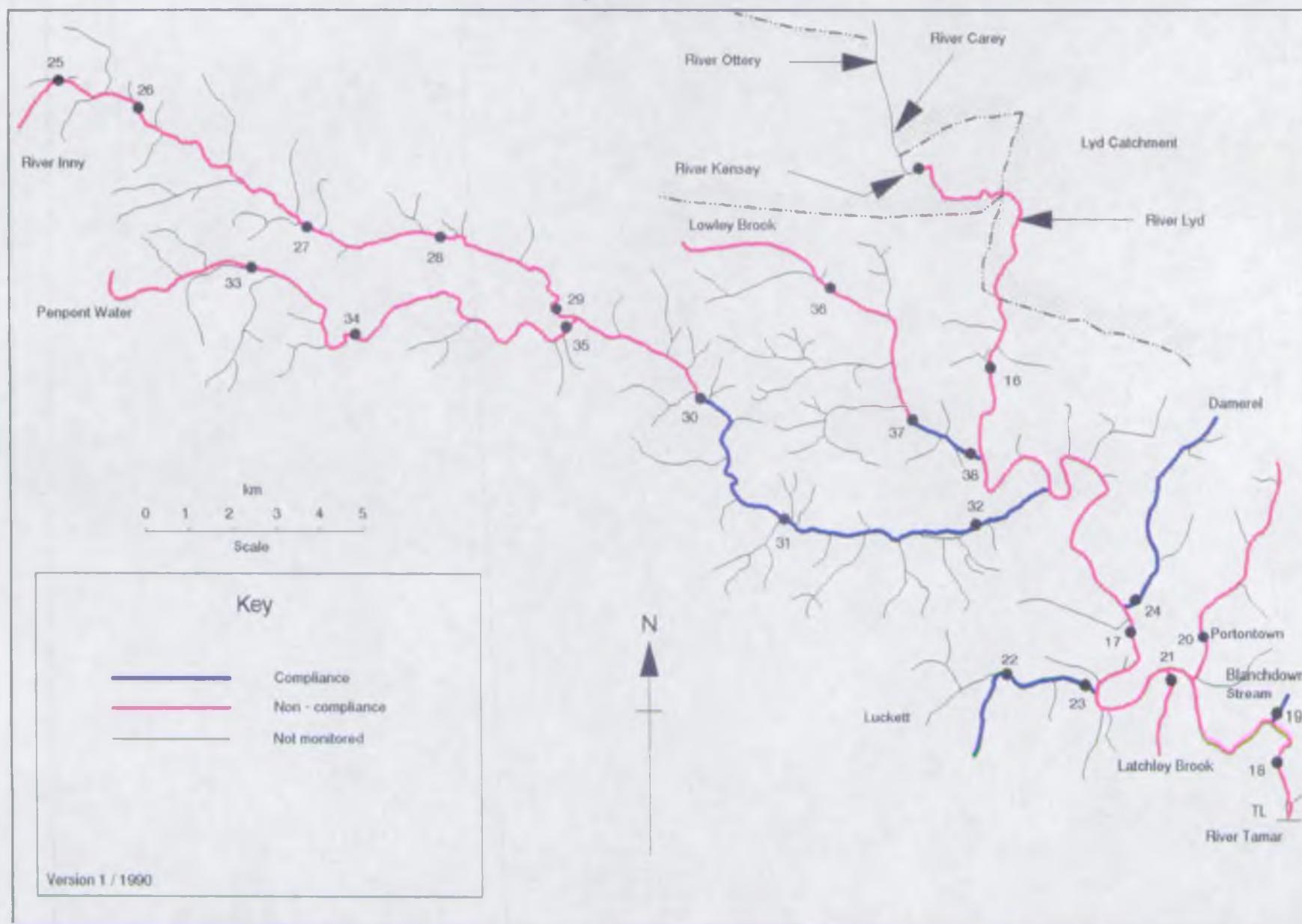
Lyd, Thrushel & Wolf Catchments Compliance - 1990

