

# Environmental Protection Report

## River Tamar Catchment River Water Quality Classification 1991

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**NRA**

*National Rivers Authority*

*South West Region*

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R Broome - Co-ordinator and Editor  
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A Gurney - Statistical Schedule production

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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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ENVIRONMENT AGENCY



110233

# RIVER WATER QUALITY IN THE RIVER TAMAR CATCHMENT

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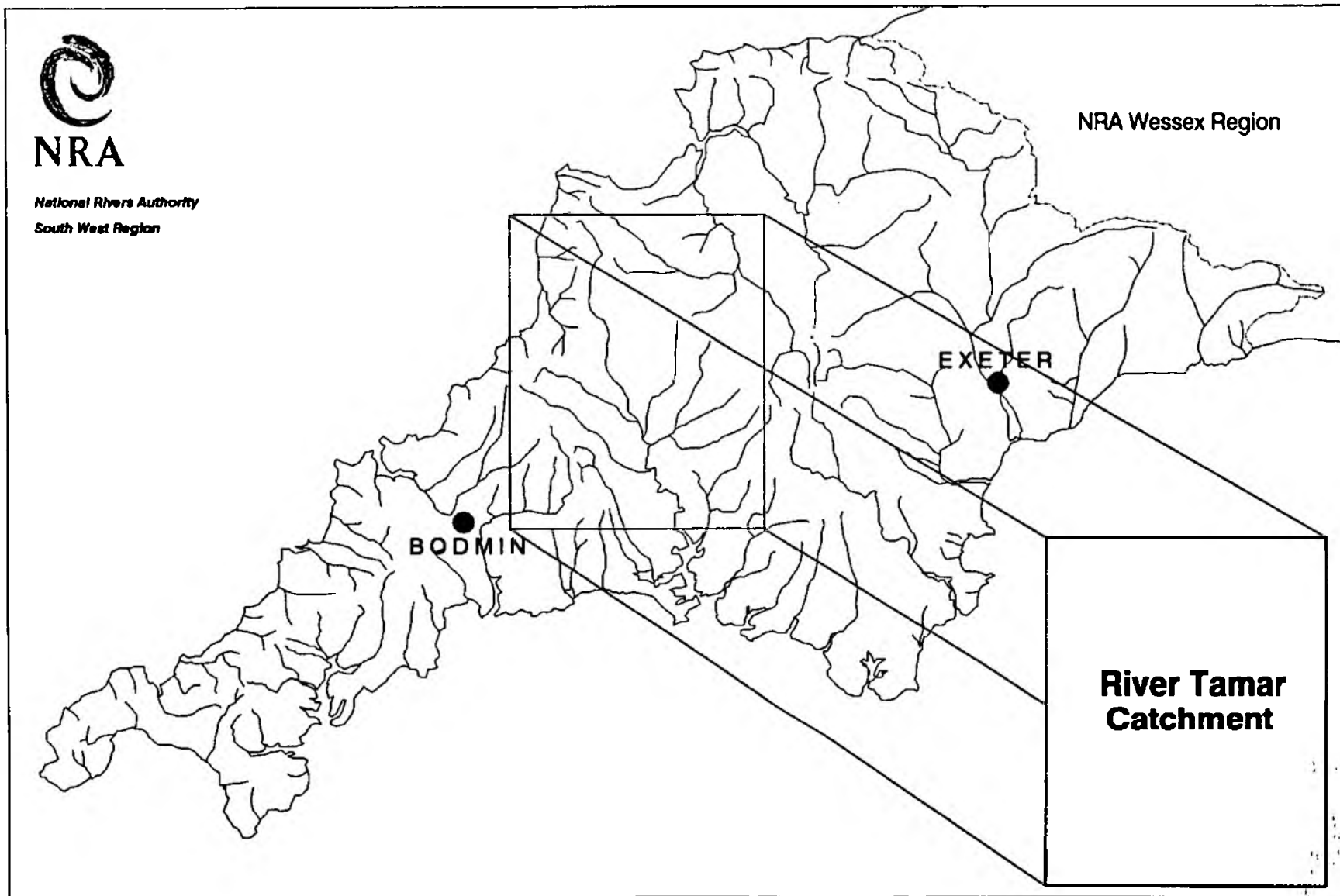
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# National Rivers Authority South West Region



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**River Tamar Catchment**

**NRA Wessex Region**

**EXETER**

**BODMIN**

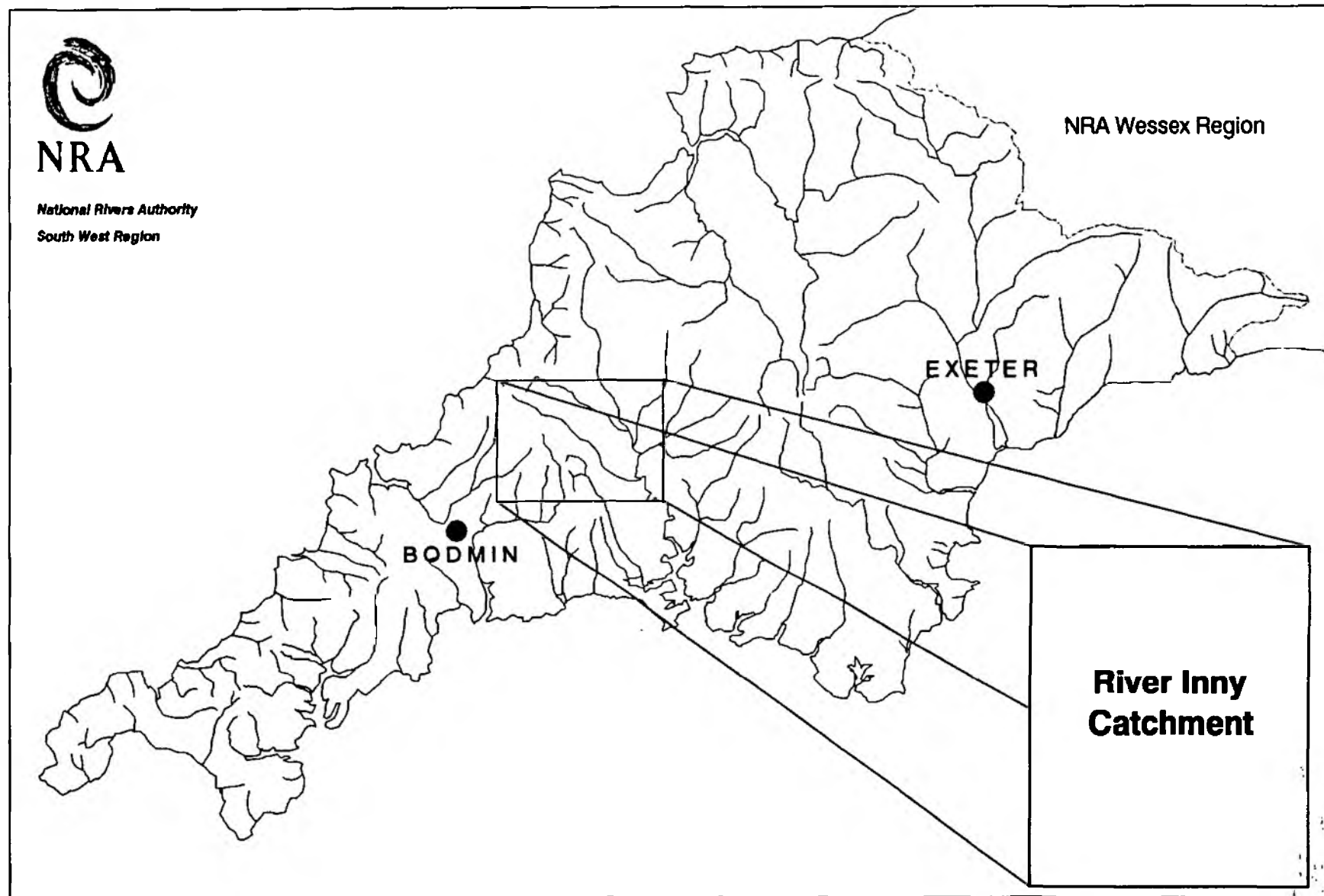
**River Tamar  
Catchment**

# National Rivers Authority South West Region



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NRA Wessex Region

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**River Inny  
Catchment**

**River Inny Catchment**

# National Rivers Authority South West Region



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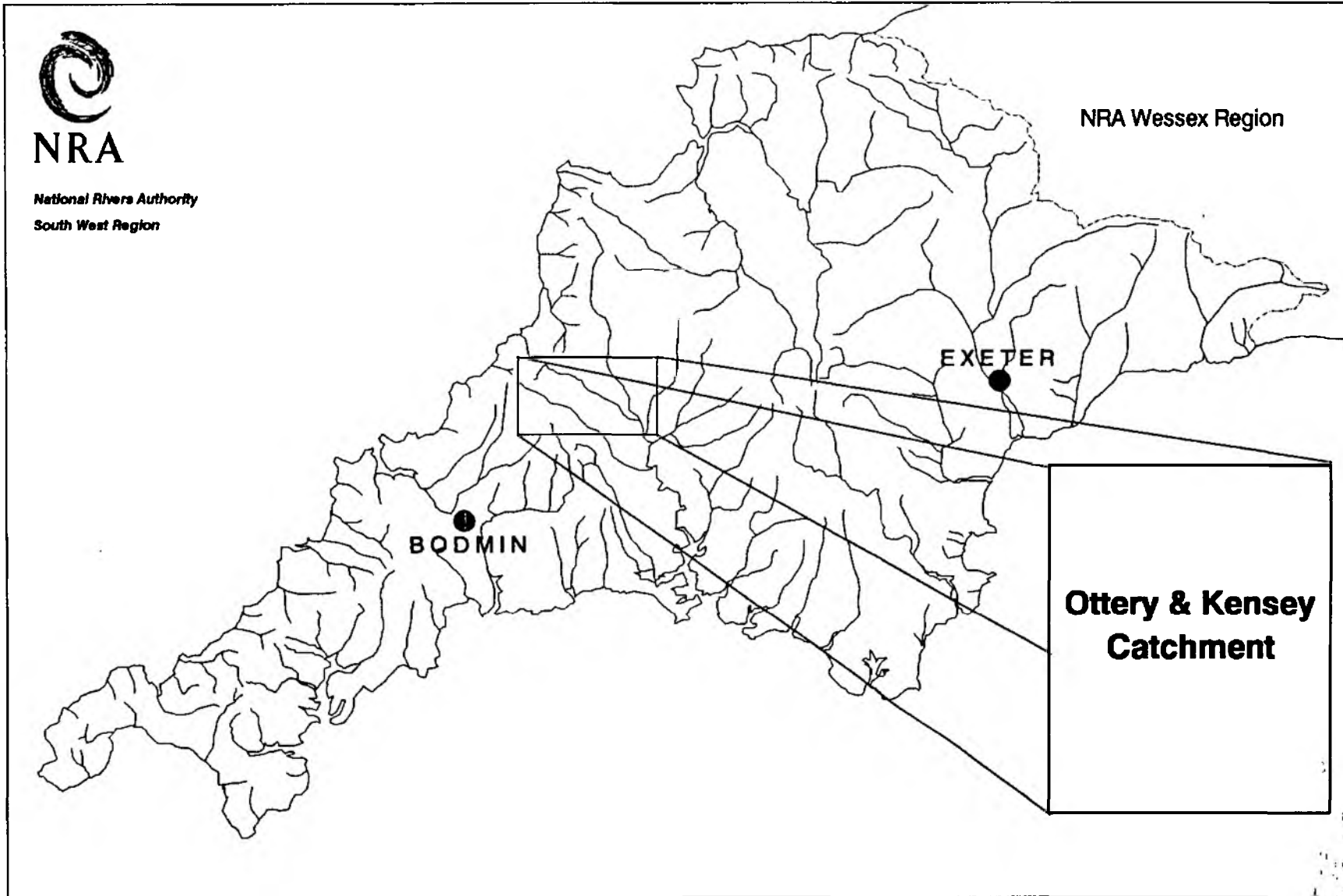
NRA Wessex Region

EXETER

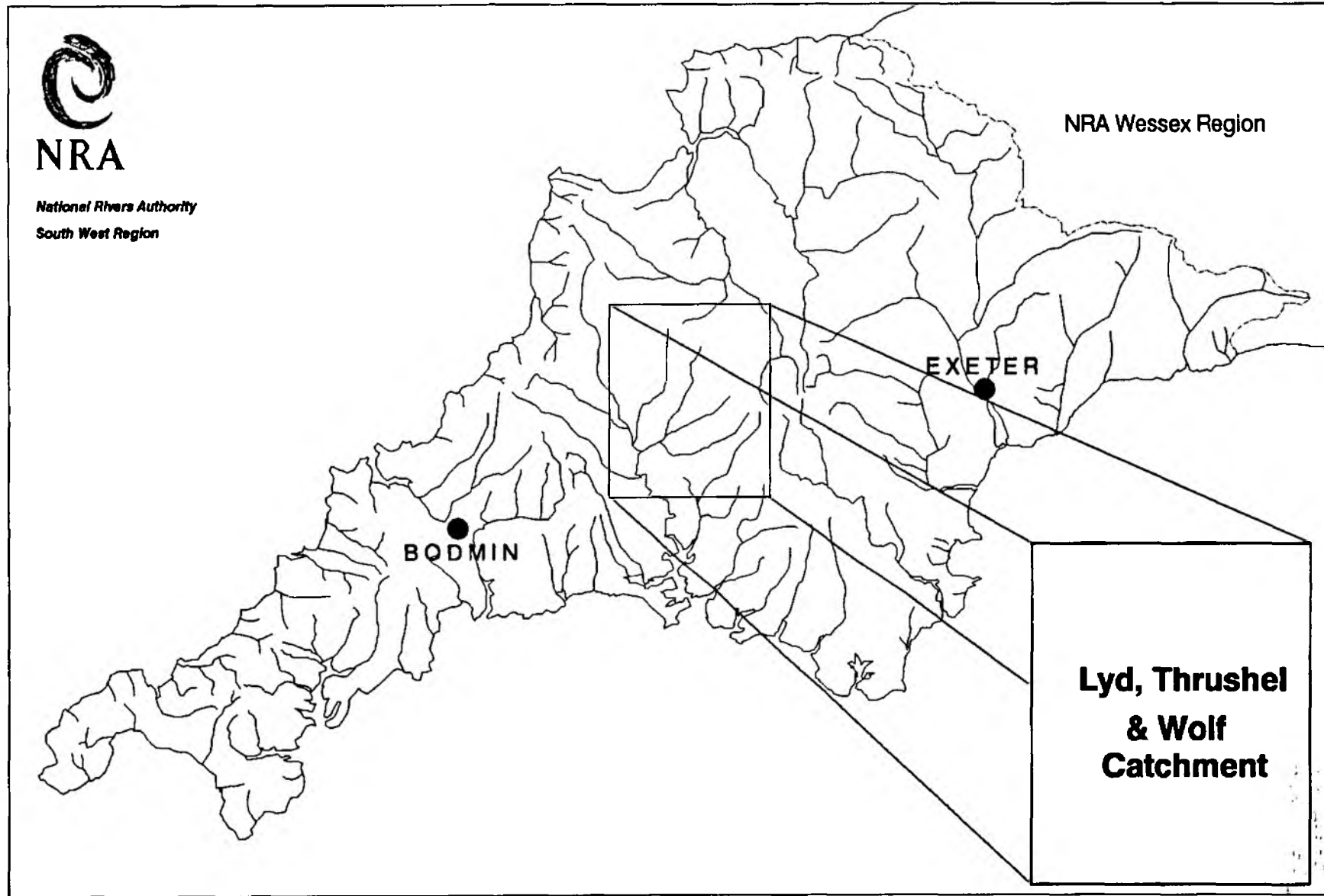
BODMIN

**Ottery & Kensey  
Catchment**

**Ottery & Kensey Catchment**



# National Rivers Authority South West Region



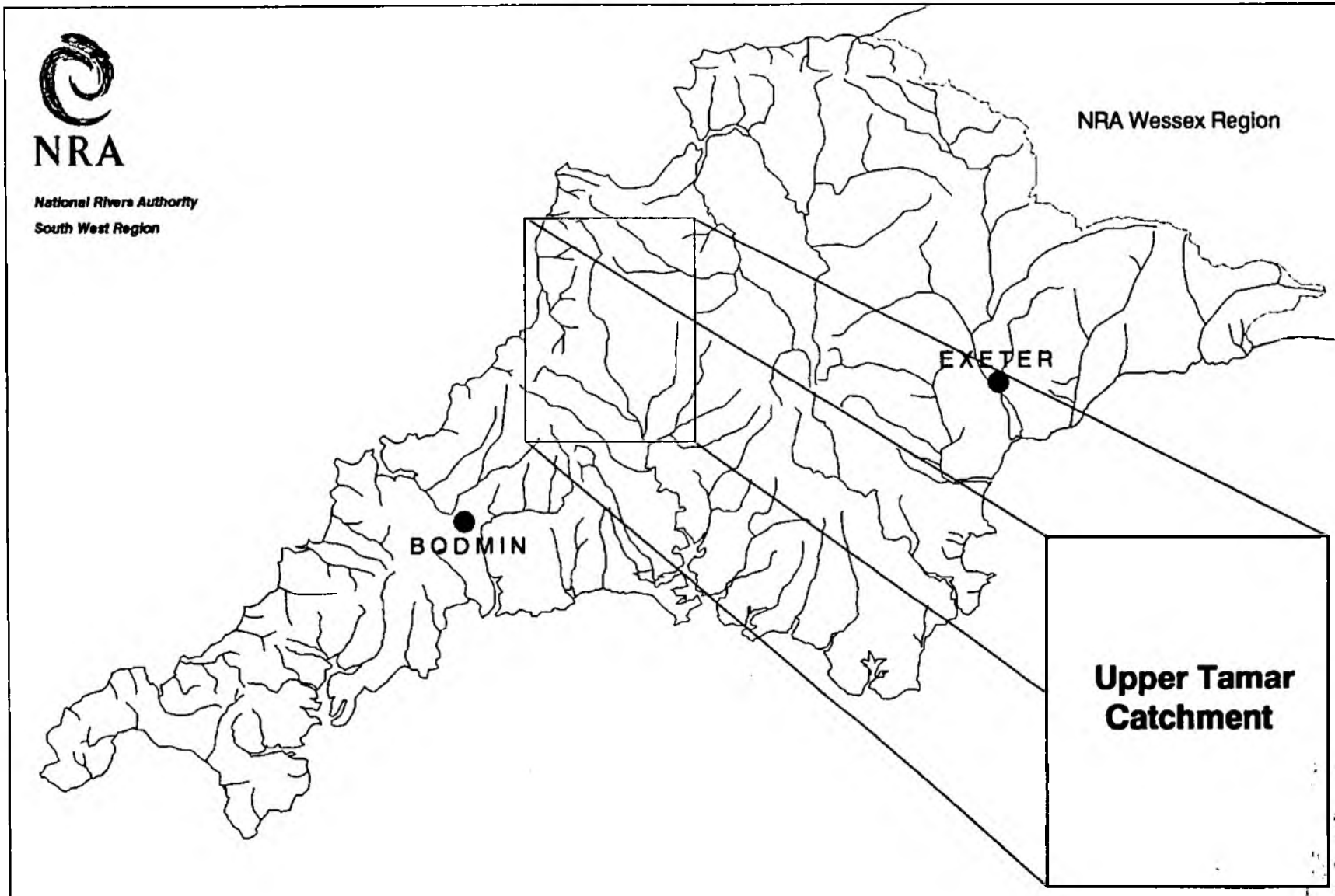
Lyd, Thrushel & Wolf Catchment

# National Rivers Authority South West Region



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South West Region



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**Upper Tamar  
Catchment**

**Upper Tamar Catchment**

1-23

## 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 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 8.1). Water quality was monitored at sixteen locations on the main river; fourteen 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 two quinary tributaries of the River Tamar were monitored at approximately monthly intervals.