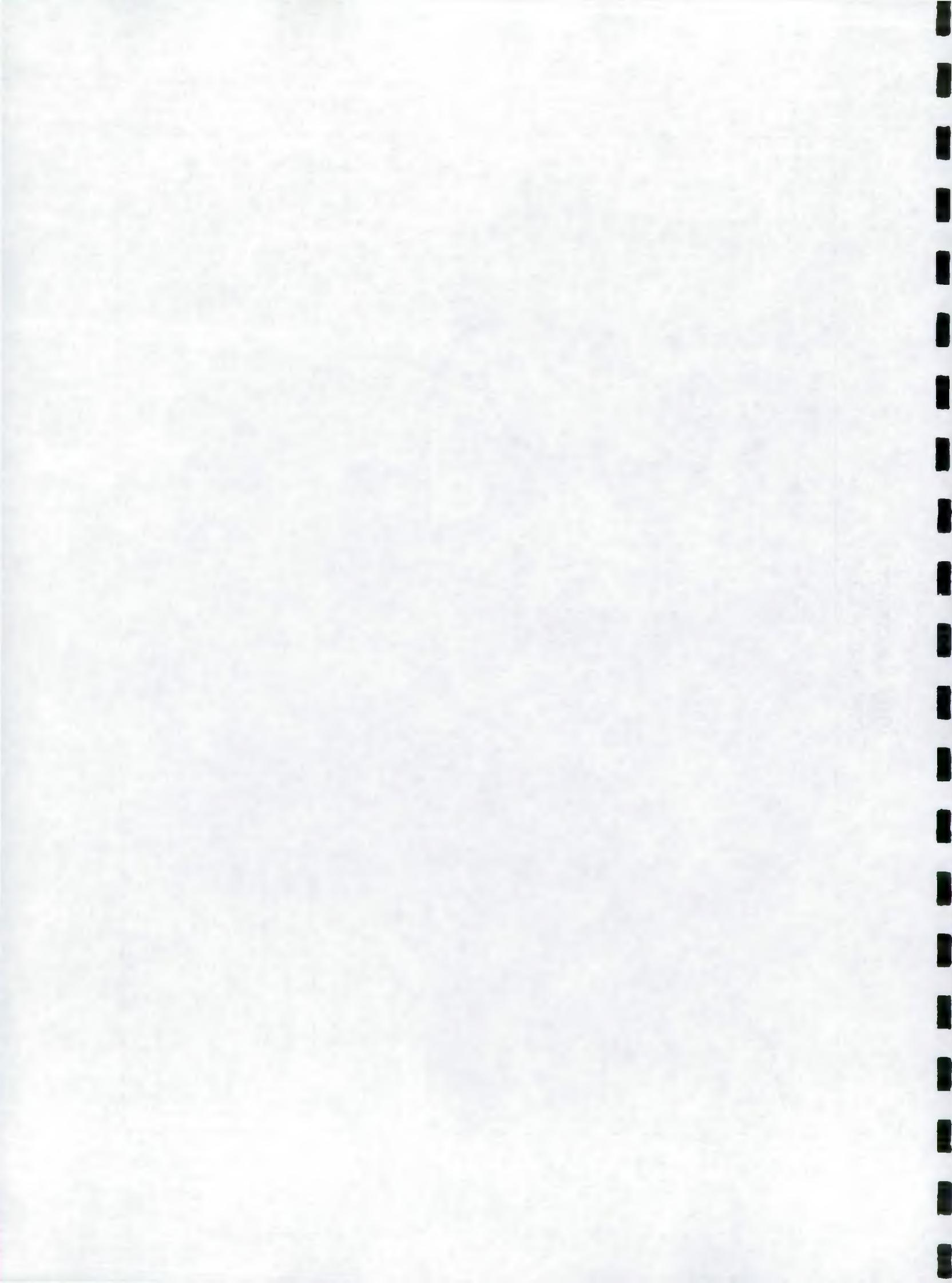


Ottery & Kensey Catchments Compliance - 1990



Inny Catchment Compliance - 1990





NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION

1990 RIVER WATER QUALITY CLASSIFICATION

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

CATCHMENT: TMMR (13)

River	Reach upstream of	User Ref. Number	pH Lower		pH Upper		Temperature		DO (%)		BOD (mg/l)		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
TMMR	BUSES BRIDGE	R12L001	43	-	43	-	43	-	43	-	43	1	43	1	43	-	43	1	34	-	34	-
TMMR	UPPER TMMR LANE	R12L017	12	-	12	-	12	-	12	1	12	1	12	-	12	-	12	1	12	-	12	-
TMMR	LOWER TMMR LANE	R12L018	12	-	12	-	12	-	12	-	12	-	12	-	12	-	12	3	12	-	12	-
TMMR	FOOTBRIDGE BELOW LOWER TMMR LANE	R12L009	37	-	37	-	37	-	37	1	37	1	37	-	37	-	37	5	36	-	36	-
TMMR	EXCESTER BRIDGE	R12L006	37	-	37	-	37	-	37	-	37	1	37	-	37	-	37	4	36	-	36	-
TMMR	MORTON MILL	R12L016	12	-	12	-	12	-	12	-	12	-	12	-	11	-	12	3	12	-	12	-
TMMR	TEPPASDINE BRIDGE	R12L002	44	-	44	-	44	-	43	2	44	2	44	-	44	-	44	7	38	-	38	1
TMMR	HEDGERWELL	R12L015	22	-	22	-	22	-	22	-	22	-	22	-	22	-	22	6	22	-	22	-
TMMR	CRAWFORD BRIDGE	R12L003	37	-	37	1	36	-	36	-	37	4	37	3	36	-	37	8	34	1	34	1
TMMR	TEPXTON BRIDGE	R12L004	42	-	42	1	42	-	42	1	41	4	42	1	41	-	42	7	35	-	35	-
TMMR	BELOW CONFLUENCE WITH RIVER DEER	R12L013	12	-	12	-	12	-	12	-	12	1	12	-	12	-	12	3	12	-	12	-
TMMR	BOTON BRIDGE	R12J001	42	-	42	1	42	-	42	4	42	3	42	-	41	-	42	9	38	-	38	1
TMMR	CAUTION BRIDGE	R12J002	36	-	36	1	35	-	35	2	36	5	36	1	34	-	36	6	33	-	33	-
TMMR	NEITHERBRIDGE	R12J003	37	-	37	1	35	-	35	1	37	4	37	1	33	-	37	8	36	-	36	-
TMMR	POLTON BRIDGE	R12J004	41	-	41	-	41	-	40	1	41	5	41	-	41	-	41	11	37	-	37	-
TMMR	GRESDON BRIDGE	R12E001	39	-	39	-	39	-	38	-	39	4	39	-	39	-	39	11	31	-	31	-
TMMR	HORSEBRIDGE	R12E002	39	-	39	-	39	-	39	-	39	1	39	-	39	-	39	10	32	-	32	-
TMMR	GUINSLAKE BRIDGE	R12E003	61	-	61	-	60	1	60	1	61	3	61	-	29	-	61	12	59	-	59	-
BLANCHDENE STREAM	PRIOR TO RIVER TMMR	R12E004	21	-	21	-	20	-	19	-	21	-	21	-	12	-	21	-	21	-	21	-
FORDONIAN STREAM	GEROVER WOOD	R12E015	29	-	29	-	29	-	28	1	29	-	29	-	26	-	29	1	22	-	22	-
LATCHLEY BROOK	LATCHLEY	R12E028	20	-	20	-	20	-	20	-	20	-	20	-	14	-	20	-	13	10	13	2
HUCNETT	OLIMILL	R12E016	20	-	20	-	20	-	20	-	20	-	20	-	20	-	20	-	12	-	12	-
HUCNETT	HUCNETT BRIDGE	R12E007	37	-	37	-	37	-	36	-	37	-	37	-	36	-	37	1	35	-	35	1
DENVEREL STREAM	PRIOR TO RIVER TMMR	R12E014	33	-	33	-	33	-	33	1	33	-	33	-	32	-	33	5	23	-	23	-
INNY	UPSTREAM OF DRUMDON CREEKERY	R12P001	34	-	34	-	33	-	33	1	34	3	34	2	33	-	34	1	27	-	27	-
INNY	PRENKROW BRIDGE	R12P002	34	-	34	-	34	-	33	2	34	1	34	1	33	-	34	1	28	-	28	1
INNY	ST. CLETHER BRIDGE	R12P003	34	-	34	-	34	-	34	5	34	4	34	1	34	-	34	3	28	-	28	-
INNY	GIMBLETT'S MILL	R12P012	22	-	22	-	22	-	22	-	22	2	22	-	20	-	22	1	16	-	16	-
INNY	TWO BRIDGES	R12P004	39	-	39	-	39	-	38	8	39	4	39	-	39	-	39	4	35	-	35	-
INNY	PREKELLAND BRIDGE	R12P005	37	-	37	-	37	-	37	4	37	2	37	-	35	-	37	3	27	-	27	-
INNY	PRECARRELL BRIDGE	R12P013	21	-	21	-	22	-	22	-	22	-	22	-	20	-	21	1	16	-	16	-
INNY	SEALS MILL BRIDGE	R12P006	39	-	39	-	38	-	38	-	39	-	39	-	38	-	39	4	35	-	35	-
PENPORT WATER	IRELMIN BRIDGE	R12P010	36	-	36	-	36	-	36	3	35	2	36	-	34	-	36	1	22	-	22	-
PENPORT WATER	ACCRAN BRIDGE	R12P007	34	-	34	-	34	-	34	2	34	-	34	-	28	-	34	-	28	1	28	-
PENPORT WATER	TWO BRIDGES	R12P008	39	-	39	-	39	-	39	3	39	1	39	-	38	-	39	1	36	-	36	-
LOWLEY BROOK	LADLAKE BRIDGE	R12E005	23	-	23	-	23	-	23	-	23	3	23	1	23	-	23	5	19	-	19	-