In addition Upper and Lower Tamar lakes were monitored each at one location and approximately monthly intervals.

### 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 8.1) and was monitored at eight locations.

The River Ottery flows over a distance of 33 km from its source to the confluence with the River Tamar, (Appendix 8.1) and was monitored at six locations.

The River Kensey and Carey flow over a distance of 16.8 km and 21.5 km respectively from their source to the confluence with the River Tamar, (Appendix 8.1) and were 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 8.1) and was monitored at four locations.

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 8.1).

The Small Brook (9.1 km), Lamberal Water (9.6 km) and the River Lockett (5.7 km) were all monitored at two locations between their source and confluence with the River Tamar, (Appendix 8.1).

The Derrill Water (7.4 km), Blanchdown Stream (0.7 km), Portontown Stream (6.4 km), Latchley Brook (1.9 km), Damerall 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. (Appendix 8.1).

## **2.2 TERTIARY STREAMS**

The River Thrushel flows over a distance of 21.4 km before joining the River Lyd, (Appendix 8.1) 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 8.1) 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 8.1) and were monitored at two locations.

The Tregear Stream (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. (Appendix 8.1).

## **2.3 QUATERNARY TRIBUTARIES**

Combebow Stream flows over a distance of (5.5 km) and was sampled at one site between its source and confluence with the River Lew. (Appendix 8.1).

Breazle Water (5.7 km) and Bratton Brook (6.1 km) were both sampled at one location between their sources and confluence with and River Thrushel. (Appendix 8.1).

The River Wolf flows over a distance of 14.9 km from its source to the confluence with the River Thrushel, (Appendix 8.1) and was monitored at three locations.

## 2.4 QUINARY TRIBUTARY

The Broadwood Brook and Hennard Stream flow over a distance of 6.3 km and 4.2 km respectively from their source to the confluence with the River Wolf, (Appendix 8.1) and were 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 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 Tamar 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.

River water quality has been classified annually using a set of class standards, which includes a standard of 25 mg/l for suspended solids (as an annual mean). This standard is incorporated in the Class 1A, 1B and 2 classification criteria, being applicable to both salmonid and cyprinid fish. (7.3).

If this suspended solids standard has been exceeded in the annual classification at any monitoring location, then the quality of the river reach above the monitoring location is said to have failed to meet its objective and associated use, i.e. the protection of salmonid and cyprinid fish.

This would result for the suspended solids quality test in classifying the river reach as being Class 3 - poor quality.

The type of quality downgrading affects locations across the region, the River Tamar is one such example.

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, $\text{NH}^3$ .
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.

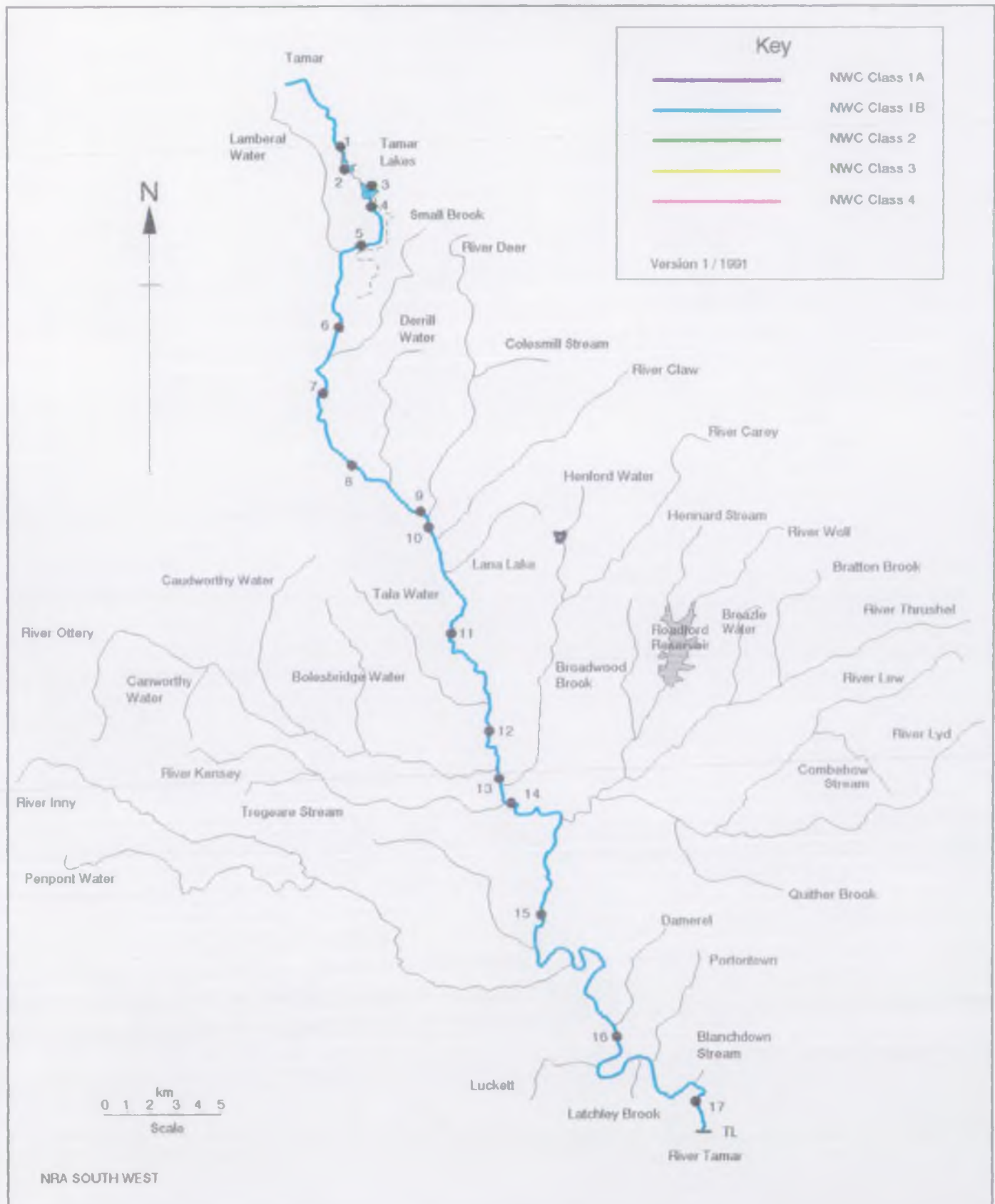
## 7. REFERENCES

### 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.

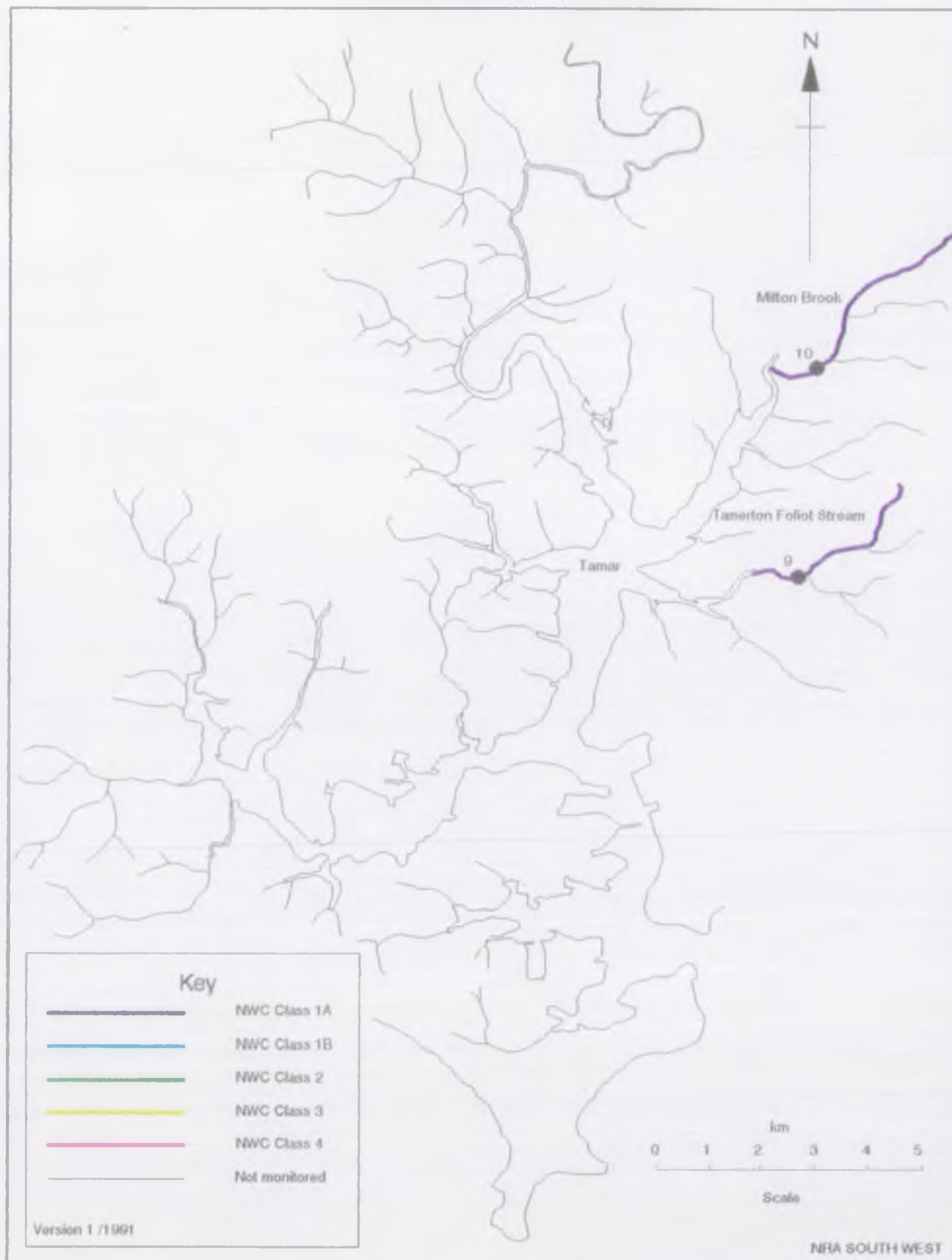
# River Tamar River Quality Objectives

Appendix 8.1

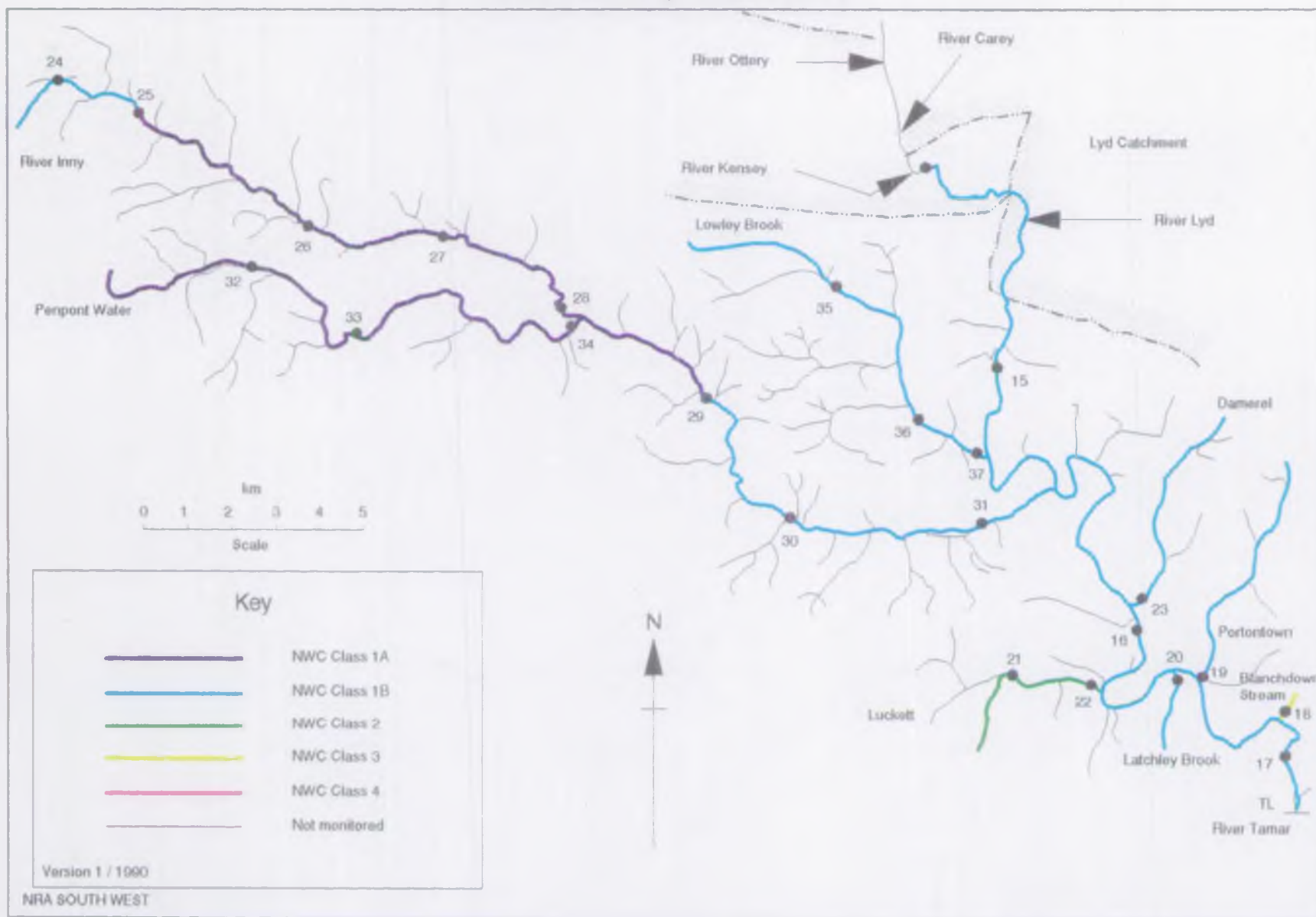


# Tamar Estuary Catchment River Quality Objectives

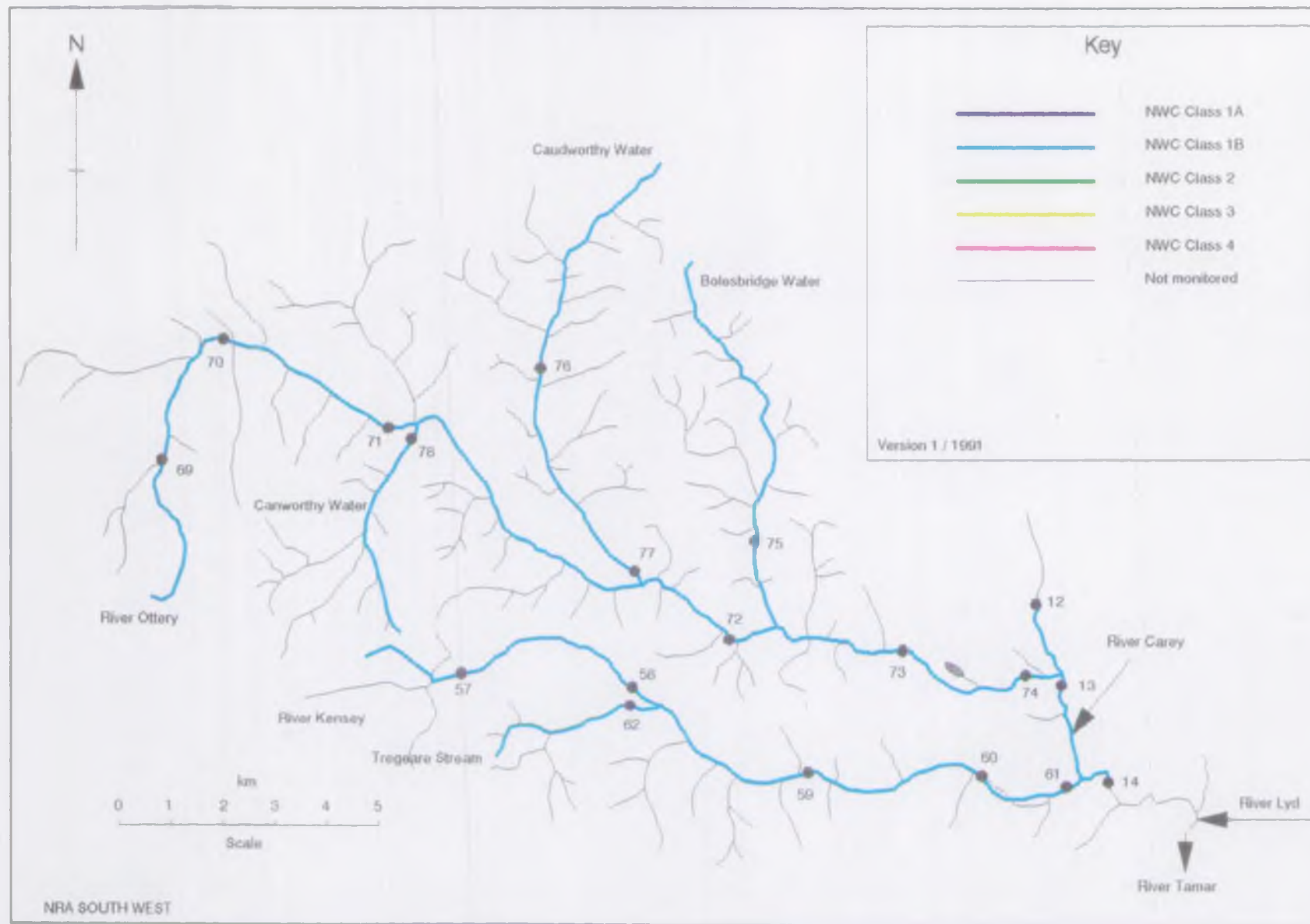
Appendix 8.1



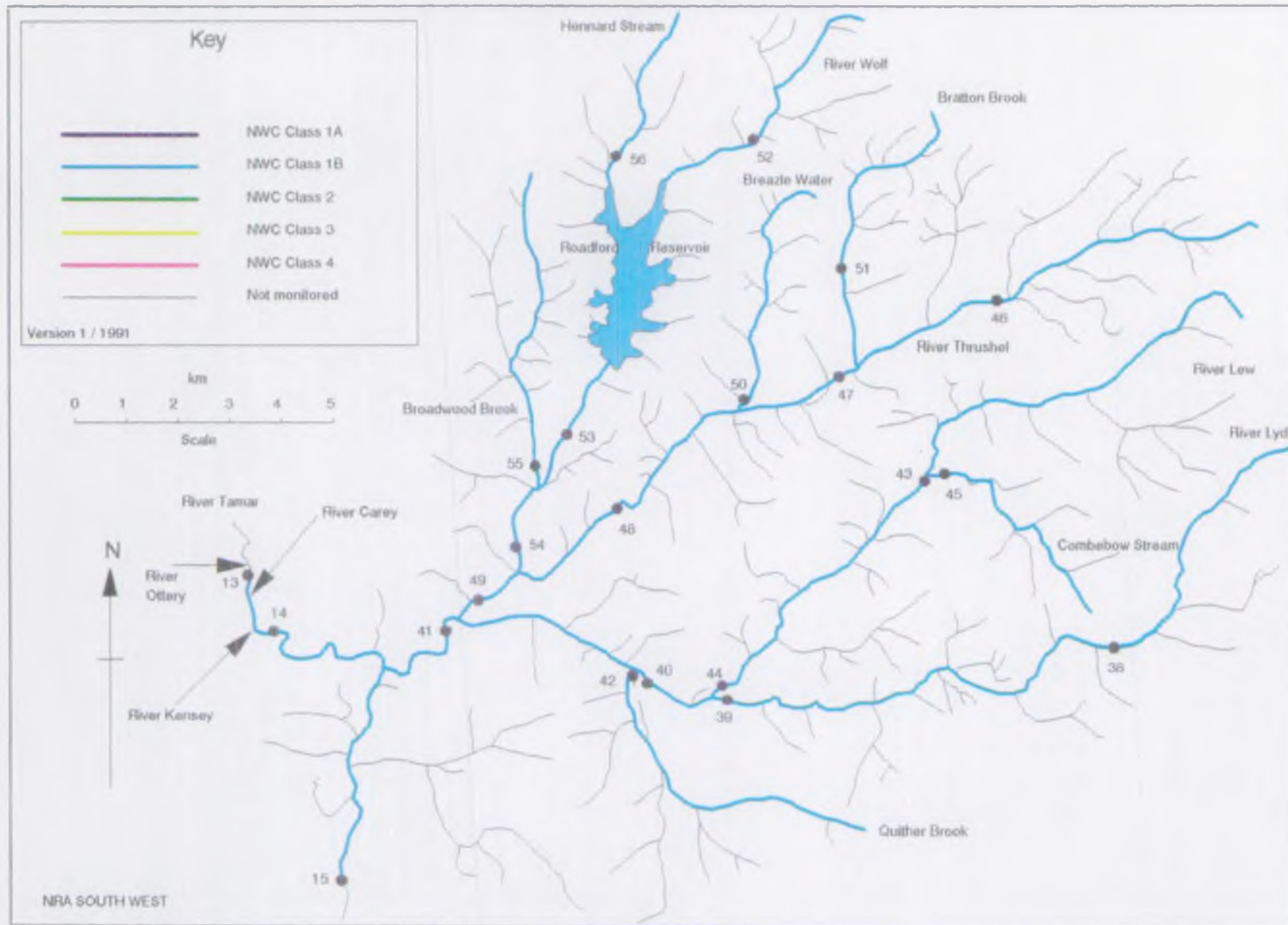
# Inny Catchment River Quality Objectives



# Ottery & Kensey Catchments River Quality Objectives

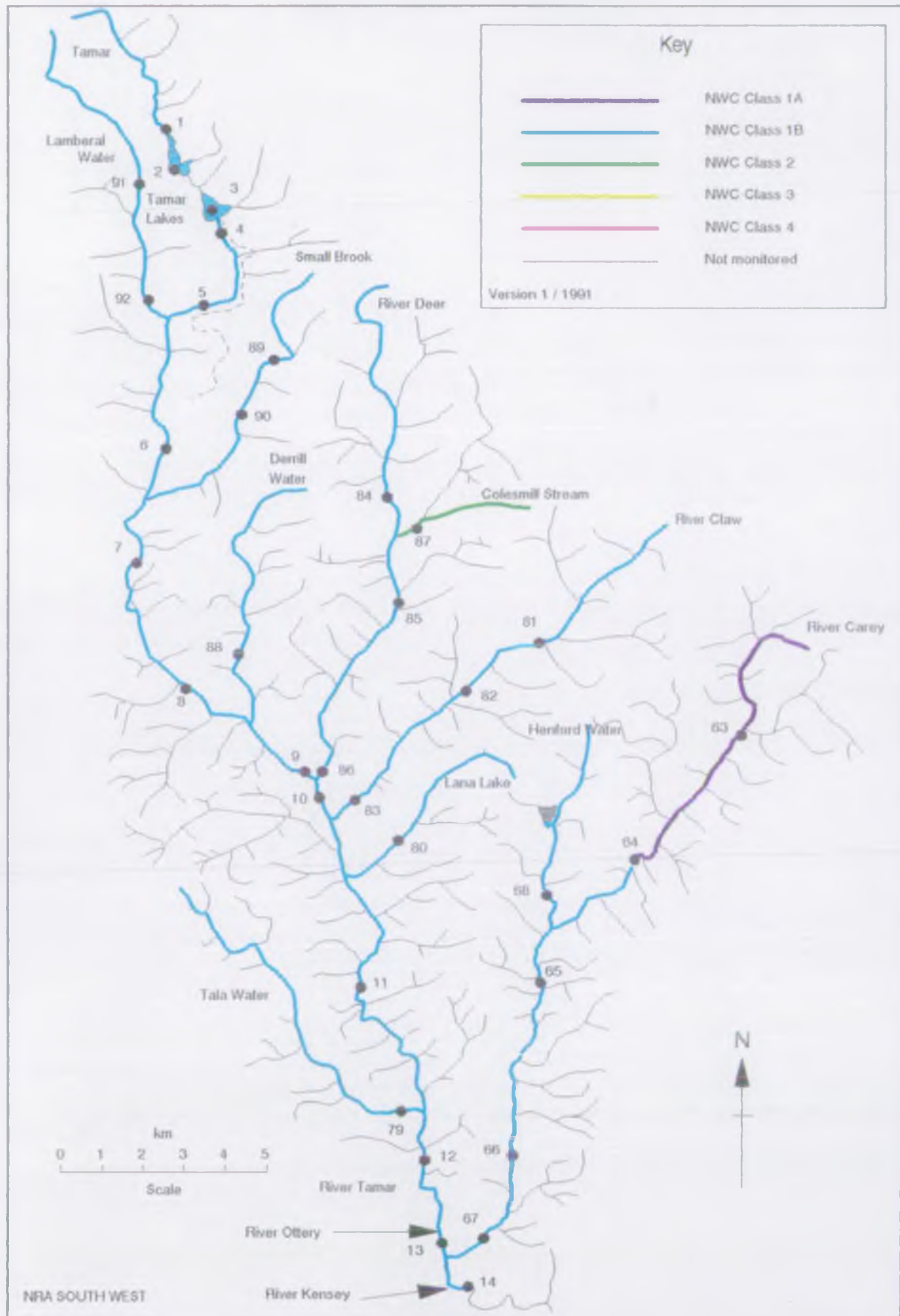


## Lyd, Thrushel & Wolf Catchments River Quality Objectives



# Upper Tamar Catchment River Quality Objectives

Appendix 8.1



## 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  $\text{mg}/\text{l}$

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

### 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

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  $\text{NH}_4$ . \*\*
  - (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  $\text{NH}_4$ /l to mg N/l)

Class 1A	0.4 mg $\text{NH}_4$ /l = 0.31 mg N/l
Class 1B	0.9 mg $\text{NH}_4$ /l = 0.70 mg N/l
	0.5 mg $\text{NH}_4$ /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 <sub>3</sub>	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 <sub>3</sub>	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  
1991 RIVER WATER QUALITY CLASSIFICATION  
CATCHMENT: TAMAR

1991 Map Position Number	River	Reach upstream of	User Reference Number	National Grid Reference
1	TAMAR	BUSES BRIDGE	R12L001	SS 2808 1338
2	TAMAR	INFLOW, UPPER TAMAR LAKE (INF. STRETCH)	R12L017	SS 2891 1188
3	TAMAR	UPPER TAMAR LAKE	R12L018	SS 2962 1085
4	TAMAR	INFLOW, LOWER TAMAR LAKE (UNMON. STRETCH)	R12L009	SS 2956 1070
5	TAMAR	LOWER TAMAR LAKE	R12L006	SS 2953 0895
6	TAMAR	FOOTBRIDGE BELOW LOWER TAMAR LAKE	R12L002	SS 2835 0548
7	TAMAR	DEXBEER BRIDGE	R12L015	SS 2748 0288
8	TAMAR	TAMARSTONE BRIDGE	R12L003	SX 2873 9944
9	TAMAR	BRIDGERULE	R12L004	SX 3176 9738
10	TAMAR	CROWFORD BRIDGE	R12L013	SX 3190 9726
11	TAMAR	TAMERTON BRIDGE	R12J001	SX 3284 9228
12	TAMAR	BELOW CONFLUENCE WITH RIVER DEER	R12J002	SX 3444 8833
13	TAMAR	BOYTON BRIDGE	R12J003	SX 3483 8675
14	TAMAR	DRUXTON BRIDGE	R12J004	SX 3559 8490
15	TAMAR	NETHERBRIDGE	R12E001	SX 3683 8038
16	TAMAR	POLSON BRIDGE	R12E002	SX 4001 7486
17	TAMAR	GREYSTONE BRIDGE	R12E003	SX 4332 7224
	TAMAR	HORSEBRIDGE		
	TAMAR	GUNNISLAKE BRIDGE		
	TAMAR	NORMAL TIDAL LIMIT (INFERRED STRETCH)		
18	BLANCHDOWN STREAM	PRIOR TO RIVER TAMAR	R12E004	SX 4325 7291
19	PORTONTOWN STREAM	PRIOR TO RIVER TAMAR	R12E034	SX 4143 7373
	PORTONTOWN STREAM	TAMAR CONFLUENCE (INFERRED STRETCH)		
20	LATCHLEY BROOK	LATCHLEY	R12E028	SX 4088 7374
	LATCHLEY BROOK	TAMAR CONFLUENCE (INFERRED STRETCH)		
21	LUCKETT	OLDMILL	R12E016	SX 3700 7385
22	LUCKETT	LUCKETT BRIDGE	R12E007	SX 3888 7368
	LUCKETT	TAMAR CONFLUENCE (INFERRED STRETCH)		
23	DAMEREL STREAM	PRIOR TO RIVER TAMAR	R12E014	SX 3989 7549
	DAMEREL STREAM	TAMAR CONFLUENCE (INFERRED STRETCH)		
24	INNY	UPSTREAM OF DAVIDSTOW CREAMERY	R12P001	SX 1533 8702
25	INNY	TREWYNOW BRIDGE	R12P002	SX 1701 8650
26	INNY	ST. CLETHER BRIDGE	R12P003	SX 2061 8418
27	INNY	GIMBLETT'S MILL	R12P012	SX 2419 8339
28	INNY	TWO BRIDGES	R12P004	SX 2706 8175
29	INNY	TREKELLAND BRIDGE	R12P005	SX 3002 7987
30	INNY	TRECARRELL BRIDGE	R12P013	SX 3202 7713
31	INNY	BEALS MILL BRIDGE	R12P006	SX 3588 7706
	INNY	TAMAR CONFLUENCE (INFERRED STRETCH)		

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
4.2	4.2	1B	2	2	2	2	1B	1B	3
0.2	4.4	1B	2	2	2	2	1B	1B	3
1.7	6.1	1B	2	2	2	1B	1B	2	2
0.4	6.5	1B	2	2	2	1B	1B	U	U
0.9	7.4	1B	2	2	2	1B	1B	1B	1B
0.1	7.5	1B	2	2	2	1B	1B	1B	1B
3.0	10.5	1B	2	2	2	1B	1B	1B	2
6.3	16.8	1B	2	2	1B	2	1B	2	1B
4.4	21.2	1B	2	2	2	2	2	1B	1B
5.4	26.6	1B	2	2	2	2	2	2	3
5.1	31.7	1B	2	2	2	2	2	2	3
0.3	32.0	1B	2	2	2	2	2	3	3
7.0	39.0	1B	2	2	2	2	2	3	3
5.9	44.9	1B	2	2	2	2	2	3	3
1.9	46.8	1B	2	2	2	2	2	3	3
2.5	49.3	1B	2	1B	1B	2	2	3	3
6.6	55.9	1B	2	1B	1B	2	2	3	3
11.9	67.8	1B	2	1B	1B	2	1B	3	3
9.0	76.8	1B	2	2	2	1B	1B	3	3
1.2	78.0	1B	2	2	2	1B	1B	3	3
0.7	0.7	3				3	3	3	3
6.3	6.3	1B	1B	1B	1B	2	2	2	1A
0.1	6.4	1B	1B	1B	1B	2	2	2	1A
1.7	1.7	1B						2	2
0.2	1.9	1B						2	2
3.2	3.2	2	2	2	2	2	2	1B	1B
2.1	5.3	2	2	2	2	2	2	2	2
0.4	5.7	2	2	2	2	2	2	2	2
5.4	5.4	1B	1B	1B	2	2	2	1B	1B
0.1	5.5	1B	1B	1B	2	2	2	1B	1B
1.4	1.4	1B	1B	2	2	2	2	2	3
2.0	3.4	1B	1B	1B	1B	2	2	2	3
4.7	8.1	1A	1B	1B	1B	1B	1B	1B	3
4.5	12.6	1A	1B	1B	1B	1B	2	1B	1B
4.3	16.9	1A	1B	1B	1B	1B	2	1B	3
4.3	21.2	1A	1B	1B	1B	1B	1B	1B	1B
4.6	25.8	1B	1B	2	2	2	1B	1B	1B
4.3	30.1	1B	1B	2	2	2	1B	1B	1A
2.4	32.5	1B	1B	2	2	2	1B	1B	1A

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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
32	PENPONT WATER	TRELYN BRIDGE	R12P010	SX 2002 8286	4.0	4.0	1A	1B	2	2	2	2	1B	1B
33	PENPONT WATER	ALTARNUN BRIDGE	R12P007	SX 2233 8130	3.7	7.7	1A	1B	1B	1B	1B	1B	1B	2
34	PENPONT WATER	TWO BRIDGES	R12P008	SX 2695 8165	7.1	14.8	1A	1B	1B	1B	1B	1B	1B	1B
	PENPONT WATER	INNY CONFLUENCE (INFERRED STRETCH)			0.2	15.0	1A	1B	1B	1B	1B	1B	1B	1B
35	LOWLEY BROOK	LANDLAKE BRIDGE	R12E005	SX 3287 8235	3.7	3.7	1B	1B	1B	1B	2	2	3	2
36	LOWLEY BROOK	LANDUE BRIDGE	R12E017	SX 3473 7970	4.0	7.7	1B	1B	1B	1B	2	2	2	1B
37	LOWLEY BROOK	LOWLEY BRIDGE	R12E006	SX 3593 7873	1.8	9.5	1B	1B	1B	1B	2	2	1B	1B
	LOWLEY BROOK	TAMAR CONFLUENCE (INFERRED STRETCH)			0.6	10.1	1B	1B	1B	1B	2	2	1B	1B
38	LYD	A386 ROADBRIDGE LYDFORD	R12P012	SX 5205 8446	6.5	6.5	1B	1A	2	2	2	2	1A	1A
39	LYD	GREENLANES BRIDGE	R12P001	SX 4436 8325	9.5	16.0	1B	1A	1A	1A	1A	1B	1B	1B
40	LYD	SYDENHAM BRIDGE	R12P011	SX 4288 8388	1.9	17.9	1B	1A	1A	1B	1B	1B	1A	1A
41	LYD	LIPTON BRIDGE	R12P002	SX 3892 8480	5.1	23.0	1B	1B	1B	1B	1B	1B	1B	1B
	LYD	TAMAR CONFLUENCE (INFERRED STRETCH)			2.2	25.2	1B	1B	1B	1B	1B	1B	1B	1B
42	QUITHER BROOK	PRIOR TO RIVER LYD	R12P013	SX 4265 8398	6.7	6.7	1B	1B	1B	1B	1B	1B	1A	1A
43	LEW	COMBEBOW BRIDGE	R12P003	SX 4853 8793	8.4	8.4	1B	1B	1B	1B	1B	1B	1A	1A
44	LEW	PRIOR TO RIVER LYD	R12P004	SX 4410 8340	7.3	15.7	1B	1B	1B	1B	1B	1B	1A	2
	LEW	LYD CONFLUENCE (INFERRED STRETCH)			0.1	15.8	1B	1B	1B	1B	1B	1B	1A	2
45	COMBEBOW STREAM	ROAD CULVERT NEAR COMBEBOW QUARRY	R12P010	SX 4881 8798	5.2	5.2	1B	1B					1B	2
	COMBEBOW STREAM	LEW CONFLUENCE (INFERRED STRETCH)			0.3	5.5	1B	1B					1B	2
46	THRUSHEL	RIVERMEAD BRIDGE	R12G001	SX 4988 9128	5.9	5.9	1B	1B	2	2	2	1B	1B	1B
47	THRUSHEL	WRIGHILL BRIDGE	R12G002	SX 4655 8985	4.3	10.2	1B	1B	1B	1B	1B	1B	1B	2
48	THRUSHEL	STOWFORD BRIDGE	R12G003	SX 4280 8735	5.9	16.1	1B	1B	2	2	2	3	3	3
49	THRUSHEL	TINHAY BRIDGE	R12G004	SX 3938 8538	4.8	20.9	1B	1B	1B	1B	1B	1B	1B	2
	THRUSHEL	LYD CONFLUENCE (INFERRED STRETCH)			0.5	21.4	1B	1B	1B	1B	1B	1B	1B	2
50	BREAZLE WATER	PRIOR TO RIVER THRUSHEL	R12G010	SX 4476 8917	5.6	5.6	1B	1B	2	1B	1B	1B	1B	3
	BREAZLE WATER	THRUSHEL CONFLUENCE (INFERRED STRETCH)			0.1	5.7	1B	1B	2	1B	1B	1B	1B	3
51	BRATTON BROOK	BRATTON CLOVELLY	R12G009	SX 4676 9202	4.1	4.1	1B	2	3	3	2	1B	1A	1B
	BRATTON BROOK	THRUSHEL CONFLUENCE (INFERRED STRETCH)			2.0	6.1	1B	2	3	3	2	1B	1A	1B
52	WOLF	WEEK'S MILL BRIDGE	R12G005	SX 4461 9423	3.8	3.8	1B	1B	1B	1B	1B	1B	2	1B
	WOLF	INFLOW, ROADFORD RES. (INFERRED STRETCH)			1.6	5.4	1B	1B	1B	1B	1B	1B	2	1B
	WOLF	ROADFORD RESERVOIR (UNMONITORED STRETCH)			3.6	9.0	1B	1B	1B	1B	1B	1B	2	U
53	WOLF	REXON BRIDGE	R12G006	SX 4133 8885	1.9	10.9	1B	1B	1B	1B	1B	1B	1B	1B
54	WOLF	PRIOR TO RIVER THRUSHEL	R12G007	SX 4031 8629	3.6	14.5	1B	1B	2	1B	1B	1B	1B	3
	WOLF	THRUSHEL CONFLUENCE (INFERRED STRETCH)			0.4	14.9	1B	1B	2	1B	1B	1B	1B	3