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION

1990 RIVER WATER QUALITY CLASSIFICATION

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

CATCHMENT: TMMR (13)

River	Reach upstream of	User Ref.	pH Lower	pH Upper	Temperature	DO (%)	BOD (MG/L)	Total Ammonia	Union. Ammonia	S.Solids	Total Copper	Total Zinc		
		Number	N	F	N	F	N	F	N	F	N	F		
LONLEY BROOK	LANDLE BRIDGE	RL2E017	21	-	21	-	21	-	21	1	21	-	17	-
LONLEY BROOK	LONLEY BRIDGE	RL2E006	40	-	40	-	40	1	40	1	40	-	36	-
LED	A386 FOSCHERIDGE LEDFORD	RL2F012	33	-	33	-	33	-	33	-	15	-	26	-
LED	GREENLANES BRIDGE	RL2F001	41	-	41	-	41	-	41	-	34	-	31	-
LED	SYDENHAM BRIDGE	RL2F011	33	-	33	-	32	-	33	-	28	-	33	-
LED	LIPTON BRIDGE	RL2F002	41	-	41	-	41	-	41	-	39	-	41	-
QUETHER BROOK	PRIOR TO RIVER LED	RL2F013	32	-	32	-	32	-	32	-	29	-	32	2
LEW	COMBELOW BRIDGE	RL2F003	34	-	34	-	34	-	34	-	32	-	31	-
LEW	PRIOR TO RIVER LED	RL2F004	37	-	37	-	36	-	37	-	34	-	37	2
COMBELOW STREAM	ROAD CULVERT NEAR COMBELOW QUARRY	RL2F010	15	-	15	-	15	-	15	-	12	-	15	2
THREBELL	RIVERHEAD BRIDGE	RL2G001	34	-	34	-	34	-	34	-	33	-	32	-
THREBELL	MURKILL BRIDGE	RL2G002	34	-	34	-	33	1	34	-	30	-	34	-
THREBELL	STODFORD BRIDGE	RL2G003	38	-	38	-	38	1	38	-	38	2	38	2
THREBELL	TINNEY BRIDGE	RL2G004	41	-	41	-	41	-	41	-	40	-	41	2
BREAZELE WATER	PRIOR TO RIVER THREBELL	RL2G010	33	-	33	-	33	-	33	-	32	-	33	2
BRATTON BROOK	BRATTON CLOVELY	RL2G009	32	-	32	-	32	-	32	-	32	-	32	1
WOLF	MEEK'S MILL BRIDGE	RL2G005	34	-	34	-	34	-	34	-	33	-	34	1
WOLF	IRON BRIDGE	RL2G006	35	-	35	-	35	-	34	-	33	-	34	-
WOLF	PRIOR TO RIVER THREBELL	RL2G007	42	-	42	-	42	-	42	-	39	-	42	3
SPONDWOOD BROOK	RELLACOTT BRIDGE	RL2G012	33	-	33	-	33	-	33	-	30	-	33	1
KENSEY	BROGALL BRIDGE	RL2H003	34	-	34	-	34	-	34	1	34	-	34	2
KENSEY	BACHARLICK BRIDGE	RL2H001	34	-	34	-	32	-	34	1	34	-	34	1
KENSEY	TRUSCOTT BRIDGE	RL2H004	34	-	34	-	34	-	34	2	34	-	34	3
KENSEY	REPORT	RL2H005	34	-	34	-	34	-	34	1	34	-	34	4
KENSEY	ST. LEONARDS BRIDGE	RL2H002	41	-	41	-	40	-	41	2	41	-	41	7
FORGEARE STREAM	RED COWN BRIDGE	RL2H006	35	-	35	-	35	-	35	1	35	2	35	-
CHEY	HAWMILL BRIDGE - QUILCH	RL2H005	21	-	21	-	21	2	21	3	21	-	21	3
CHEY	ASHMILL BRIDGE	RL2H001	34	-	34	-	33	8	34	8	34	3	34	5
CHEY	MIDDLE BRIDGE VIRGINSTON	RL2H007	20	-	20	-	20	-	20	1	20	-	20	4
CHEY	TOWERHILL BRIDGE	RL2H003	34	-	34	-	34	2	34	1	34	-	34	6
CHEY	BOLDFORD BRIDGE	RL2H008	20	-	20	-	20	-	20	1	20	-	20	3
CHEY	HEALE BRIDGE	RL2H002	40	-	40	-	39	1	40	1	40	-	40	7