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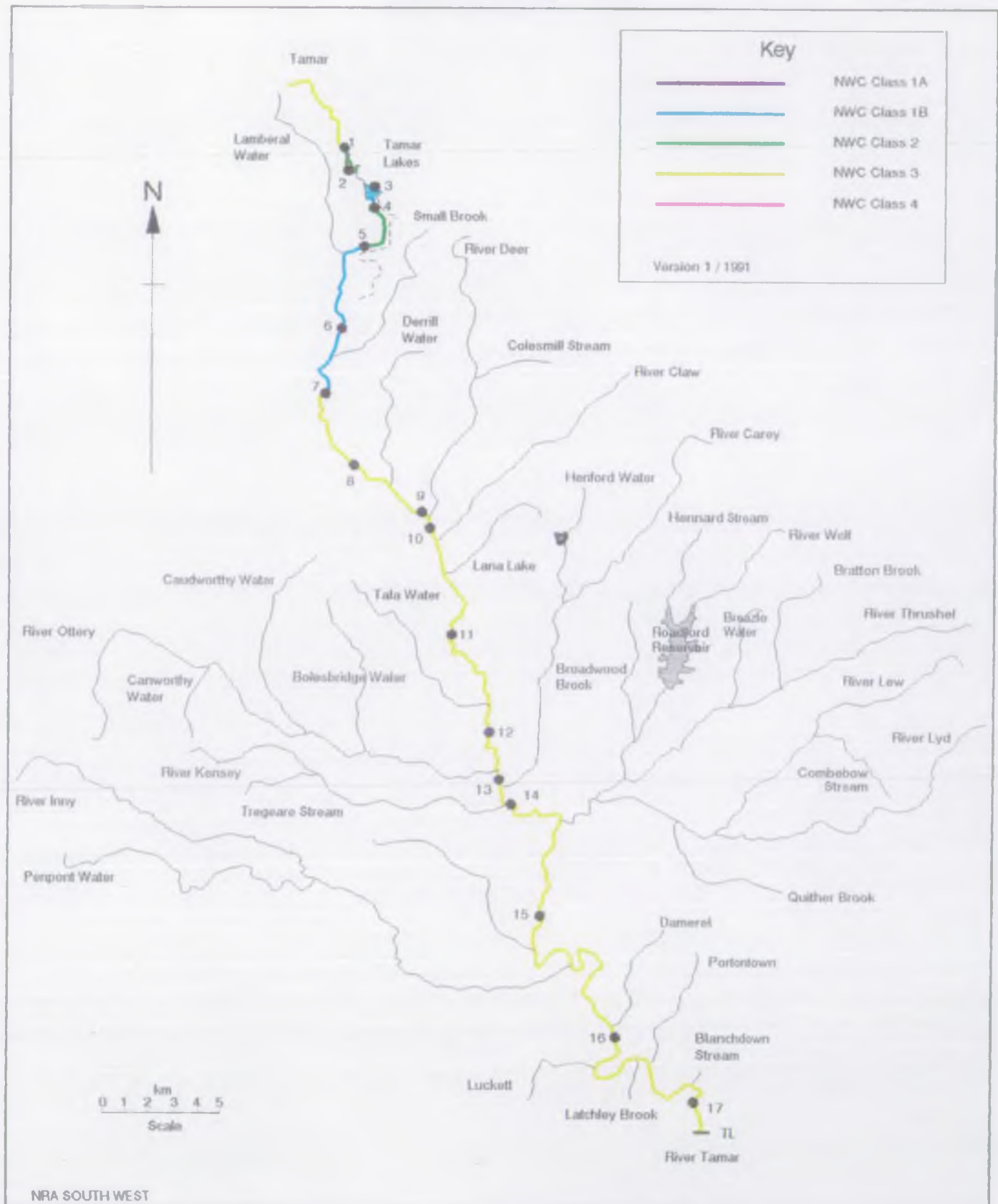
1991 Map Position Number	River	Reach upstream of	User Reference Number	National Grid Reference	Reach Length (km)	Distance from source (km)	River Quality Objective	85 NWC Class	86 NWC Class	87 NWC Class	88 NWC Class	89 NWC Class	90 NWC Class	91 NWC Class
55	BROADWOOD BROOK BROADWOOD BROOK	KELLACOTT BRIDGE WOLF CONFLUENCE (INFERRED STRETCH)	R12G012	SX 4066 8799	5.9 0.4	5.9 6.3	1B 1B	2 2	2 2	2 2	1B 1B	1B 1B	1B 1B	3 3
56	HENNARD STREAM HENNARD STREAM	PRIOR TO ROADFORD ROADFORD RES. INFLOW (INFERRED STRETCH)	R12G096	SX 4250 9390	3.7 0.5	3.7 4.2	1B 1B		1B	1B	1B	1B		1A 1A
57	KENSEY	BADGALL BRIDGE	R12N003	SX 2317 8692	2.4	2.4	1B	1A	3	1B	1B	1B	2	2
58	KENSEY	BADHARLICK BRIDGE	R12N001	SX 2675 8643	4.2	6.6	1B	1B	2	1B	1B	2	2	1B
59	KENSEY	TRUSCOTT BRIDGE	R12N004	SX 2987 8499	4.0	10.6	1B	1B	2	2	2	2	2	1B
60	KENSEY	NEWPORT	R12N005	SX 3270 8511	3.3	13.9	1B	1B	2	1B	1B	1B	3	1A
61	KENSEY	ST. LEONARDS BRIDGE	R12N002	SX 3517 8478	2.8 0.1	16.7 16.8	1B 1B	1B 1B	1B 1B	1B 1B	1B 1B	1B 1B	2 2	1B 1B
62	TREGEARE STREAM TREGEARE STREAM	RED DOWN BRIDGE KENSEY CONFLUENCE (INFERRED STRETCH)	R12N006	SX 2671 8628	3.4 0.4	3.4 3.8	1B 1B		2 2	1B 1B	1B 1B	2 2	2 2	1B 1B
63	CAREY	HALWILL BRIDGE - QUODITCH	R12H006	SX 4202 9846	3.6	3.6	1A	2	2	2	1B	1B	2	2
64	CAREY	ASHMILL BRIDGE	R12H001	SX 3935 9534	4.7	8.3	1A	2	2	2	1B	1B	1B	1B
65	CAREY	MIDDLE BRIDGE VIRGINSTOW	R12H007	SX 3710 9263	4.0	12.3	1B	2	2	1B	2	2	2	2
66	CAREY	BOLDFORD BRIDGE	R12H008	SX 3642 8828	5.1	17.4	1B	2	2	2	2	1B	2	2
67	CAREY	HEALE BRIDGE	R12H002	SX 3600 8631	2.7 1.4	20.1 21.5	1B 1B	2 2	2 2	2 2	2 2	1B 1B	1B 1B	1B 1B
68	HENFORD WATER HENFORD WATER	HENFORD CAREY CONFLUENCE (INFERRED STRETCH)	R12H005	SX 3735 9472	4.3 1.2	4.3 5.5	1B 1B	2 2	2 2	2 2	2 2	2 2	2 2	1B 1B
69	OTTERY	OTTERHAM MILL	R12M004	SX 1745 9095	6.0	6.0	1B	2	3	2	2	2	3	2
70	OTTERY	TRENGUNE BRIDGE	R12M005	SX 1889 9328	3.5	9.5	1B	2	3	2	1B	1B	1B	1B
71	OTTERY	CANWORTHY WATER BRIDGE	R12M001	SX 2240 9173	5.0	14.5	1B	2	2	2	1B	1B	1B	1B
72	OTTERY	HELLESCOTT BRIDGE	R12M002	SX 2855 8777	10.6	25.1	1B	1B	2	2	1B	1B	1B	1B
73	OTTERY	YEOLMBRIDGE	R12M006	SX 3182 8738	4.1	29.2	1B	1B	2	2	2	1B	1B	2
74	OTTERY	HAM MILL BRIDGE	R12M007	SX 3445 8682	3.4 0.4	32.6 33.0	1B 1B	1B 1B	2 2	2 2	2 2	1B 1B	1B 1B	1B 1B
75	BOLESBRIDGE WATER BOLESBRIDGE WATER	200 METRES D/S OF NAVARINO BRIDGE OTTERY CONFLUENCE (INFERRED STRETCH)	R12M012	SX 2895 8920	8.0 1.9	8.0 9.9	1B 1B	2 2	3 3	3 3	2 2	3 3	3 3	3 3
76	CAUDWORTHY WATER	CAUDWORTHY BRIDGE	R12M010	SX 2470 9263	5.7	5.7	1B	2	3	2	1B	1B	1B	1B
77	CAUDWORTHY WATER CAUDWORTHY WATER	PRIOR TO RIVER OTTERY OTTERY CONFLUENCE (INFERRED STRETCH)	R12M011	SX 2676 8887	5.9 0.1	11.6 11.7	1B 1B	2 2	2 2	2 2	1B 1B	1B 1B	1B 1B	3 3
78	CANWORTHY WATER CANWORTHY WATER	PRIOR TO RIVER OTTERY OTTERY CONFLUENCE (INFERRED STRETCH)	R12M008	SX 2240 9147	4.8 0.4	4.8 5.2	1B 1B		3 3	1B 1B	1B 1B	2 2	3 3	1B 1B
79	TALA WATER	BRIDGETOWN	R12J006	SX 3418 8913	9.3	9.3	1B	2	2	2	2	2	2	2

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CATCHMENT: TAMAR

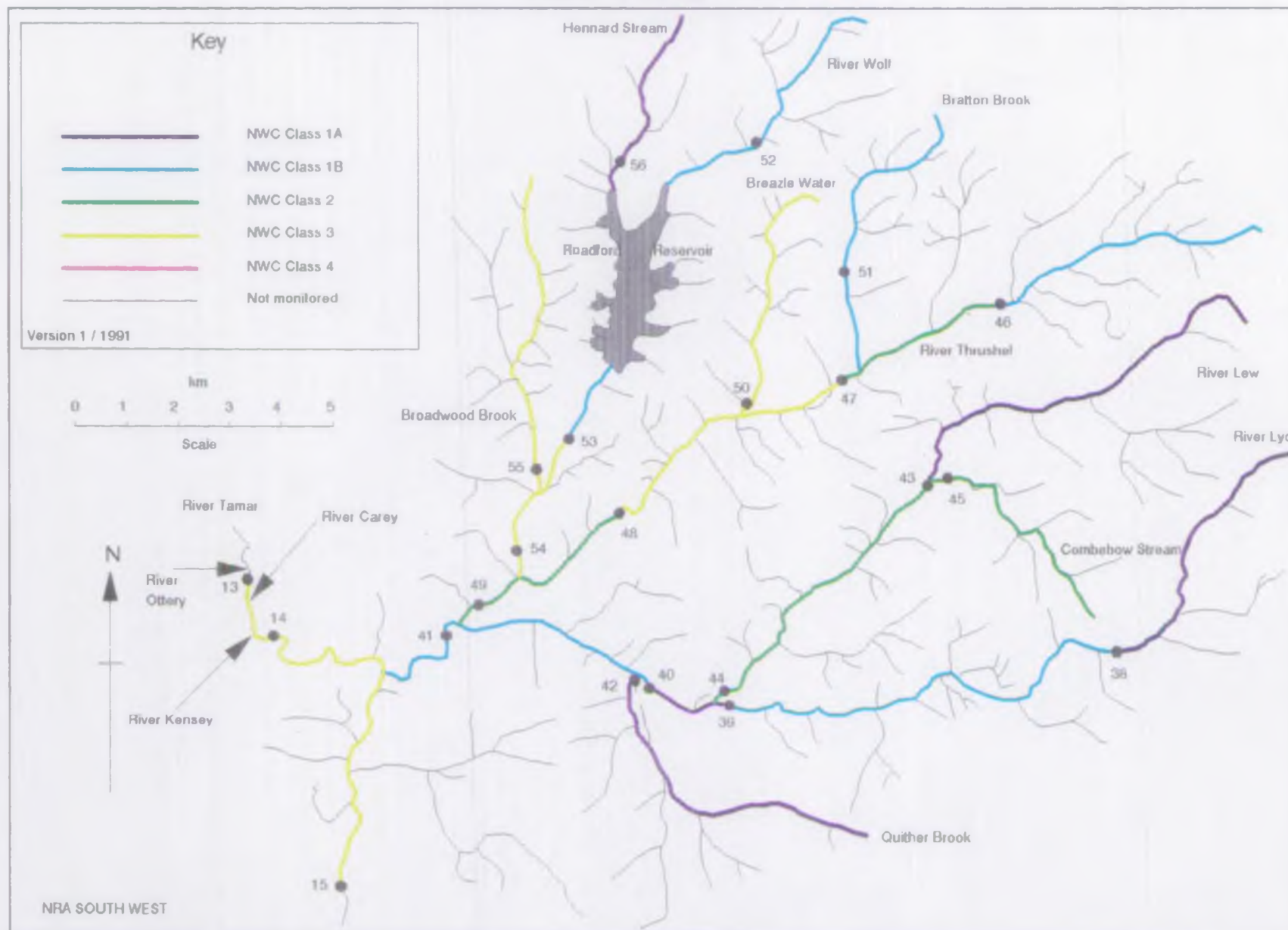
1991 Map Position Number	River	Reach upstream of	User Reference Number	National Grid Reference	Reach Length (km)	Distance from source (km)	River Quality Objective	85 NWC Class	86 NWC Class	87 NWC Class	88 NWC Class	89 NWC Class	90 NWC Class	91 NWC Class
	TALA WATER	TAMAR CONFLUENCE (INFERRED STRETCH)			0.2	9.5	1B	2	2	2	2	2	2	2
80	LANA LAKE LANA LAKE	LANA BRIDGE TAMAR CONFLUENCE (INFERRED STRETCH)	R12J005	SX 3407 9591	3.1 1.8	3.1 4.9	1B 1B	2 2	2 2	3 3	3 3	3 3	2 2	2 2
81	CLAW	CLAW BRIDGE	R12K016	SS 3746 0071	4.2	4.2	1B	2	2	2	2	2	2	2
82	CLAW	CLAWTON BRIDGE	R12K001	SX 3533 9932	2.9	7.1	1B	2	2	2	2	2	2	1B
83	CLAW	TETCOTT BRIDGE	R12K002	SX 3267 9692	4.3	11.4	1B	2	2	2	2	2	3	1B
	CLAW	TAMAR CONFLUENCE (INFERRED STRETCH)			0.7	12.1	1B	2	2	2	2	2	3	1B
84	DEER	RYDON BRIDGE	R12K003	SS 3356 0415	6.8	6.8	1B	2	2	2	2	2	2	1B
85	DEER	WINSOTT BRIDGE	R12K004	SS 3386 0142	3.8	10.6	1B	2	2	2	2	2	1B	1B
86	DEER	DEER BRIDGE	R12K005	SX 3195 9741	6.0	16.6	1B	2	2	2	2	2	2	1B
	DEER	TAMAR CONFLUENCE (INFERRED STRETCH)			0.2	16.8	1B	2	2	2	2	2	2	1B
87	COLESMILL STREAM COLESMILL STREAM	100 METRES BELOW HOLSWORTHY STW DEER CONFLUENCE (INFERRED STRETCH)	R12K007	SS 3387 0317	3.3 0.2	3.3 3.5	2 2	2 2					2 2	2 2
88	DERRIL WATER DERRIL WATER	DUALSTONE BRIDGE TAMAR CONFLUENCE (INFERRED STRETCH)	R12L005	SS 3013 0058	5.2 2.2	5.2 7.4	1B 1B	2 2			2 2	2 2	2 2	2 2
89	SMALL BROOK	HEADON BRIDGE	R12L011	SS 3100 0731	3.7	3.7	1B				3	3	3	2
90	SMALL BROOK SMALL BROOK	YOULDON BRIDGE TAMAR CONFLUENCE (INFERRED STRETCH)	R12L008	SS 2995 0528	2.5 2.9	6.2 9.1	1B 1B				3 3	3 3	3 3	3 3
91	LAMBERAL WATER	FORDA	R12L010	SS 2771 1119	5.3	5.3	1B	2	2	2	2	2	1B	1B
92	LAMBERAL WATER LAMBERAL WATER	MORETON POUND BRIDGE TAMAR CONFLUENCE (INFERRED STRETCH)	R12L007	SS 2758 0893	3.2 1.1	8.5 9.6	1B 1B	2 2	2 2	2 2	2 2	2 2	2 2	1B 1B