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION

1990 RIVER WATER QUALITY CLASSIFICATION

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

CATCHMENT: TIDMAR (13)

River	Reach upstream of	User Ref. Number	pH Lower		pH Upper		Temperature		DO (%)		BOD (mg/l)		Total Ammonia		Union. Ammonia		S.Solids		Total Copper		Total Zinc	
			N	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P
HENFORD WATER	HENFORD	R12H005	32	-	32	-	32	-	32	3	32	1	32	1	32	-	32	6	29	-	29	-
CITERY	OTTERHAM MILL	R12C004	34	-	34	-	34	-	34	-	34	2	34	2	33	-	34	2	33	1	33	-
CITERY	FRENGUE BRIDGE	R12C005	34	-	34	-	34	-	34	-	34	1	34	-	34	-	34	1	33	-	33	-
CITERY	CORWORTHY WATER BRIDGE	R12C001	34	-	34	-	34	-	34	-	34	1	34	-	33	-	34	1	34	-	34	-
CITERY	HELSCOTT BRIDGE	R12C002	39	-	39	-	39	-	39	-	39	-	39	-	38	-	39	3	36	-	36	-
CITERY	NEOLMBERIDGE	R12C006	34	-	34	-	34	-	34	-	34	-	34	-	33	-	34	2	34	-	34	-
CITERY	HAM MILL BRIDGE	R12C007	33	-	33	-	32	-	32	-	33	-	33	-	30	-	33	1	33	-	33	-
BOLESBRIDGE WATER	200 METRES D/S OF NEWARKE BRIDGE	R12B012	32	-	32	-	31	-	31	3	32	4	32	2	31	-	32	8	29	-	29	-
CUDMORTON WATER	CUDMORTON BRIDGE	R12C010	31	-	31	-	32	-	32	-	32	-	32	-	31	-	32	2	29	-	29	-
CUDMORTON WATER	PRIOR TO RIVER CITERY	R12C011	32	-	32	-	32	-	32	-	32	-	32	-	31	-	32	4	29	-	29	-
CUDMORTON WATER	PRIOR TO RIVER CITERY	R12C008	34	-	34	-	34	-	34	-	34	1	34	-	34	-	34	2	27	-	27	1
PAVA WATER	BRIDGEPORT	R12P006	36	-	36	-	36	-	36	2	36	1	36	-	34	-	36	2	31	-	31	1
LAWA LANE	LAWA BRIDGE	R12L005	35	-	35	-	34	-	34	2	35	4	34	12	33	-	35	5	31	-	31	-
CLAW	CLAW BRIDGE	R12C016	37	-	37	-	36	-	37	2	37	2	37	2	36	-	37	2	36	-	36	-
CLAW	CLAWDON BRIDGE	R12C001	38	-	38	-	38	-	38	1	38	1	38	1	38	-	38	1	37	-	37	-
CLAW	DETICOAT BRIDGE	R12C002	42	-	42	-	42	-	42	5	42	1	42	1	42	-	42	5	33	-	33	-
DEER	EDDON BRIDGE	R12D003	41	-	41	-	41	-	41	2	41	1	41	2	41	-	41	3	34	-	34	-
DEER	MINSKET BRIDGE	R12D004	41	-	41	-	41	-	41	-	41	-	41	-	41	-	41	2	34	-	34	-
DEER	DEER BRIDGE	R12D005	42	-	42	-	43	-	43	2	42	1	42	-	42	-	42	2	35	-	35	-
COLES MILL STREAM	100 METRES BELOW OF HOLMORTON SW	R12C007	22	-	22	-	22	-	22	-	22	-	22	-	22	-	22	1	22	-	22	-
JERRIL WATER	DX BRIDGE	R12J012	36	-	36	-	36	-	36	-	36	2	36	1	36	-	36	6	30	-	30	-
JERRIL WATER	JURSLONE BRIDGE	R12J005	39	-	39	-	39	-	39	3	39	1	39	1	38	-	39	4	31	-	31	-
SMALL BROOK	HENDON BRIDGE	R12S011	40	-	40	-	40	-	40	5	40	4	40	4	40	-	40	3	32	-	32	-
SMALL BROOK	MOULTON BRIDGE	R12S008	37	-	37	-	37	-	37	2	37	4	37	6	36	-	37	4	31	-	31	-
LAMBERT WATER	FORDA	R12L010	41	-	41	-	41	-	41	1	41	-	41	-	41	-	41	1	32	-	32	-
LAMBERT WATER	MORSEY FORD BRIDGE	R12L007	37	-	37	-	37	-	37	2	37	2	37	1	37	-	37	5	33	-	33	-

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1990 RIVER WATER QUALITY CLASSIFICATION

PERCENTAGE EXCEEDENCE OF DETERMINAND STATISTICS FROM QUALITY STANDARDS

CATCHMENT: TAMAR (13)

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-ionized Ammonia	Suspended Solids	Total Copper
TAMAR	BUSES BRIDGE	R12L001	-	-	-	-	-	-	-	-	-
TAMAR	UPPER TAMAR LAKE	R12L017	-	-	-	20	12	-	-	-	-
TAMAR	LOWER TAMAR LAKE	R12L018	-	-	-	-	-	-	-	-	-
TAMAR	FOOTERBRIDGE BELOW LOWER TAMAR LAKE	R12L009	-	-	-	-	-	-	-	-	-
TAMAR	DEXBEER BRIDGE	R12L006	-	-	-	-	-	-	-	-	-
TAMAR	MORETON MILL	R12L016	-	-	-	-	-	-	-	2	-
TAMAR	TAMARSTONE BRIDGE	R12L002	-	-	-	19	16	-	-	-	-
TAMAR	BRIDGERULE	R12L015	-	-	-	-	-	-	-	-	-
TAMAR	CROWFORD BRIDGE	R12L003	-	-	-	-	77	20	-	-	-
TAMAR	TAMERTON BRIDGE	R12L004	-	-	-	-	69	-	-	-	-
TAMAR	BELOW CONFLUENCE WITH RIVER DEER	R12L013	-	-	-	-	2	-	-	68	-
TAMAR	BOTTON BRIDGE	R12J001	-	-	-	23	28	-	-	-	7
TAMAR	DRUXTON BRIDGE	R12J002	-	-	-	35	104	-	-	-	28
TAMAR	NETHERBRIDGE	R12J003	-	-	-	-	53	-	-	-	23
TAMAR	POLSON BRIDGE	R12J004	-	-	-	-	14	-	-	-	44
TAMAR	GREYSTONE BRIDGE	R12E001	-	-	-	-	32	-	-	-	61
TAMAR	HORSEBRIDGE	R12E002	-	-	-	-	-	-	-	-	25
TAMAR	GUNNISLAKE BRIDGE	R12E003	-	-	-	-	44	-	-	-	32
BLANCHDOWN STREAM	PRIOR TO RIVER TAMAR	R12E004	-	-	-	-	-	-	-	-	-
PORTONTOWN STREAM	GRENOVEN WOOD	R12E015	-	-	-	1	-	-	-	-	-
LATCHLEY BROOK	LATCHLEY	R12E028	-	-	-	-	-	-	-	-	627
LUCKETT	OLDMILL	R12E016	-	-	-	-	-	-	-	-	-
LUCKETT	LUCKETT BRIDGE	R12E007	-	-	-	-	-	-	-	-	-
DAMEREL STREAM	PRIOR TO RIVER TAMAR	R12E014	-	-	-	-	-	-	-	-	-
INNY	UPSTREAM OF DAVIDSTOW CREAMERY	R12P001	-	-	-	5	20	64	-	-	-
INNY	TREWINNOW BRIDGE	R12P002	-	-	-	5	12	-	-	-	-
INNY	ST. CLETHON BRIDGE	R12P003	-	-	-	16	59	8	-	-	-
INNY	GIMBLETT'S MILL	R12P012	-	-	-	-	32	-	-	-	-
INNY	TWO BRIDGES	R12P004	-	-	-	21	13	-	-	-	-
INNY	TREKELLAND BRIDGE	R12P005	-	-	-	10	5	-	-	-	-
INNY	TRECARELL BRIDGE	R12P013	-	-	-	-	-	-	-	-	-
INNY	BEALS MILL BRIDGE	R12P006	-	-	-	-	-	-	-	-	-
PENPONT WATER	TRELYN BRIDGE	R12P010	-	-	-	21	14	-	-	-	-
PENPONT WATER	ALTARNUN BRIDGE	R12P007	-	-	-	5	-	-	-	-	-
PENPONT WATER	TWO BRIDGES	R12P008	-	-	-	8	-	-	-	-	-
LOWLEY BROOK	LANDLAKE BRIDGE	R12E005	-	-	-	-	72	-	26	-	-

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1990 RIVER WATER QUALITY CLASSIFICATION

PERCENTAGE EXCEDENCE OF DETERMINAND STATISTICS FROM QUALITY STANDARDS

CATCHMENT: TAMAR (13)