# River Tamar Water Quality - 1991

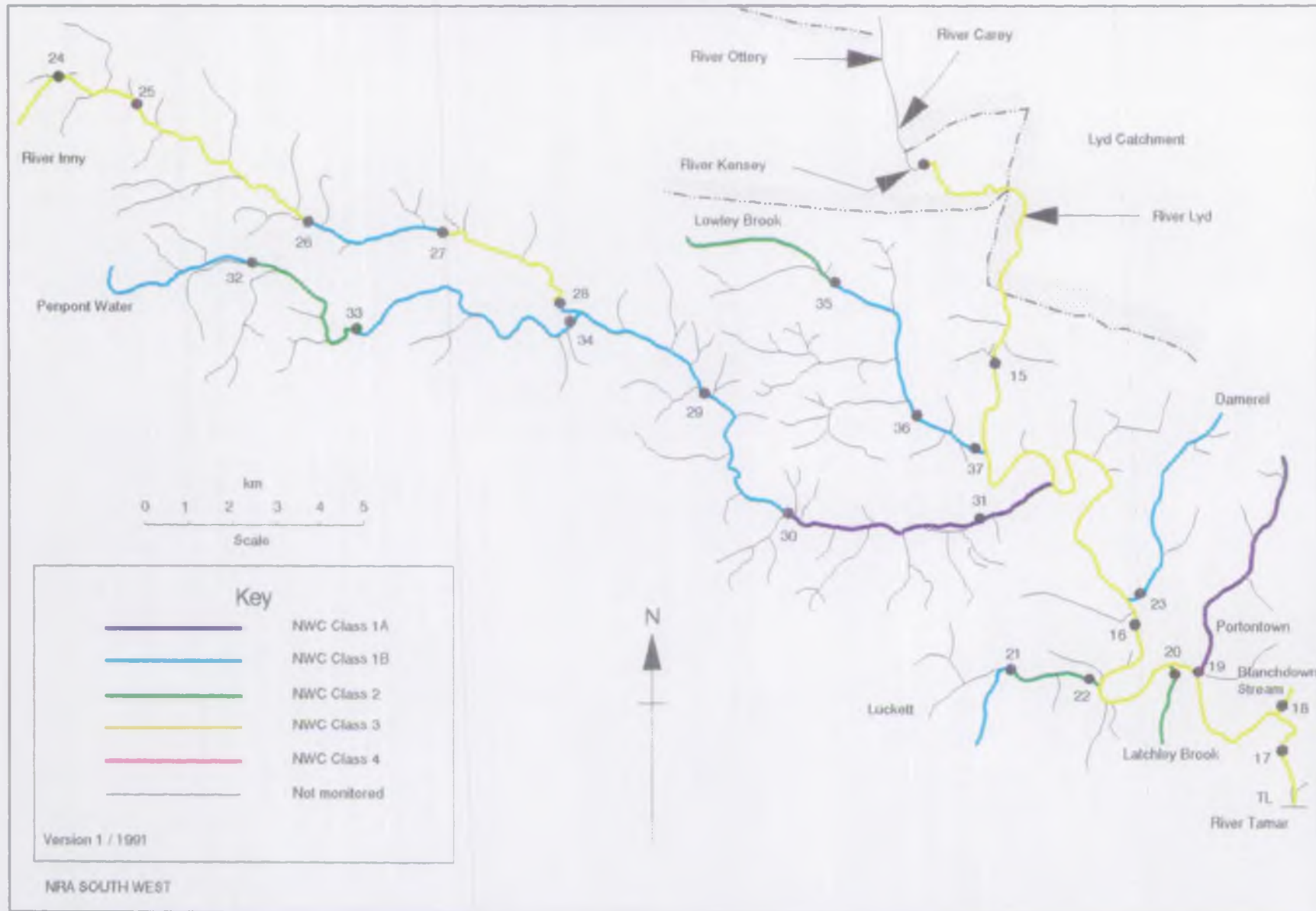
Appendix 8.6



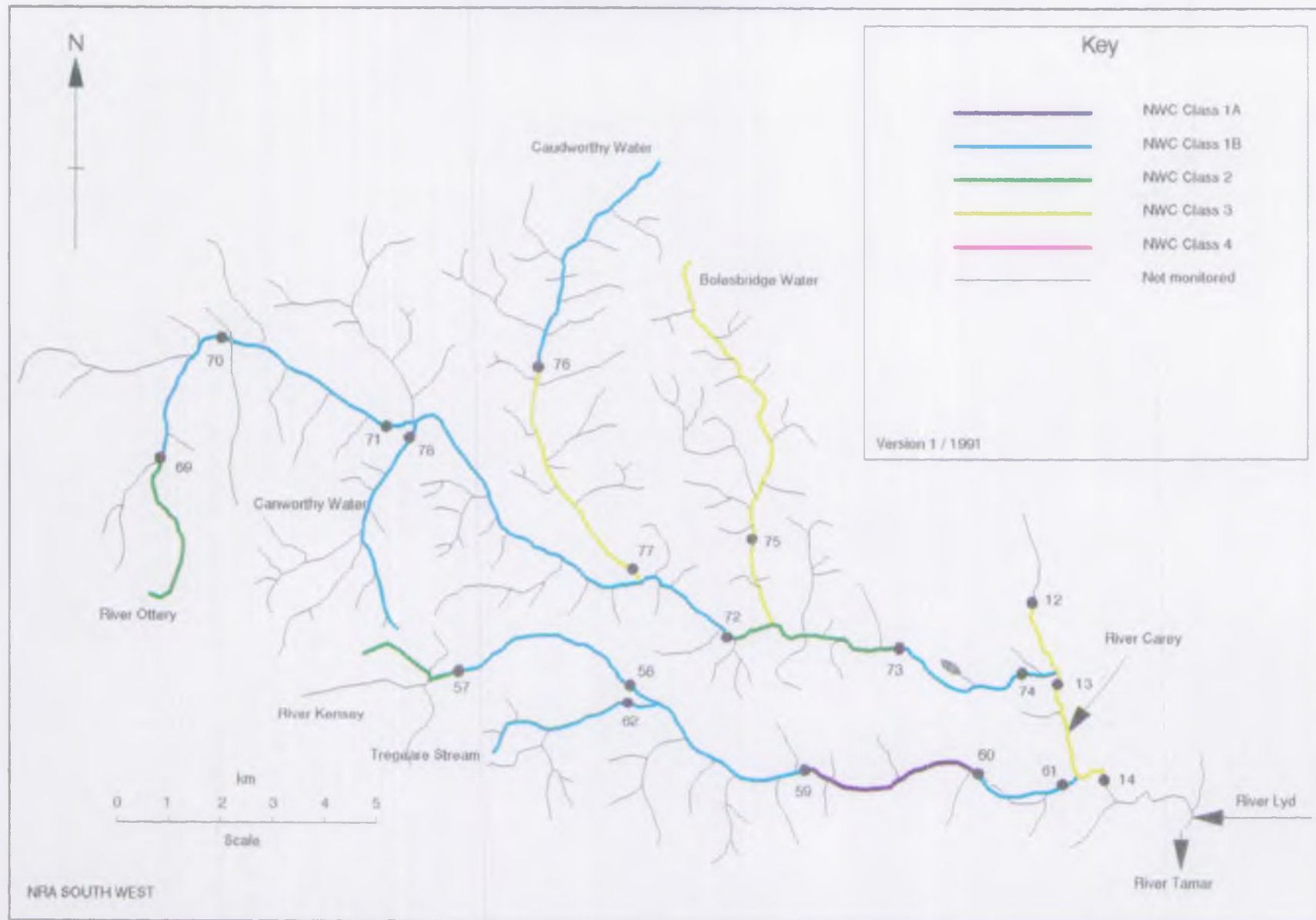
# Lyd, Thrushel & Wolf Catchments Water Quality - 1991



# Inny Catchment Water Quality - 1991



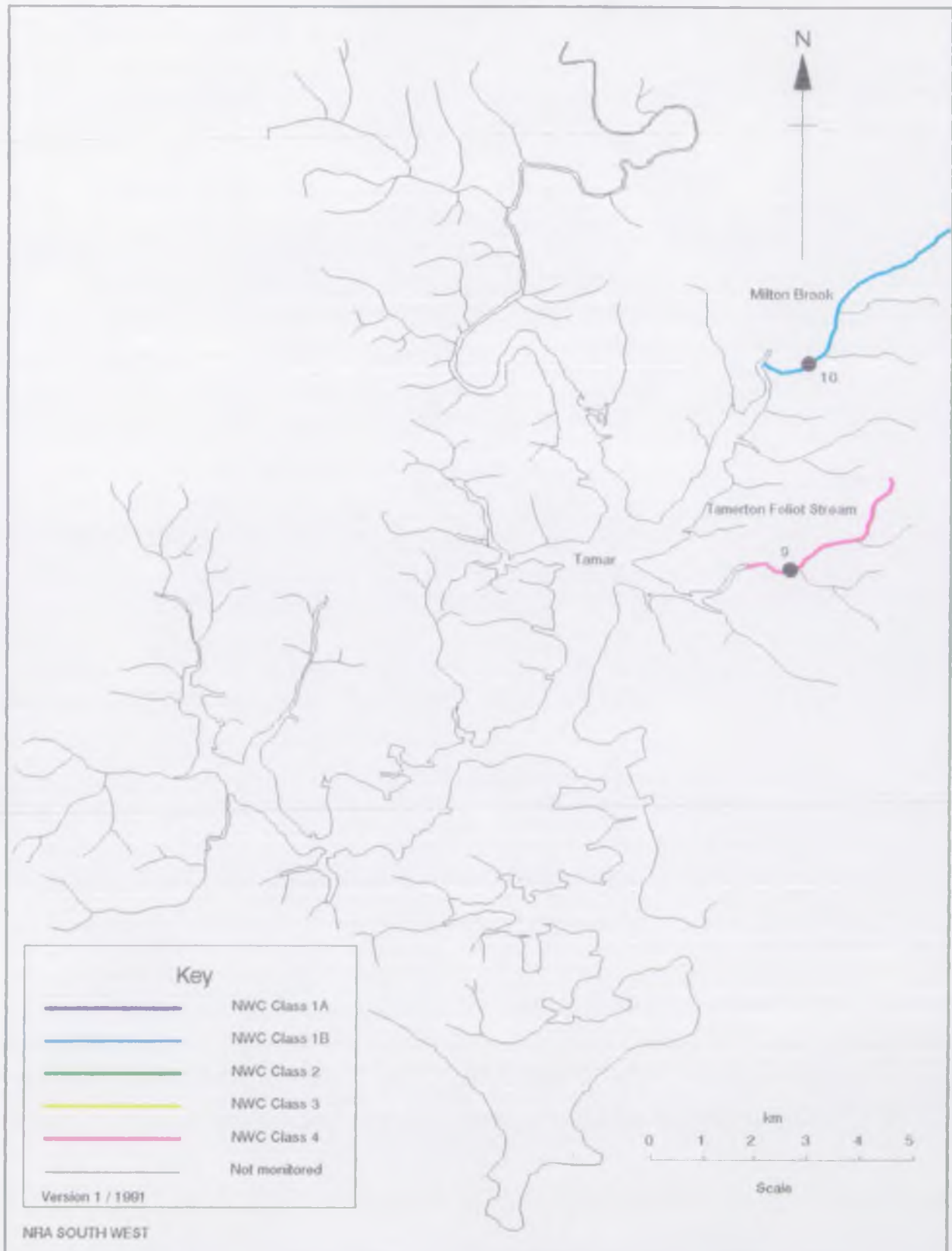
# Ottery & Kensey Catchments Water Quality - 1991





# Tamar Estuary Catchment 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: TMAR

River	Reach upstream of	User Ref. Number	RQD	Calculated Determinand Statistics used for Quality Assessment																			
				pH Lower Class		pH Upper Class		Temperature Class		DO (%) Class		BOD (MGU) Class		Total Ammonia Class		Union. Ammonia Class		S.Solids Class		Total Copper Class		Total Zinc Class	
TMAR	BUSES BRIDGE	R121001	1B	1A	6.7	1A	7.5	1A	15.9	1B	77.8	1B	4.3	3	4.625	1A	0.013	1A	9.5	1A	5.0	1A	20.0
TMAR	UPPER TMAR LAKE	R121017	1B	1A	7.1	1A	8.6	1A	19.8	2	50.7	2	5.3	1B	0.550	1A	0.010	1A	16.3	1A	5.8	1A	17.2
TMAR	LOWER TMAR LAKE	R121018	1B	1A	6.6	1A	8.0	1A	20.0	1B	69.4	1B	4.0	1A	0.164	1A	0.010	1A	15.1	1A	5.8	1A	28.4
TMAR	FOOTBRIDGE BELOW LOWER TMAR LAKE	R121009	1B	1A	6.4	1A	7.6	1A	19.5	1B	69.4	1B	3.5	1A	0.156	1A	0.010	1A	15.0	1A	5.7	1A	11.7
TMAR	DEERBRIDGE	R121006	1B	1A	6.5	1A	7.6	1A	16.6	1B	74.7	2	5.2	1B	0.425	1A	0.010	1A	14.2	1A	9.3	1A	9.0
TMAR	TMARSTONE BRIDGE	R121002	1B	1A	6.6	1A	7.7	1A	17.0	1B	72.4	1B	4.3	1B	0.326	1A	0.010	1A	21.5	1A	10.8	1A	134.0
TMAR	BRIDGEHOLE	R121015	1B	1A	6.8	1A	7.8	1A	17.1	1B	71.2	1B	4.4	1A	0.309	1A	0.010	1A	18.9	1A	7.0	1A	97.7
TMAR	CROWFORD BRIDGE	R121003	1B	1A	6.8	1A	7.8	1A	17.8	1B	75.7	2	5.6	1B	0.485	1A	0.010	3	25.4	2	96.1	2	938.6
TMAR	TMARSTON BRIDGE	R121004	1B	1A	6.8	1A	7.9	1A	17.9	1B	68.7	2	5.8	1B	0.481	1A	0.010	3	26.1	1A	7.0	1A	23.8
TMAR	BELOW CONFLUENCE WITH RIVER DEER	R121013	1B	1A	6.9	1A	8.0	1A	17.6	1B	65.2	2	5.3	1B	0.356	1A	0.010	3	31.9	1A	7.0	1A	27.0
TMAR	BOYTON BRIDGE	R121001	1B	1A	6.8	1A	7.7	1A	18.3	1B	72.5	2	5.7	1B	0.376	1A	0.010	3	28.3	1A	7.0	2	454.4
TMAR	DRILTON BRIDGE	R121002	1B	1A	6.9	1A	8.1	1A	18.4	1B	75.7	2	8.1	1B	0.563	1A	0.010	3	30.8	1A	9.9	1A	29.9
TMAR	NEATHERIDGE	R121003	1B	1A	6.7	1A	7.9	1A	17.8	1B	74.8	2	5.4	1B	0.495	1A	0.010	3	30.2	1A	8.4	1A	40.8
TMAR	ROLDON BRIDGE	R121004	1B	1A	6.6	1A	7.7	1A	17.9	1B	75.8	2	5.4	1B	0.494	1A	0.010	3	33.1	1A	10.0	1A	49.8
TMAR	GREYSTONE BRIDGE	R12E001	1B	1A	6.8	1A	7.7	1A	17.7	1B	74.8	1B	4.9	1B	0.370	1A	0.010	3	37.5	1A	11.9	1A	154.4
TMAR	HORSEBRIDGE	R12E002	1B	1A	6.9	1A	7.8	1A	17.7	1A	82.9	1B	4.7	1B	0.321	1A	0.010	3	29.9	1A	10.0	1A	44.0
TMAR	GUNNISLAKE BRIDGE	R12E003	1B	1A	6.9	1A	7.7	1A	19.1	1A	83.5	1B	4.2	1A	0.249	1A	0.010	3	28.8	2	83.3	1A	52.7
BLANCHDOWN STREAM	PRIOR TO RIVER TMAR	R12E004	3	3	3.3	1A	7.3	1A	16.3	1A	81.0	3	11.3	2	1.475	1A	0.010	1A	5.4	2	12172.0	3	2587.0
PORTKNOX STREAM	PRIOR TO RIVER TMAR	R12E034	1B	1A	6.9	1A	7.8	1A	16.2	1A	89.0	1A	1.8	1A	0.050	1A	0.010	1A	3.8	-	-	-	-
LATCHLEY BROOK	LATCHLEY	R12E028	1B	1A	6.2	1A	7.4	1A	16.7	1A	85.0	1A	2.2	1A	0.077	1A	0.010	1A	7.8	2	154.9	2	524.0
LUCKETT	OLDMILL	R12E016	2	1A	6.7	1A	7.7	1A	16.1	1B	79.5	1B	3.1	1A	0.208	1A	0.010	1A	8.5	1A	24.0	1A	126.3
LUCKETT	LUCKETT BRIDGE	R12E007	2	1A	6.9	1A	7.8	1A	14.9	1A	83.8	1B	3.4	1A	0.165	1A	0.010	1A	9.0	2	76.7	2	620.0
EMEREL STREAM	PRIOR TO RIVER TMAR	R12E014	1B	1A	7.1	1A	8.1	1A	16.4	1A	80.7	1B	3.7	1B	0.340	1A	0.010	1A	12.0	1A	30.0	1A	162.0
INNY	UPSTREAM OF DAVIDSTON CEMETERY	R12F001	1B	1A	6.4	1A	7.7	1A	15.0	1B	68.3	2	6.7	2	1.211	1A	0.010	3	40.9	1A	8.0	1A	97.8
INNY	TREMINOW BRIDGE	R12F002	1B	1A	6.5	1A	7.9	1A	15.3	1B	66.6	3	10.3	1B	0.665	1A	0.013	1A	24.4	1A	9.7	1A	30.7
INNY	ST. CLETHEY BRIDGE	R12F003	1A	1A	7.0	1A	8.1	1A	15.2	1B	76.8	2	6.5	1B	0.447	1A	0.010	3	26.1	1A	10.0	1A	59.0
INNY	GIMBLETT'S MILL	R12F012	1A	1A	6.8	1A	8.1	1A	16.0	1A	84.1	1B	4.0	1A	0.146	1A	0.010	1A	13.9	1A	8.0	1A	23.0
INNY	TWO BRIDGES	R12F004	1A	1A	6.9	1A	8.1	1A	16.5	1B	65.8	1B	3.4	1A	0.250	1A	0.010	3	27.2	1A	9.1	1A	37.2
INNY	TREKELLAND BRIDGE	R12F005	1A	1A	6.9	1A	7.9	1A	16.4	1B	76.7	1B	3.3	1A	0.136	1A	0.010	1A	13.1	1A	6.0	1A	30.0
INNY	TREKARRELL BRIDGE	R12F013	1B	1A	6.8	1A	7.9	1A	16.3	1A	85.4	1B	3.1	1A	0.180	1A	0.010	1A	14.9	1A	15.0	1A	57.0
INNY	BEALS MILL BRIDGE	R12F006	1B	1A	6.9	1A	8.1	1A	17.2	1A	80.4	1A	2.6	1A	0.108	1A	0.010	1A	14.6	1A	14.9	1A	106.3
PENFONT WATER	TREKON BRIDGE	R12F010	1A	1A	5.7	1A	7.3	1A	16.5	1B	79.6	1B	3.3	1A	0.126	1A	0.010	1A	9.6	1A	4.0	1A	15.0
PENFONT WATER	ALDWINN BRIDGE	R12F007	1A	1A	6.2	1A	7.7	1A	15.6	1A	82.0	1A	3.0	1A	0.103	1A	0.010	1A	8.9	2	27.0	1A	50.0
PENFONT WATER	TWO BRIDGES	R12F008	1A	1A	6.6	1A	7.8	1A	16.2	1B	74.6	1B	3.1	1A	0.122	1A	0.010	1A	11.5	1A	7.3	1A	52.5
LOWLEY BROOK	LANDLAKE BRIDGE	R12E005	1B	1A	7.1	1A	8.0	1A	15.9	1A	82.0	2	6.1	2	0.763	1A	0.010	1A	24.0	1A	18.0	1A	67.0
LOWLEY BROOK	LANDKE BRIDGE	R12E017	1B	1A	7.0	1A	7.9	1A	15.6	1B	79.9	1B	4.9	1B	0.319	1A	0.010	1A	13.8	1A	11.0	1A	45.0
LOWLEY BROOK	LOWLEY BRIDGE	R12E006	1B	1A	7.0	1A	8.0	1A	15.5	1B	76.6	1B	4.4	1A	0.246	1A	0.010	1A	14.7	1A	26.1	1A	39.8