River	Reach upstream of	User Ref. Number	PERCENTAGE EXCEDENCE OF STATISTIC FROM QUALITY STANDARD									Total Copper	Total Zinc
			pH Lower	pH Upper	Temperature	DO (%)	BOD (ATU)	Total Ammonia	Un-ionised Ammonia	Suspended Solids			
LOWLEY BROOK	LANDUE BRIDGE	R12E017	-	-	-	-	24	-	-	-	-	-	-
LOWLEY BROOK	LOWLEY BRIDGE	R12E006	-	-	-	-	-	-	-	-	-	-	-
LYD	A386 ROADBRIDGE LYDFORD	R12P012	-	-	-	-	-	-	-	-	-	-	-
LYD	GREENLANES BRIDGE	R12P001	-	-	-	-	-	-	-	-	-	-	-
LYD	SYDENHAM BRIDGE	R12P011	-	-	-	-	-	-	-	-	-	-	-
LYD	LIFTON BRIDGE	R12P002	-	-	-	-	-	-	-	-	-	-	-
QUITTER BROOK	PRIOR TO RIVER LYD	R12P013	-	-	-	-	-	-	-	-	-	-	-
LEW	COMBEBOB BRIDGE	R12P003	-	-	-	-	-	-	-	-	-	-	-
LEW	PRIOR TO RIVER LYD	R12P004	-	-	-	-	-	-	-	-	-	-	-
COMBEBOB STREAM	ROAD CULVERT NEAR COMBEBOB QUARRY	R12P010	-	-	-	-	-	-	-	-	-	-	-
THRUSHIEL	RIVERMEAD BRIDGE	R12G001	-	-	-	-	-	-	-	-	-	-	-
THRUSHIEL	WRIGHTHILL BRIDGE	R12G002	-	-	-	-	-	-	-	-	-	-	-
THRUSHIEL	STOMFORD BRIDGE	R12G003	-	-	-	-	-	-	-	-	-	-	-
THRUSHIEL	TINHAY BRIDGE	R12G004	-	-	-	-	-	-	-	-	-	-	-
BREAZELE WATER	PRIOR TO RIVER THRUSHIEL	R12G010	-	-	-	-	-	-	-	-	-	-	-
BRATTON BROOK	BRATTON CLOVELLY	R12G009	-	-	-	-	-	-	-	-	-	-	-
WOLF	WEEK'S MILL BRIDGE	R12G005	-	-	-	-	-	-	-	-	-	6	-
WOLF	REXON BRIDGE	R12G006	-	-	-	-	-	-	-	-	-	-	-
WOLF	PRIOR TO RIVER THRUSHIEL	R12G007	-	-	-	-	-	-	-	-	-	-	-
BROADWOOD BROOK	KELLACOTT BRIDGE	R12G012	-	-	-	-	-	-	-	-	-	-	-
KENSEY	BADGALL BRIDGE	R12N003	-	-	-	-	-	-	-	-	-	-	19
KENSEY	BADHARLICK BRIDGE	R12N001	-	-	-	-	-	21	-	-	-	-	-
KENSEY	TRUSCOTT BRIDGE	R12N004	-	-	-	-	-	24	7	-	-	-	-
KENSEY	NEWPORT	R12N005	-	-	-	-	-	59	-	-	7	-	-
KENSEY	ST. LEONARDS BRIDGE	R12N002	-	-	-	-	-	7	-	-	-	-	-
TREGEARE STREAM	RED DOWN BRIDGE	R12N006	-	-	-	-	-	-	31	-	-	-	-
CAREY	HALMILL BRIDGE - QUODITCH	R12H006	-	-	-	-	10	181	147	-	-	-	-
CAREY	ASHMILL BRIDGE	R12H001	-	-	-	-	24	49	14	-	-	-	-
CAREY	MIDDLE BRIDGE VIRGINSTOW	R12H007	-	-	-	-	-	6	-	-	-	-	-
CAREY	TOWERHILL BRIDGE	R12H003	-	-	-	-	25	4	-	-	-	-	-
CAREY	BOLDFORD BRIDGE	R12H008	-	-	-	-	-	-	80	-	-	-	-
CAREY	HEALE BRIDGE	R12H002	-	-	-	-	-	-	-	-	-	-	-

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1990 RIVER WATER QUALITY CLASSIFICATION

PERCENTAGE EXCEEDENCE OF DETERMINAND STATISTICS FROM QUALITY STANDARDS

CATCHMENT: TAMAR (13)

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
HENFORD WATER	HENFORD	R12H005	-	-	-	16	-	-	-	-	-	-
OTTERY	OTTERHAM MILL	R12M004	-	-	-	-	25	75	-	-	-	-
OTTERY	TRENGUNE BRIDGE	R12M005	-	-	-	-	-	-	-	-	-	-
OTTERY	CANWORTHY WATER BRIDGE	R12M001	-	-	-	-	-	-	-	-	-	-
OTTERY	HELLESCOTT BRIDGE	R12M002	-	-	-	-	-	-	-	-	-	-
OTTERY	YEOLMBRIDGE	R12M006	-	-	-	-	-	-	-	-	-	-
OTTERY	HAM MILL BRIDGE	R12M007	-	-	-	-	-	-	-	-	-	-
BOLESBRIDGE WATER	200 METRES D/S OF NAVARINO BRIDGE	R12M012	-	-	-	32	220	139	-	-	-	-
CAUDWORTHY WATER	CAUDWORTHY BRIDGE	R12M010	-	-	-	-	-	-	-	-	-	-
CAUDWORTHY WATER	PRIOR TO RIVER OTTERY	R12M011	-	-	-	-	-	-	-	-	-	-
CANWORTHY WATER	PRIOR TO RIVER OTTERY	R12M008	-	-	-	-	-	-	-	42	-	-
TALA WATER	BRIDGETOWN	R12J006	-	-	-	7	-	-	-	-	-	-
LANA LAKE	LANA BRIDGE	R12J005	-	-	-	11	39	86	-	-	-	-
CLAW	CLAW BRIDGE	R12K016	-	-	-	23	8	44	-	-	-	-
CLAW	CLAWTON BRIDGE	R12K001	-	-	-	-	-	2	-	-	-	-
CLAW	TETCOTT BRIDGE	R12K002	-	-	-	45	-	-	-	-	-	-
DEER	RYDON BRIDGE	R12K003	-	-	-	11	-	-	-	-	-	-
DEER	WINSCOTT BRIDGE	R12K004	-	-	-	-	-	-	-	-	-	-
DEER	DEER BRIDGE	R12K005	-	-	-	5	-	-	-	-	-	-
COLESMILL STREAM	100 METRES BELOW OF HOLSWORTHY ST	R12K007	-	-	-	-	-	-	-	-	-	-
DERRIL WATER	DUX BRIDGE	R12L012	-	-	-	-	38	-	-	-	-	-
DERRIL WATER	DUALSTONE BRIDGE	R12L005	-	-	-	20	-	-	-	-	-	-
SMALL BROOK	HEADON BRIDGE	R12L011	-	-	-	10	46	127	-	-	-	-
SMALL BROOK	YOUULDON BRIDGE	R12L008	-	-	-	17	76	161	-	-	-	-
LAMBERAL WATER	FORDA	R12L010	-	-	-	-	-	-	-	-	-	-
LAMBERAL WATER	MORETON POUND BRIDGE	R12L007	-	-	-	5	4	-	-	-	-	-

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 IDENTIFICATION OF POSSIBLE CAUSES OF NON-COMPLIANCE WITH RQO
 CATCHMENT: TAMAR (13)
 * = WORK ALREADY IN HAND

1990 Map Position Number	River	Reach upstream of	User Reference Number	Reach Length (km)	Possible causes of non-compliance
2	TAMAR	UPPER TAMAR LAKE	R12L017	1.7	FARMING ACTIVITIES, LAND RUN-OFF, BLUE-GREEN ALGAE
6	TAMAR	MORETON MILL	R12L016	1.8	LAND RUN-OFF, FARMING
7	TAMAR	TAMARSTONE BRIDGE	R12L002	4.5	LAND RUN-OFF, DROUGHT
9	TAMAR	CROWFORD BRIDGE	R12L003	5.4	LAND RUN-OFF, UNKNOWN POINT SOURCE, FARMING ACTIVITIES
10	TAMAR	TAMERTON BRIDGE	R12L004	5.1	FARMING ACTIVITIES, LAND RUN-OFF
11	TAMAR	BELOW CONFLUENCE WITH RIVER DEER	R12L013	0.3	FARMING ACTIVITIES
12	TAMAR	BOYTON BRIDGE	R12J001	7.0	FARMING ACTIVITIES, DROUGHT
13	TAMAR	DRUXTON BRIDGE	R12J002	5.9	FARMING ACTIVITIES
14	TAMAR	NETHERBRIDGE	R12J003	1.9	LAND RUN-OFF, POLLUTION, FARMING ACTIVITIES
15	TAMAR	POLSON BRIDGE	R12J004	2.5	LAND RUN-OFF, SEWAGE TREATMENT WORKS, FARMING ACTIVITIES
16	TAMAR	GREYSTONE BRIDGE	R12E001	6.6	LAND RUN-OFF, FARMING ACTIVITIES
17	TAMAR	HORSEBRIDGE	R12E002	11.9	LAND RUN-OFF, CATCHMENT GEOLOGY, FARMING ACTIVITIES
18	TAMAR	GUNNISLAKE BRIDGE	R12E003	9.0	LAND RUN-OFF, UP-STREAM ABSTRACTIONS, CATCHMENT GEOLOGY, SEPTIC TANKS, FARMING ACTIVITIES
20	PONTONTOWN STREAM	GRONOVEN WOOD	R12E015	5.6	CATCHMENT GEOLOGY
21	LATCHLEY BROOK	LATCHLEY	R12E028	1.7	LAND RUN-OFF, MINING, CATCHMENT GEOLOGY
25	INNY	UPSTREAM OF DAVIDSTOW CREAMERY	R12P001	1.4	LAND RUN-OFF, UNKNOWN POINT SOURCE, CATCHMENT GEOLOGY, FARMING ACTIVITIES
26	INNY	TREWINNOW BRIDGE	R12P002	2.0	LAND RUN-OFF, UNKNOWN POINT SOURCE, INDUSTRIAL DISCHARGE, FARMING
27	INNY	ST. CLETHER BRIDGE	R12P003	4.7	LAND RUN-OFF, FARMING ACTIVITIES, MOORLAND, INDUSTRIAL DISCHARGE
28	INNY	GIMBLETT'S MILL	R12P012	4.5	LAND RUN-OFF, AFORESTATION, EUTROPHICATION, FARMING ACTIVITIES
29	INNY	TWO BRIDGES	R12P004	4.3	LAND RUN-OFF, FARMING ACTIVITIES
30	INNY	TREKELLAND BRIDGE	R12P005	4.3	LAND RUN-OFF, CULVERTING
33	PENPONT WATER	TRELYN BRIDGE	R12P010	4.0	LAND RUN-OFF, DROUGHT, FARMING ACTIVITIES
34	PENPONT WATER	ALTARNUN BRIDGE	R12P007	3.7	LAND RUN-OFF, DROUGHT, URBANISATION
35	PENPONT WATER	TWO BRIDGES	R12P008	7.1	LAND RUN-OFF, DROUGHT, POLLUTION
36	LOWLEY BROOK	LANDLAKE BRIDGE	R12E005	3.7	LAND RUN-OFF, URBANISATION, STORM OVERFLOWS
37	LOWLEY BROOK	LANDUE BRIDGE	R12E017	4.0	LAND RUN-OFF, URBANISATION
49	THRUSHIEL	STOMPORD BRIDGE	R12G003	5.9	LAND RUN-OFF, FARMING ACTIVITIES
53	WOLF	WEEK'S MILL BRIDGE	R12G005	3.8	LAND RUN-OFF, CATCHMENT GEOLOGY
57	KENSEY	BADGALL BRIDGE	R12N003	2.4	LAND RUN-OFF, MOORLAND ORIGINS
58	KENSEY	BADHARLICK BRIDGE	R12N001	4.2	LAND RUN-OFF, MOORLAND ORIGINS, FARMING ACTIVITIES
59	KENSEY	TRUSCOTT BRIDGE	R12N004	4.0	LAND RUN-OFF, SEWAGE TREATMENT WORKS
60	KENSEY	NEWPORT	R12N005	3.3	LAND RUN-OFF, URBANISATION
61	KENSEY	ST. LEONARDS BRIDGE	R12N002	2.8	LAND RUN-OFF, STORM OVERFLOW
62	TREGEARE STREAM	RED DOWN BRIDGE	R12N006	3.4	LAND RUN-OFF, CATCHMENT GEOLOGY, FARMING ACTIVITIES