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION  
 1991 RIVER WATER QUALITY CLASSIFICATION  
 CALCULATED DETERMINAND STATISTICS USED FOR QUALITY ASSESSMENT  
 CATCHMENT: Tamar

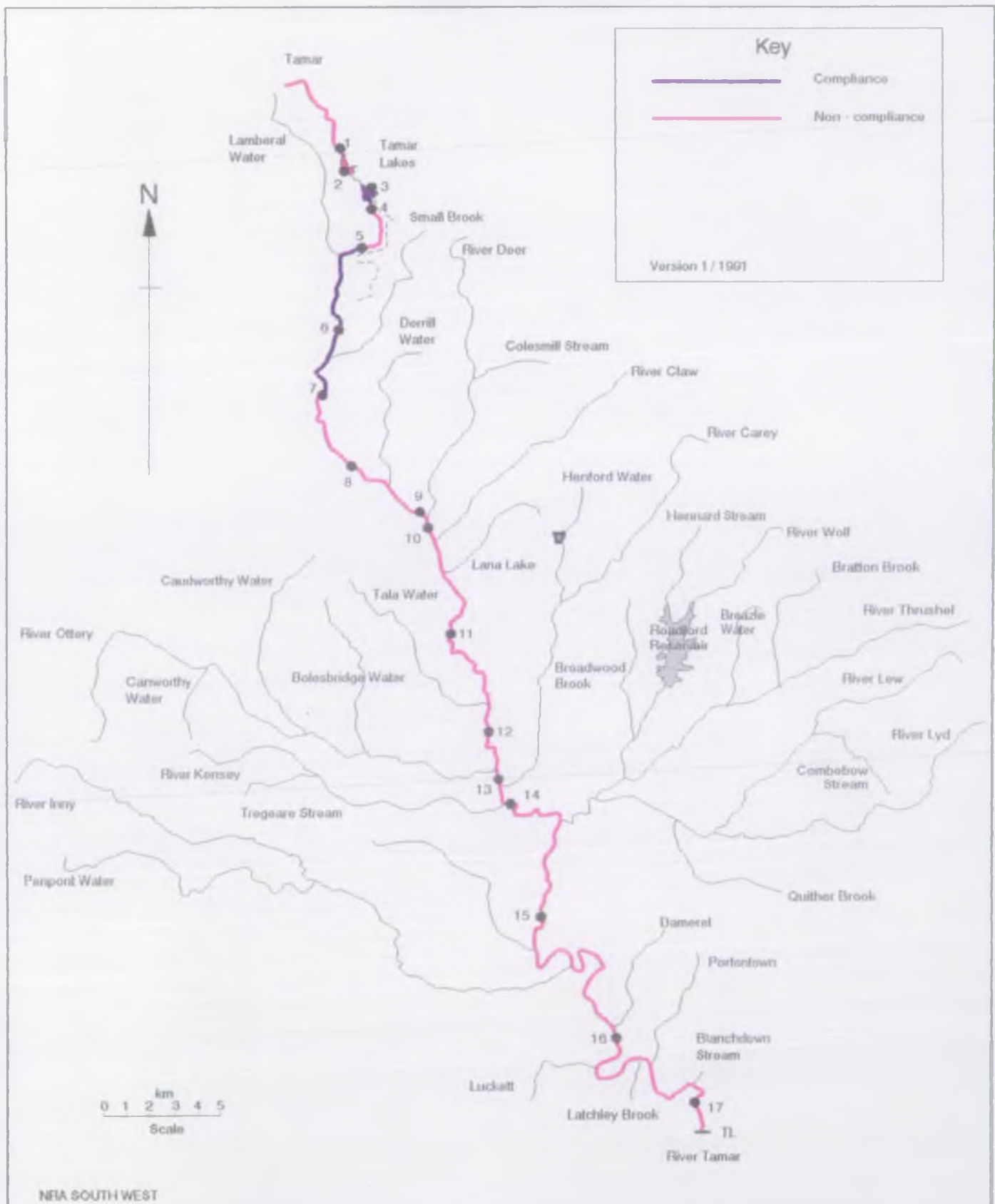
River	Reach upstream of	User Ref. Number	RQD	Calculated Determinand Statistics used for Quality Assessment																			
				pH Lower Class 5kile		pH Upper Class 95kile		Temperature Class 95kile		DO (%) Class 5kile		BOD (NIU) Class 95kile		Total Ammonia Class 95kile		Union. Ammonia Class 95kile		S.Solids Class Mean		Total Copper Class 95kile		Total Zinc Class 95kile	
LXD	A386 ROUNDBRIDGE LXFORD	RL2F012	1B	1A	5.3	1A	7.6	1A	15.7	1A	88.7	1A	2.9	1A	0.088	1A	0.010	1A	10.0	1A	4.0	1A	11.8
LXD	GREENLANES BRIDGE	RL2F001	1B	1A	6.5	1A	7.5	1A	16.7	1A	89.4	1B	3.3	1A	0.180	1A	0.010	1A	3.1	1A	6.0	1A	7.0
LXD	SYDENHAM BRIDGE	RL2F011	1B	1A	6.9	1A	8.0	1A	16.4	1A	92.7	1A	2.8	1A	0.100	1A	0.010	1A	5.0	1A	7.0	1A	16.0
LXD	LIPTON BRIDGE	RL2F002	1B	1A	6.8	1A	7.7	1A	18.2	1A	91.9	1B	3.4	1A	0.169	1A	0.010	1A	6.7	1A	6.9	1A	75.6
QUITTER BROOK	PRIOR TO RIVER LXD	RL2F013	1B	1A	6.9	1A	7.7	1A	16.0	1A	85.3	1A	2.3	1A	0.081	1A	0.010	1A	8.9	1A	4.0	1A	7.0
LEW	COMBELOW BRIDGE	RL2F003	1B	1A	6.8	1A	7.8	1A	16.2	1A	89.8	1A	2.7	1A	0.185	1A	0.010	1A	5.4	1A	5.0	1A	11.0
LEW	PRIOR TO RIVER LXD	RL2F004	1B	1A	6.7	1A	8.1	1A	16.6	1A	90.0	1A	2.7	1A	0.122	1A	0.010	1A	6.9	2	41.5	1A	102.5
COMBELOW STREAM	ROAD CULVERT NEAR COMBELOW QUARRY	RL2F010	1B	1A	6.7	1A	7.7	1A	14.6	1A	87.0	1A	2.8	1A	0.270	1A	0.010	1A	15.8	2	62.0	1A	158.0
THRUSHEL	RIVERMEAD BRIDGE	RL2G001	1B	1A	6.7	1A	7.7	1A	15.8	1B	64.8	1B	4.1	1B	0.675	1A	0.010	1A	9.9	1A	6.4	1A	15.0
THRUSHEL	MIDGILL BRIDGE	RL2G002	1B	1A	6.7	1A	7.6	1A	15.6	1B	70.0	2	5.5	1B	0.635	1A	0.010	1A	7.1	1A	21.0	1A	10.9
THRUSHEL	STONFORD BRIDGE	RL2G003	1B	1A	6.8	1A	8.0	1A	18.7	1A	80.5	2	8.6	2	1.150	3	0.032	3	33.0	1A	7.9	1A	11.9
THRUSHEL	TINWY BRIDGE	RL2G004	1B	1A	6.7	1A	7.7	1A	18.2	1A	84.7	2	5.6	2	0.730	1A	0.010	1A	23.0	1A	8.3	1A	21.3
BREAZLE WATER	PRIOR TO RIVER THRUSHEL	RL2G010	1B	1A	6.8	1A	7.7	1A	15.6	1B	74.5	3	14.4	2	0.797	1A	0.010	3	37.0	1A	6.0	1A	19.0
BRATTON BROOK	BRATTON CLOVELLY	RL2G009	1B	1A	6.8	1A	7.6	1A	14.8	1A	81.9	1B	4.1	1A	0.259	1A	0.010	1A	12.1	1A	5.0	1A	17.0
WOLF	WEEK'S MILL BRIDGE	RL2G005	1B	1A	6.5	1A	7.6	1A	16.5	1B	79.3	1B	3.5	1B	0.403	1A	0.010	1A	9.5	1A	12.8	1A	93.0
WOLF	RENNON BRIDGE	RL2G006	1B	1A	6.6	1A	7.7	1A	18.3	1B	75.4	1B	3.1	1B	0.360	1A	0.010	1A	9.7	1A	6.3	1A	14.3
WOLF	PRIOR TO RIVER THRUSHEL	RL2G007	1B	1A	6.7	1A	7.7	1A	17.8	1A	82.4	1B	4.1	1A	0.277	1A	0.010	3	25.2	1A	15.5	1A	39.3
BROADWOOD BROOK	KELLACOTT BRIDGE	RL2G012	1B	1A	6.8	1A	7.6	1A	15.5	1B	78.1	2	7.2	1A	0.270	1A	0.010	3	34.5	1A	4.0	1A	42.0
HENNARD STREAM	PRIOR TO ROADFORD	RL2G096	1B	1A	6.7	1A	7.5	1A	16.1	1A	83.8	1A	2.8	1A	0.099	1A	0.010	1A	7.0	1A	4.0	1A	14.0
KENSEY	BADGALL BRIDGE	RL2N003	1B	1A	6.6	1A	7.6	1A	14.8	1A	86.5	1B	3.5	1A	0.175	1A	0.010	1A	9.6	1A	12.0	2	262.3
KENSEY	BACHARLOCK BRIDGE	RL2N001	1B	1A	6.7	1A	7.6	1A	15.0	1A	82.1	1A	2.9	1B	0.392	1A	0.010	1A	6.8	1A	8.5	1A	64.8
KENSEY	TRUSCOTT BRIDGE	RL2N004	1B	1A	6.8	1A	7.7	1A	15.3	1A	83.8	1B	4.4	1B	0.660	1A	0.010	1A	9.7	1A	12.7	1A	84.0
KENSEY	NEWPORT	RL2N005	1B	1A	6.8	1A	8.0	1A	16.3	1A	86.0	1A	2.6	1A	0.257	1A	0.010	1A	10.9	1A	6.9	1A	58.2
KENSEY	ST. LEONARDS BRIDGE	RL2N002	1B	1A	6.9	1A	7.9	1A	15.8	1A	84.3	1B	3.7	1A	0.240	1A	0.010	1A	14.1	1A	12.2	1A	48.0
TREGEARE STREAM	RED DOWN BRIDGE	RL2N006	1B	1A	6.6	1A	7.5	1A	15.6	1A	81.5	1B	3.5	1B	0.520	1A	0.010	1A	7.7	1A	7.2	1A	43.4
CAREY	HADHILL BRIDGE - QUODITCH	RL2H006	1A	1A	6.7	1A	7.9	1A	15.7	1B	76.2	2	6.3	1B	0.555	1A	0.010	1A	11.5	1A	13.0	1A	16.0
CAREY	ASHMILL BRIDGE	RL2H001	1A	1A	6.7	1A	7.8	1A	16.1	1B	70.6	1B	4.0	1B	0.317	1A	0.010	1A	10.3	1A	12.0	1A	26.6
CAREY	MIDDLE BRIDGE VIRGINSTON	RL2H007	1B	1A	6.7	1A	7.7	1A	15.9	1B	79.6	2	5.1	1B	0.458	1A	0.010	1A	13.0	1A	11.0	1A	20.0
CAREY	BOLDFORD BRIDGE	RL2H008	1B	1A	6.7	1A	7.9	1A	17.6	1B	77.0	1B	4.4	2	0.838	1A	0.014	1A	12.0	1A	6.0	1A	13.0
CAREY	HENLE BRIDGE	RL2H002	1B	1A	6.7	1A	7.8	1A	17.5	1B	68.8	1B	3.6	1B	0.436	1A	0.010	1A	13.0	1A	6.9	1A	20.3
HENFORD WATER	HENFORD	RL2H005	1B	1A	6.7	1A	7.7	1A	15.5	1B	80.0	1B	3.5	1A	0.284	1A	0.010	1A	10.4	1A	8.0	1A	14.0

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION  
 1991 RIVER WATER QUALITY CLASSIFICATION  
 CALCULATED DETERMINED STATISTICS USED FOR QUALITY ASSESSMENT  
 CATCHMENT: TAMM

River	Reach upstream of	User Ref. Number	RQD	Calculated Determined Statistics used for Quality Assessment																			
				pH Lower Class 5tile		pH Upper Class 95tile		Temperature Class 95tile		DO (%) Class 5tile		BOD (RTU) Class 95tile		Total Ammonia Class 95tile		Union. Ammonia Class 95tile		S.Solids Class Mean		Total Copper Class 95tile		Total Zinc Class 95tile	
OTTERY	OTTERHAM MILL	RL2M004	1B	1A	6.5	1A	7.4	1A	16.2	1A	80.7	2	6.0	2	0.727	1A	0.010	1A	9.9	1A	8.4	1A	163.2
OTTERY	TRENKLE BRIDGE	RL2M005	1B	1A	6.8	1A	7.7	1A	16.9	1A	83.8	1B	3.5	1B	0.435	1A	0.010	1A	7.4	1A	6.4	1A	38.6
OTTERY	ONWORTHY WATER BRIDGE	RL2M001	1B	1A	6.8	1A	8.4	1A	19.2	1A	80.6	1B	3.6	1B	0.413	1A	0.010	1A	9.8	1A	5.9	1A	25.0
OTTERY	HELLESCOTT BRIDGE	RL2M002	1B	1A	6.9	1A	7.7	1A	18.6	1B	78.0	1B	3.2	1B	0.342	1A	0.010	1A	10.6	1A	5.8	1A	21.8
OTTERY	YEDMERIDGE	RL2M006	1B	1A	6.9	1A	8.0	1A	19.0	1B	78.0	2	5.4	1A	0.248	1A	0.010	1A	14.7	1A	7.6	1A	16.0
OTTERY	HAM MILL BRIDGE	RL2M007	1B	1A	6.9	1A	8.0	1A	19.5	1A	80.4	1B	4.8	1A	0.283	1A	0.010	1A	9.6	1A	10.1	1A	28.4
BOLESBRIDGE WATER	200 METRES D/S OF NEWLAND BRIDGE	RL2M012	1B	1A	6.9	1A	7.6	1A	17.0	2	40.6	3	16.0	3	1.650	1A	0.010	3	26.6	2	81.4	1A	25.2
OLDMORTHY WATER	OLDMORTHY BRIDGE	RL2M010	1B	1A	6.8	1A	7.6	1A	17.1	1B	70.2	1B	3.9	1A	0.288	1A	0.010	1A	19.3	1A	5.0	1A	16.0
OLDMORTHY WATER	PRIOR TO RIVER OTTERY	RL2M011	1B	1A	6.8	1A	7.7	1A	17.0	1B	73.3	1B	4.6	1B	0.500	1A	0.010	3	32.2	1A	6.0	1A	20.6
ONWORTHY WATER	PRIOR TO RIVER OTTERY	RL2M008	1B	1A	6.6	1A	7.6	1A	16.9	1A	82.9	1B	3.2	1B	0.368	1A	0.010	1A	10.1	1A	8.9	1A	69.1
TOLA WATER	BRIDGETOWN	RL2J006	1B	1A	6.6	1A	7.5	1A	15.6	1B	60.9	1B	3.7	1A	0.294	1A	0.010	1A	10.0	1A	19.0	2	457.0
LANA LAKE	LANA BRIDGE	RL2J005	1B	1A	6.7	1A	7.5	1A	15.9	1B	70.1	2	6.2	2	1.012	1A	0.010	1A	24.1	1A	11.0	1A	21.0
CLAW	CLAW BRIDGE	RL2K016	1B	1A	6.7	1A	7.7	1A	17.2	2	57.8	1B	4.4	2	0.812	1A	0.010	1A	9.8	1A	6.0	1A	26.4
CLAW	CLAWTON BRIDGE	RL2K001	1B	1A	6.6	1A	8.1	1A	18.1	1B	76.0	1B	3.9	1B	0.468	1A	0.010	1A	10.9	1A	7.8	1A	12.0
CLAW	WELLCOTT BRIDGE	RL2K002	1B	1A	6.6	1A	7.7	1A	17.2	1B	66.0	1B	4.0	1B	0.513	1A	0.010	1A	11.2	1A	11.0	1A	31.0
DEER	RODON BRIDGE	RL2K003	1B	1A	6.6	1A	7.8	1A	16.4	1B	68.6	1B	3.6	1B	0.346	1A	0.010	1A	9.7	1A	7.0	1A	17.0
DEER	WINSKOTT BRIDGE	RL2K004	1B	1A	6.6	1A	7.7	1A	17.0	1B	70.8	1B	4.1	1B	0.330	1A	0.010	1A	9.7	1A	8.0	1A	12.0
DEER	DEER BRIDGE	RL2K005	1B	1A	6.7	1A	7.8	1A	17.9	1B	72.5	1B	4.1	1A	0.261	1A	0.010	1A	12.1	1A	7.8	1A	38.7
COLESMILL STREAM	100 METRES BELOW HOLDSMORTHY STW	RL2K007	2	1A	6.7	1A	7.7	1A	17.0	1B	60.6	1B	4.3	2	1.236	1A	0.010	1A	11.7	1A	11.8	1A	25.0
DEWOL WATER	DUNSTONE BRIDGE	RL2L005	1B	1A	6.9	1A	7.6	1A	15.9	2	45.6	2	8.1	1B	0.532	1A	0.010	1A	20.5	1A	4.0	1A	17.0
SMALL BROOK	HENDON BRIDGE	RL2L011	1B	1A	6.7	1A	7.5	1A	15.3	1B	68.8	2	7.0	1B	0.434	1A	0.010	1A	13.1	1A	6.0	1A	12.0
SMALL BROOK	WOLTON BRIDGE	RL2L008	1B	1A	6.6	1A	7.6	1A	16.2	1B	71.7	3	9.8	2	1.235	1A	0.010	1A	12.8	1A	19.4	1A	13.6
LAMERAL WATER	FORCA	RL2L010	1B	1A	6.9	1A	7.8	1A	15.7	1B	78.4	1B	3.9	1A	0.268	1A	0.010	1A	9.0	1A	4.0	1A	14.0
LAMERAL WATER	MORETON FOLD BRIDGE	RL2L007	1B	1A	6.5	1A	7.5	1A	16.5	1B	78.5	1B	4.9	1B	0.548	1A	0.010	1A	19.5	1A	16.7	1A	15.4

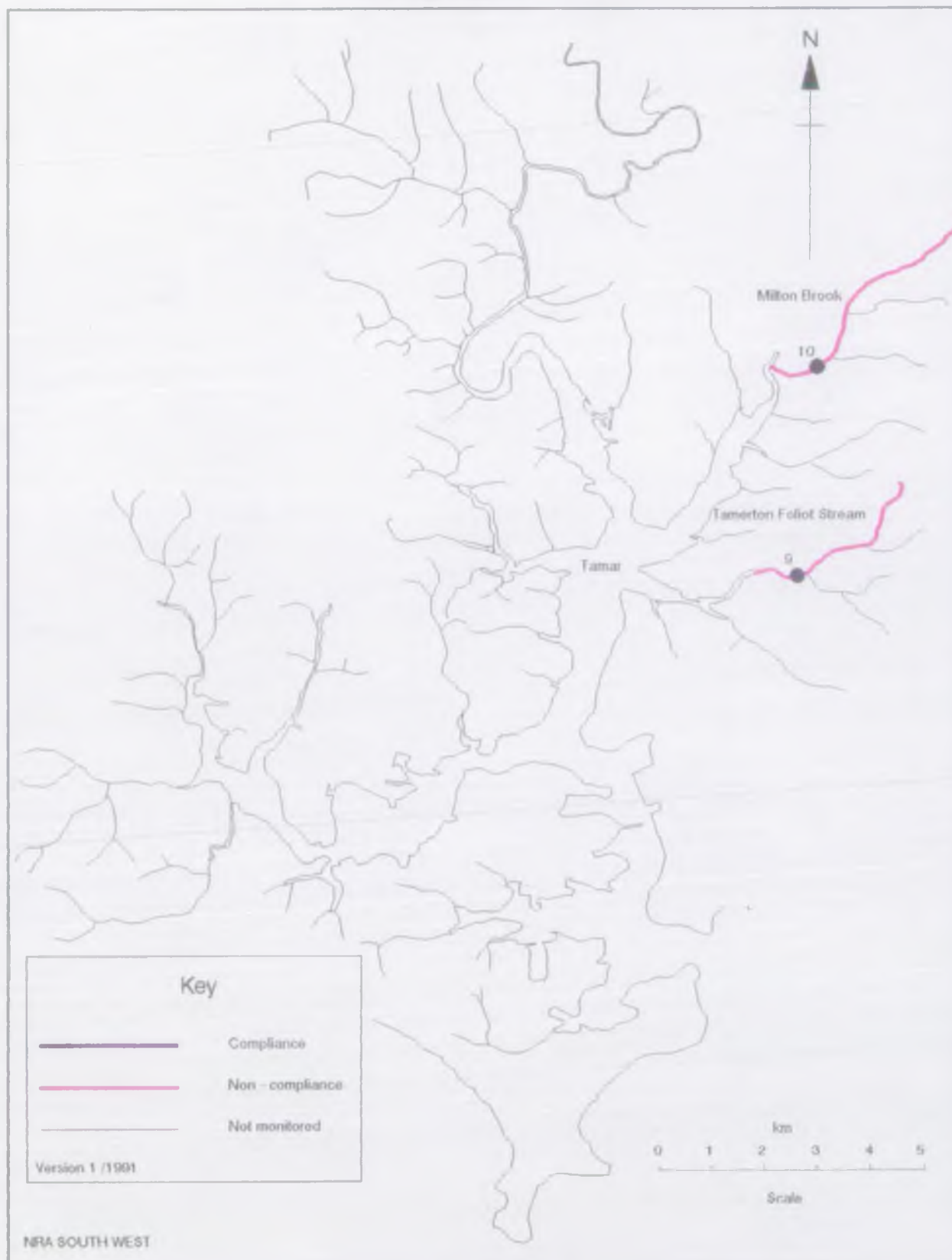
# River Tamar Compliance - 1991

Appendix 8.8

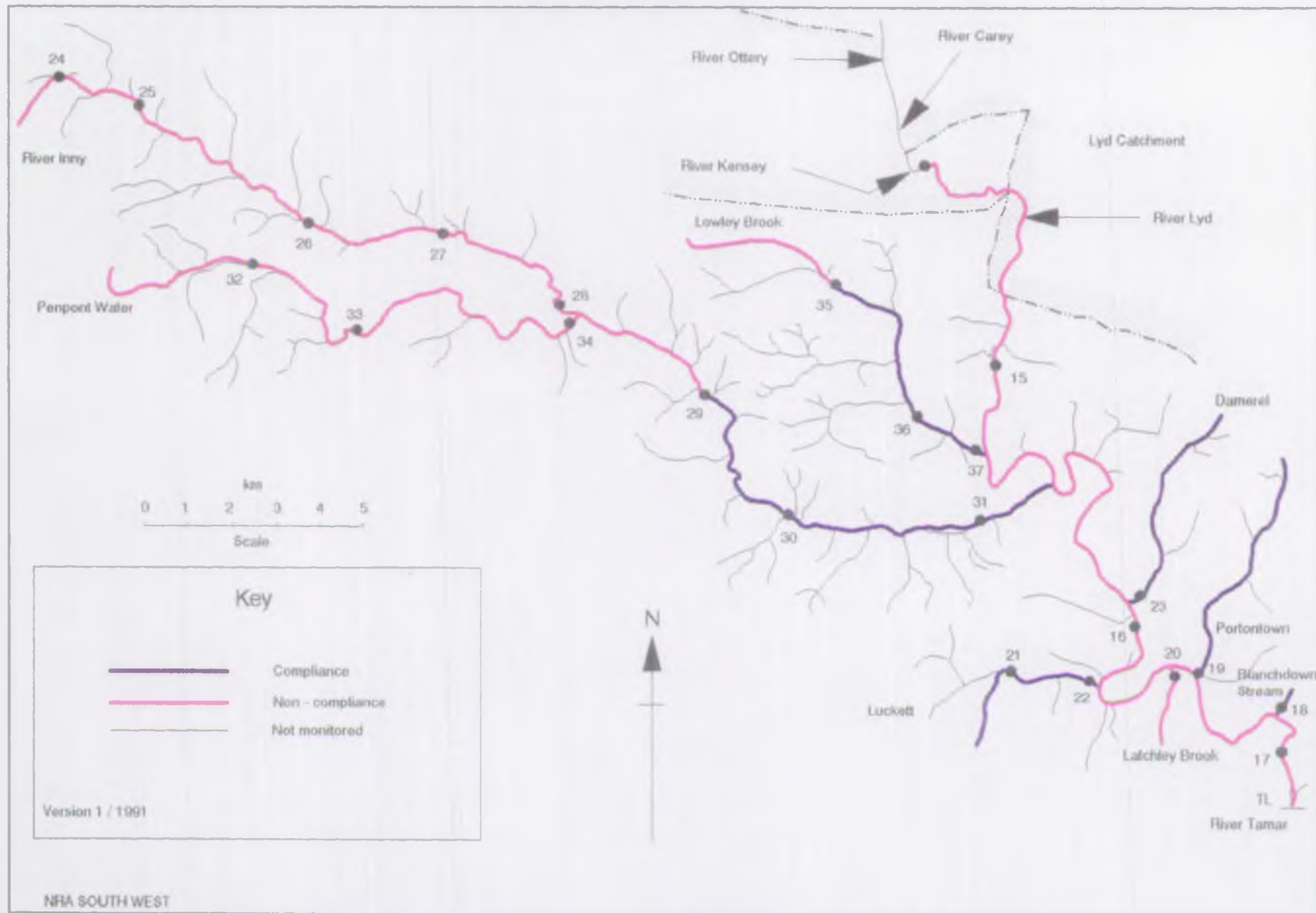


# Tamar Estuary Catchment Compliance - 1991

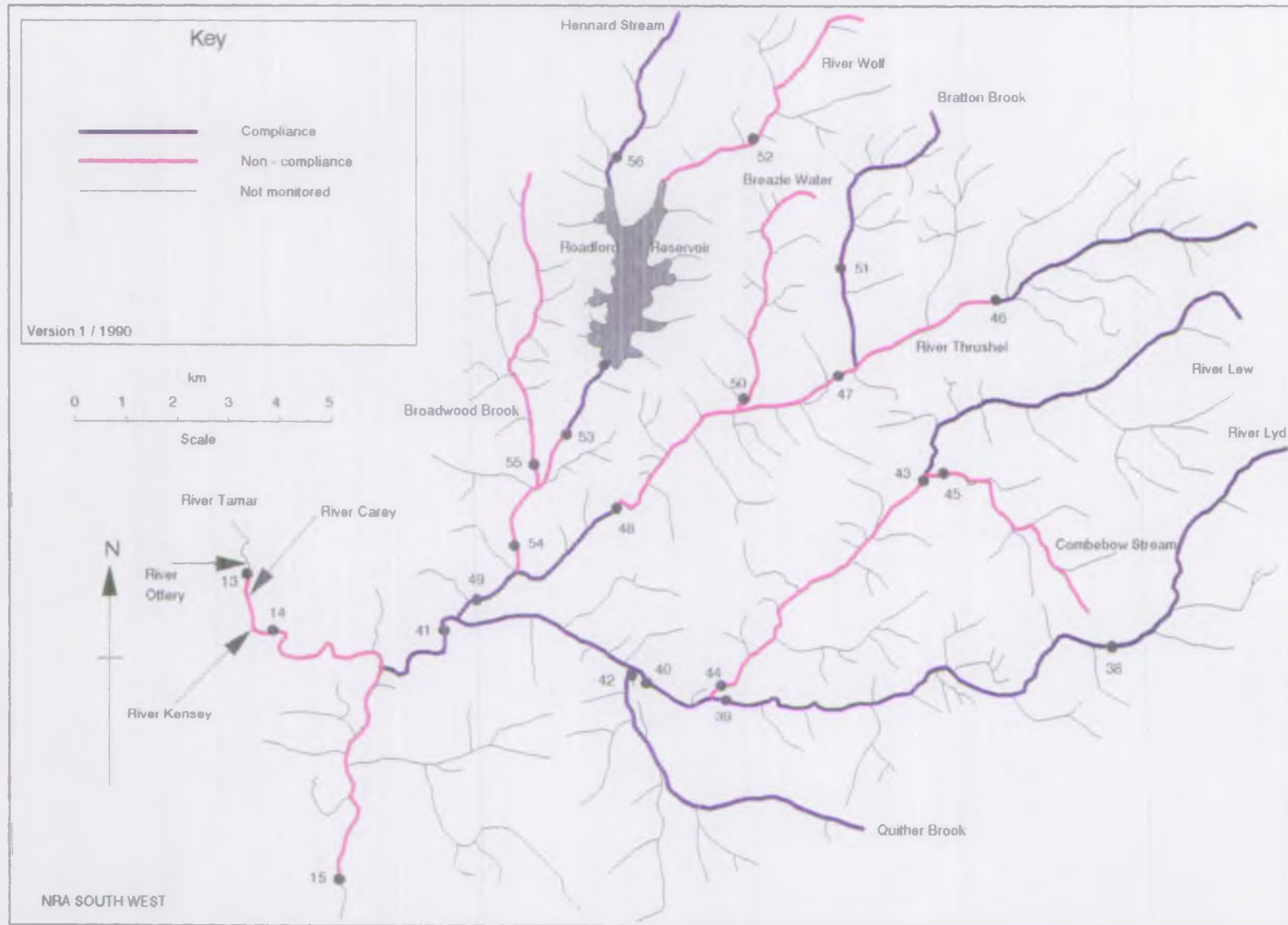
Appendix 8.8



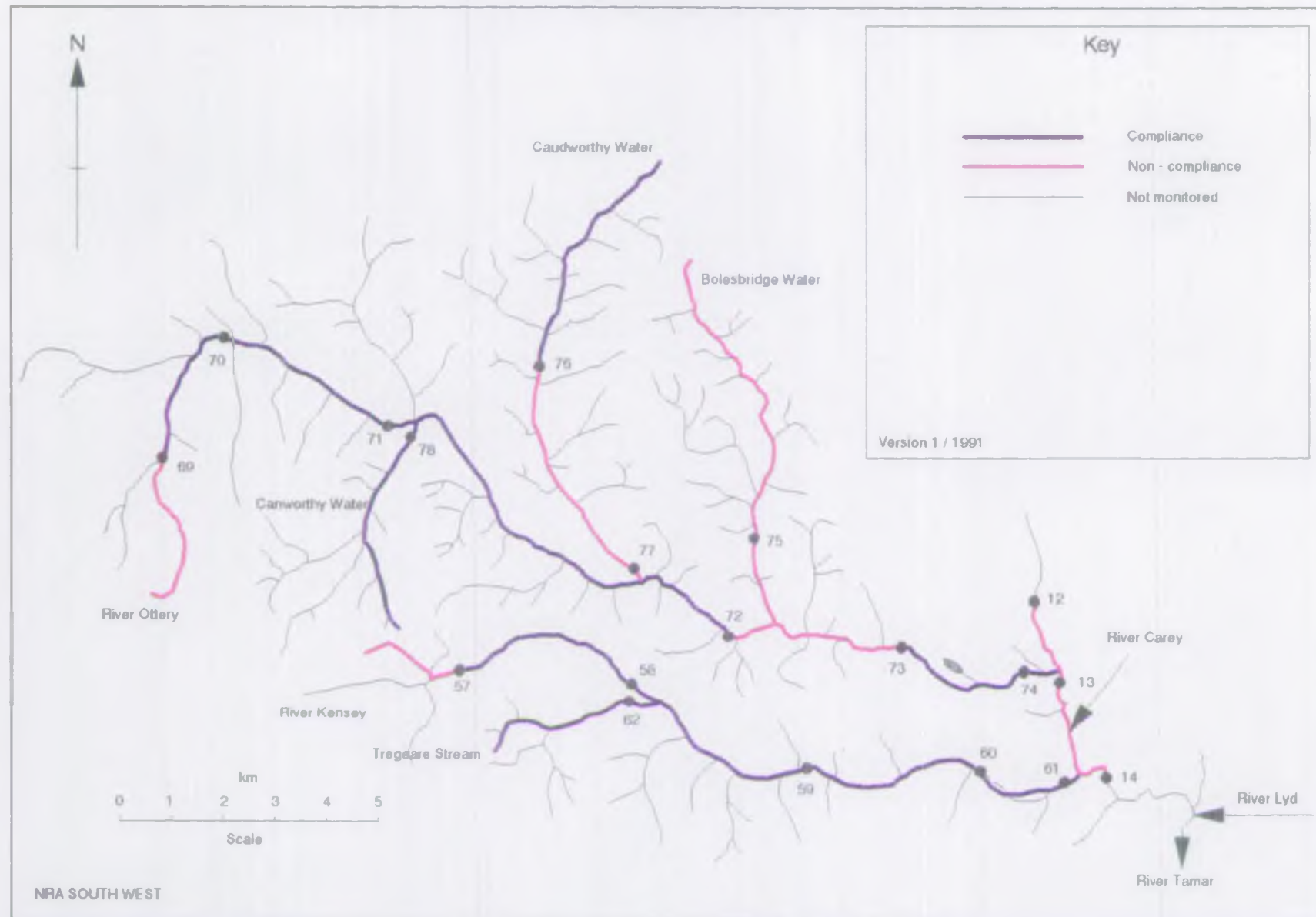
# Inny Catchment Compliance - 1991



# Lyd, Thrushel & Wolf Catchments Compliance - 1991



# Ottery & Kensey Catchments Compliance - 1991



# Upper Tamar Catchment 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: TAMAR

River	Reach upstream of	User Ref. Number	pH Lower		pH Upper		Temperature		DO (%)		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
TAMAR	BUSES BRIDGE	RL2L001	34	-	34	-	34	-	34	-	34	1	34	2	33	-	34	1	19	-	19	-
TAMAR	UPPER TAMAR LAKE	RL2L017	32	-	32	-	31	-	22	1	32	2	32	-	20	-	32	4	23	-	23	-
TAMAR	LOWER TAMAR LAKE	RL2L018	32	-	32	-	32	-	23	-	32	-	32	-	21	-	32	3	23	-	23	-
TAMAR	FOOTBRIDGE BELOW LOWER TAMAR LAKE	RL2L009	33	-	33	-	33	-	33	-	33	-	33	-	32	-	33	4	26	-	26	-
TAMAR	DEXHEER BRIDGE	RL2L006	33	-	33	-	33	-	33	-	33	1	33	-	33	-	33	5	22	-	22	-
TAMAR	TAMARSTONE BRIDGE	RL2L002	36	-	36	-	36	-	35	-	36	1	36	-	36	-	36	6	34	-	34	1
TAMAR	BRIDGENILE	RL2L015	33	-	33	-	33	-	33	-	32	-	33	-	32	-	33	7	22	-	22	-
TAMAR	CROWFORD BRIDGE	RL2L003	33	-	33	-	32	-	32	-	33	2	33	1	32	-	33	7	22	1	22	1
TAMAR	TAMERTON BRIDGE	RL2L004	33	-	33	-	33	-	33	-	32	2	33	-	33	-	33	6	20	-	20	-
TAMAR	BELOW CONFLUENCE WITH RIVER DEER	RL2L013	23	-	23	-	23	-	23	-	23	2	23	-	23	-	23	5	12	-	12	-
TAMAR	BORTON BRIDGE	RL2J001	33	-	33	-	33	-	33	-	33	2	33	-	32	-	33	7	22	-	22	1
TAMAR	DRUTON BRIDGE	RL2J002	33	-	33	-	31	-	32	-	33	3	33	-	32	-	33	5	21	-	21	-
TAMAR	NEHEBRIDGE	RL2J003	32	-	32	-	30	-	31	-	32	1	32	-	30	-	32	7	32	-	32	-
TAMAR	POLSON BRIDGE	RL2J004	35	-	35	-	35	-	35	-	35	2	35	-	35	-	35	8	34	-	34	-
TAMAR	GREYSTONE BRIDGE	RL2E001	34	-	34	-	34	-	34	-	34	1	34	-	34	-	34	9	20	-	20	-
TAMAR	HORSEBRIDGE	RL2E002	32	-	32	-	32	-	32	-	32	-	32	-	31	-	32	8	30	-	30	-
TAMAR	GUNNISLAKE BRIDGE	RL2E003	70	-	70	-	70	1	69	-	70	2	70	-	19	-	70	12	70	4	70	-
BLANCHDOWN STREAM	PRIOR TO RIVER TAMAR	RL2E004	29	-	29	-	28	-	27	-	29	1	29	-	13	-	29	-	28	-	28	-
PORTUNION STREAM	PRIOR TO RIVER TAMAR	RL2E034	16	-	16	-	16	-	15	-	16	-	16	-	12	-	16	-	9	-	9	-
LATCHLEY BROOK	LATCHLEY	RL2E028	32	-	32	-	32	-	32	-	32	-	32	-	22	-	32	1	21	12	21	2
LUCKETT	OLDMILL	RL2E016	32	-	32	-	32	-	32	-	32	-	32	-	31	-	32	1	24	-	24	-
LUCKETT	LUCKETT BRIDGE	RL2E007	34	-	34	-	34	-	34	-	34	-	34	-	31	-	34	1	33	-	33	1
DAVEREL STREAM	PRIOR TO RIVER TAMAR	RL2E014	33	-	33	-	33	-	33	-	33	-	33	-	31	-	33	5	11	-	11	-
INNY	UPSTREAM OF DAVIDSTON CREAMERY	RL2P001	33	-	33	-	31	-	32	-	33	4	33	2	31	-	33	3	20	-	20	-
INNY	TREMINNOW BRIDGE	RL2P002	33	-	33	-	33	-	33	1	33	2	33	1	33	-	33	3	21	-	21	-
INNY	ST. CLEICHER BRIDGE	RL2P003	34	-	34	-	34	-	34	2	34	4	34	2	33	-	34	3	17	-	17	-
INNY	GIMBLETT'S MILL	RL2P012	33	-	33	-	33	-	33	-	33	3	33	-	30	-	33	2	16	-	16	-
INNY	TWO BRIDGES	RL2P004	35	-	35	-	35	-	34	3	35	3	35	-	35	-	35	4	33	-	33	-
INNY	INREKLAND BRIDGE	RL2P005	33	-	33	-	33	-	33	2	33	3	33	-	31	-	33	3	15	-	15	-
INNY	INREKRELL BRIDGE	RL2P013	32	-	32	-	33	-	33	-	33	-	33	-	30	-	32	2	16	-	16	-
INNY	BEALS MILL BRIDGE	RL2P006	34	-	34	-	33	-	33	-	34	-	34	-	33	-	34	5	32	-	32	-
PENFONTH WATER	TRELAN BRIDGE	RL2P010	35	-	35	-	35	-	35	1	35	2	35	-	29	-	35	1	10	-	10	-
PENFONTH WATER	ALDARNUN BRIDGE	RL2P007	34	-	34	-	34	-	34	-	34	1	34	-	27	-	34	1	17	1	17	-
PENFONTH WATER	TWO BRIDGES	RL2P008	35	-	35	-	35	-	35	2	35	1	35	-	34	-	35	2	34	-	34	-
LOWLEY BROOK	LANDLAKE BRIDGE	RL2E005	35	-	35	-	35	-	35	-	35	3	35	2	35	-	35	5	19	-	19	-
LOWLEY BROOK	LANDLE BRIDGE	RL2E017	33	-	33	-	33	-	33	-	33	1	33	-	33	-	33	3	17	-	17	-
LOWLEY BROOK	LOWLEY BRIDGE	RL2E006	36	-	36	-	36	-	36	-	36	-	36	-	35	-	36	7	33	-	34	-

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1991 RIVER WATER QUALITY CLASSIFICATION

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

CATCHMENT: TAMAR

River	Reach upstream of	User Ref. Number	pH Lower		pH Upper		Temperature		DO (%)		BOD (RTU)		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
LXD	A386 ROAD BRIDGE LXFORD	RL2F012	33	-	33	-	33	-	33	-	33	-	33	-	20	-	33	1	20	-	20	-
LXD	GREENLANE BRIDGE	RL2F001	36	-	36	-	36	-	36	-	36	-	36	-	30	-	36	-	19	-	19	-
LXD	STONHAM BRIDGE	RL2F011	34	-	34	-	34	-	33	-	34	-	34	-	30	-	34	2	19	-	19	-
LXD	LIFTON BRIDGE	RL2F002	36	-	36	-	36	-	36	-	36	-	36	-	35	-	36	2	33	-	33	-
QUETHER BROOK	PRIOR TO RIVER LXD	RL2F013	32	-	32	-	32	-	32	-	32	-	32	-	30	-	32	2	14	-	14	-
LEW	COMBELOW BRIDGE	RL2F003	34	-	34	-	34	-	34	-	34	-	34	-	33	-	34	1	19	-	19	-
LEW	PRIOR TO RIVER LXD	RL2F004	34	-	34	-	34	-	34	-	34	-	34	-	31	-	34	2	29	1	29	-
COMBELOW STREAM	ROAD CULVERT NEAR COMBELOW QUARRY	RL2F010	27	-	27	-	27	-	27	-	27	-	27	-	23	-	27	2	13	2	13	-
THRUSHEL	RIVERMEAD BRIDGE	RL2G001	34	-	34	-	34	-	34	-	34	1	34	1	32	-	34	1	25	-	25	-
THRUSHEL	WIDHILL BRIDGE	RL2G002	34	-	34	-	34	-	34	1	35	1	34	1	32	-	34	2	22	-	22	-
THRUSHEL	STONFORD BRIDGE	RL2G003	34	-	34	-	34	-	34	-	34	2	34	4	34	2	34	3	20	-	20	-
THRUSHEL	TINNEY BRIDGE	RL2G004	36	-	36	-	36	-	36	-	36	2	36	1	35	-	36	3	34	-	34	-
BREAZLE WATER	PRIOR TO RIVER THRUSHEL	RL2G010	33	-	33	-	33	-	33	-	33	2	33	1	32	-	33	4	18	-	18	-
BRATTON BROOK	BRATTON CLOVELLY	RL2G009	33	-	33	-	33	-	33	-	33	1	33	-	33	-	33	2	18	-	18	-
WOLF	WEEK'S MILL BRIDGE	RL2G005	34	-	34	-	34	-	34	-	34	-	34	-	33	-	34	2	34	1	34	-
WOLF	REXON BRIDGE	RL2G006	34	-	34	-	34	-	33	-	34	-	34	-	32	-	34	4	34	-	34	-
WOLF	PRIOR TO RIVER THRUSHEL	RL2G007	37	-	37	-	37	-	37	-	37	1	37	-	35	-	37	3	34	-	34	-
BRONWOOD BROOK	HELLACOTT BRIDGE	RL2G012	33	-	33	-	33	-	33	-	33	1	33	-	32	-	33	3	18	-	18	-
HENFORD STREAM	PRIOR TO ROADFORD	RL2G096	79	-	79	-	77	1	75	-	78	-	80	-	26	-	32	-	14	-	14	-
KENSEY	BADGALL BRIDGE	RL2N003	34	-	34	-	34	-	34	-	34	-	34	-	34	-	34	2	34	-	34	3
KENSEY	BADPARLICK BRIDGE	RL2N001	34	-	34	-	33	-	33	-	34	-	34	-	33	-	34	2	34	-	34	-