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION
 IDENTIFICATION OF POSSIBLE CAUSES OF NON-COMPLIANCE WITH RQO
 CATCHMENT: TAMAR (13)
 * = WORK ALREADY IN HAND

1990 Map Position Number	River	Reach upstream of	User Reference Number	Reach Length (km)	Possible causes of non-compliance
63	CAREY	HAILWILL BRIDGE - QUODITCH	R12H006	3.6	LAND RUN-OFF, AFORESTATION, FARMING ACTIVITIES, SEPTIC TANK
64	CAREY	ASHMILL BRIDGE	R12H001	4.7	LAND RUN-OFF, FARMING ACTIVITIES, SEPTIC TANKS, CATCHMENT GEOLOGY
65	CAREY	MIDDLE BRIDGE VIRGINSTOW	R12H007	4.0	LAND RUN-OFF, DROUGHT, FARMING ACTIVITIES
66	CAREY	TOWERHILL BRIDGE	R12H003	2.4	LAND RUN-OFF
67	CAREY	BOLDFORD BRIDGE	R12H008	2.7	LAND RUN-OFF, DROUGHT, FARMING ACTIVITIES
69	HENFORD WATER	HENFORD	R12H005	4.3	DROUGHT, LAND RUN-OFF, FARMING ACTIVITIES, CATCHMENT GEOLOGY
70	OTTERY	OTTERHAM MILL	R12M004	6.0	LAND RUN-OFF, FARMING ACTIVITIES, CATCHMENT GEOLOGY
76	BOLESBRIDGE WATER	200 METRES D/S OF NAVARINO BRIDG	R12M012	8.0	DROUGHT, LAND RUN-OFF, FARMING ACTIVITIES, CATCHMENT GEOLOGY
79	CANWORTHY WATER	PRIOR TO RIVER OTTERY	R12M008	4.8	LAND RUN-OFF, FARMING ACTIVITIES, CATCHMENT GEOLOGY
80	EALA WATER	BRIDGETOWN	R12J006	9.3	DROUGHT, SEPTIC TANK
81	LANA LAKE	LANA BRIDGE	R12J005	3.1	DROUGHT, LAND RUN-OFF, FARMING ACTIVITIES, CATCHMENT GEOLOGY
82	CLAW	CLAW BRIDGE	R12K016	4.2	DROUGHT, FARMING ACTIVITIES, LAND RUN-OFF, CATCHMENT GEOLOGY
83	CLAW	CLAWTON BRIDGE	R12K001	2.9	LAND RUN-OFF, FARMING ACTIVITIES
84	CLAW	TETCOTT BRIDGE	R12K002	4.3	DROUGHT, FARMING ACTIVITIES, CATCHMENT GEOLOGY
85	DEER	RYDON BRIDGE	R12K003	6.8	DROUGHT, URBANISATION
87	DEER	DEER BRIDGE	R12K005	6.0	DROUGHT, URBANISATION
89	DERRIL WATER	DUX BRIDGE	R12L012	2.7	LAND RUN-OFF, FARMING ACTIVITIES, CATCHMENT GEOLOGY
90	DERRIL WATER	DUALSTONE BRIDGE	R12L005	2.5	DROUGHT, CATCHMENT GEOLOGY
91	SMALL BROOK	HEADON BRIDGE	R12L011	3.7	LAND RUN-OFF, DROUGHT, FARMING ACTIVITIES, CATCHMENT GEOLOGY
92	SMALL BROOK	YOUULDON BRIDGE	R12L008	2.5	CATCHMENT GEOLOGY, FARMING ACTIVITIES, LAND RUN-OFF
94	LAMBERAL WATER	MORETON POUND BRIDGE	R12L007	3.2	LAND RUN-OFF, DROUGHT, CATCHMENT GEOLOGY, FARMING ACTIVITIES