KENSEY	TRUSCOTT BRIDGE	RL2N004	35	-	35	-	34	-	34	-	35	-	35	-	33	-	35	3	21	-	21	-
KENSEY	NEWPORT	RL2N005	34	-	34	-	34	-	34	-	34	-	34	-	34	-	34	3	22	-	22	-
KENSEY	ST. LEONARDS BRIDGE	RL2N002	37	-	37	-	37	-	37	-	37	1	37	-	37	-	37	5	37	-	37	-
TRIGENRE STREAM	RED DOWN BRIDGE	RL2N006	35	-	35	-	34	-	34	-	35	-	35	1	34	-	35	3	27	-	27	-
OREY	HADWILL BRIDGE - QUODITCH	RL2H006	33	-	33	-	33	-	32	3	33	3	33	2	32	-	33	3	13	-	13	-
OREY	ASHMILL BRIDGE	RL2H001	34	-	34	-	34	-	33	3	34	5	34	1	30	-	34	3	26	-	26	-
OREY	MIDDLE BRIDGE VIRGINSTONE	RL2H007	32	-	32	-	32	-	31	-	32	1	32	-	30	-	32	5	12	-	12	-
OREY	ROLFORD BRIDGE	RL2H008	31	-	31	-	31	-	31	-	31	-	31	1	31	-	31	4	12	-	12	-
OREY	HEALE BRIDGE	RL2H002	35	-	35	-	35	-	35	-	35	-	35	-	34	-	35	6	30	-	30	-
HENFORD WATER	HENFORD	RL2H005	32	-	32	-	32	-	31	-	32	-	32	-	31	-	32	3	17	-	17	-

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1991 RIVER WATER QUALITY CLASSIFICATION

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

CATCHMENT: TAMAR

River	Reach upstream of	User Ref. Number	pH Lower		pH Upper		Temperature		DO (%)		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
OTTERY	OTTERHAM MILL	RL2M004	33	-	33	-	33	-	33	-	33	2	33	1	33	-	33	1	31	-	31	-
OTTERY	TRENGLE BRIDGE	RL2M005	34	-	34	-	34	-	34	-	34	-	34	-	32	-	34	1	32	-	32	-
OTTERY	CANWORTHY WATER BRIDGE	RL2M001	33	-	33	-	33	-	32	-	33	-	33	-	33	-	33	2	22	-	22	-
OTTERY	HELLESCOTT BRIDGE	RL2M002	35	-	35	-	35	-	34	-	35	1	35	-	34	-	35	4	23	-	23	-
OTTERY	YECUMERIDGE	RL2M006	34	-	34	-	34	-	34	-	34	1	34	-	32	-	34	4	22	-	22	-
OTTERY	HPM MILL BRIDGE	RL2M007	32	-	32	-	31	-	31	-	32	1	32	-	30	-	32	3	32	-	32	-
HOLDSRIDGE WATER	200 METRES D/S OF NAWARIND BRIDGE	RL2M012	33	-	33	-	31	-	31	3	33	4	33	3	30	-	33	7	23	1	23	-
CAUDWORTHY WATER	CAUDWORTHY BRIDGE	RL2M010	31	-	31	-	31	-	31	-	32	-	32	-	30	-	32	1	17	-	17	-
CAUDWORTHY WATER	PRIOR TO RIVER OTTERY	RL2M011	32	-	32	-	32	-	32	-	32	-	32	1	31	-	32	7	23	-	23	-
CANWORTHY WATER	PRIOR TO RIVER OTTERY	RL2M008	33	-	33	-	33	-	33	-	33	-	33	-	33	-	33	1	21	-	21	-
TALA WATER	BRIDGE TOWN	RL2J006	32	-	32	-	32	-	32	-	32	-	32	-	31	-	32	1	18	-	18	1
LANA LAKE	LANA BRIDGE	RL2J005	31	-	31	-	30	-	30	-	31	2	30	7	29	-	31	4	17	-	17	-
CLAW	CLAW BRIDGE	RL2K016	31	-	31	-	30	-	31	1	31	-	31	1	29	-	31	-	22	-	22	-
CLAW	CLAWTON BRIDGE	RL2K001	32	-	32	-	32	-	32	-	32	-	32	-	32	-	32	1	23	-	23	-
CLAW	TELCOTT BRIDGE	RL2K002	33	-	33	-	33	-	33	1	33	-	33	1	32	-	33	2	29	-	29	-
DEER	REDON BRIDGE	RL2K003	31	-	31	-	31	-	31	-	31	-	31	-	30	-	31	1	19	-	19	-
DEER	WINSOOTT BRIDGE	RL2K004	31	-	31	-	31	-	31	-	31	-	31	-	31	-	31	-	19	-	19	-
DEER	DEER BRIDGE	RL2K005	33	-	33	-	33	-	33	-	33	-	33	-	33	-	33	1	30	-	30	-
COLES MILL STREAM	100 METRES BELOW HOLDSWORTHY SW	RL2K007	31	-	31	-	31	-	31	-	31	-	31	1	31	-	31	2	31	-	31	-
DERRIL WATER	DUALSTONE BRIDGE	RL2L005	37	-	37	-	36	-	36	2	37	3	37	1	34	-	37	5	23	-	23	-
SMALL BROOK	HEADON BRIDGE	RL2L011	36	-	36	-	36	-	36	1	36	2	36	-	36	-	36	2	18	-	18	-
SMALL BROOK	YOUNDON BRIDGE	RL2L008	33	-	33	-	32	-	32	-	33	3	33	3	30	-	33	4	23	-	23	-
LAMBERAL WATER	FORDA	RL2L010	37	-	37	-	37	-	37	1	37	-	37	-	37	-	37	1	18	-	18	-
LAMBERAL WATER	MORETON ROUND BRIDGE	RL2L007	33	-	33	-	33	-	33	-	33	1	33	-	32	-	33	5	25	-	25	-

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## 1991 RIVER WATER QUALITY CLASSIFICATION

PERCENTAGE EXCEEDENCE OF DETERMINAND STATISTICS FROM QUALITY STANDARDS  
CATCHMENT: TAMAR

River	Reach upstream of	User Ref. Number	pH Low
TAMAR	BUSES BRIDGE	R12L001	-
TAMAR	UPPER TAMAR LAKE	R12L017	-
TAMAR	LOWER TAMAR LAKE	R12L018	-
TAMAR	FOOTBRIDGE BELOW LOWER TAMAR LAKE	R12L009	-
TAMAR	DEXBEER BRIDGE	R12L006	-
TAMAR	TAMARSTONE BRIDGE	R12L002	-
TAMAR	BRIDGERULE	R12L015	-
TAMAR	CROWFORD BRIDGE	R12L003	-
TAMAR	TAMERTON BRIDGE	R12L004	-
TAMAR	BELOW CONFLUENCE WITH RIVER DEER	R12L013	-
TAMAR	BOYTON BRIDGE	R12J001	-
TAMAR	DRUXTON BRIDGE	R12J002	-
TAMAR	NETHERBRIDGE	R12J003	-
TAMAR	POLSON BRIDGE	R12J004	-
TAMAR	GREYSTONE BRIDGE	R12E001	-
TAMAR	HORSEBRIDGE	R12E002	-
TAMAR	GUNNISLAKE BRIDGE	R12E003	-
BLANCHDOWN STREAM	PRIOR TO RIVER TAMAR	R12E004	-
PORTONTOWN STREAM	PRIOR TO RIVER TAMAR	R12E034	-
LATCHLEY BROOK	LATCHLEY	R12E028	-
LUCKETT	OLDMILL	R12E016	-
LUCKETT	LUCKETT BRIDGE	R12E007	-
DAMEREL STREAM	PRIOR TO RIVER TAMAR	R12E014	-
INNY	UPSTREAM OF DAVIDSTOW CREAMERY	R12P001	-
INNY	TREWINNOW BRIDGE	R12P002	-
INNY	ST. CLEATHER BRIDGE	R12P003	-
INNY	GIMBLETT'S MILL	R12P012	-
INNY	TWO BRIDGES	R12P004	-
INNY	TREKELLAND BRIDGE	R12P005	-
INNY	TRECARRELL BRIDGE	R12P013	-
INNY	BEALS MILL BRIDGE	R12P006	-
PENPONT WATER	TRELYN BRIDGE	R12P010	-
PENPONT WATER	ALTARNUN BRIDGE	R12P007	-
PENPONT WATER	TWO BRIDGES	R12P008	-
LOWLEY BROOK	LANDLAKE BRIDGE	R12E005	-
LOWLEY BROOK	LANDUE BRIDGE	R12E017	-
LOWLEY BROOK	LOWLEY BRIDGE	R12E006	-

PERCENTAGE EXCEEDENCE OF STATISTIC FROM QUALITY STANDARD									
er	pH Upper	Temperature	DO (%)	BOD (ATU)	Total Ammonia	Un-ionised Ammonia	Suspended Solids	Total Copper	Total Zinc
	-	-	-	-	561	-	-	-	-
	-	-	15	7	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	4	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	11	-	-	2	140	213
	-	-	-	16	-	-	4	-	-
	-	-	-	7	-	-	27	-	-
	-	-	-	13	-	-	13	-	51
	-	-	-	62	-	-	23	-	-
	-	-	-	9	-	-	21	-	-
	-	-	-	8	-	-	32	-	-
	-	-	-	-	-	-	50	-	-
	-	-	-	-	-	-	19	-	-
	-	-	-	-	-	-	15	108	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	604	162
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	33	73	-	64	-	-
	-	-	-	107	-	-	-	-	-
	-	-	4	117	44	-	4	-	-
	-	-	-	34	-	-	-	-	-
	-	-	18	15	-	-	9	-	-
	-	-	4	11	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	1	11	-	-	-	-	-
	-	-	7	4	-	-	-	23	-
	-	-	-	22	9	-	-	-	-
	-	-	-	-	-	-	-	-	-

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION  
 1991 RIVER WATER QUALITY CLASSIFICATION  
 PERCENTAGE EXCEEDENCE OF DETERMINAND STATISTICS FROM QUALITY STANDARDS  
 CATCHMENT: TAMAR

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
LYD	A386 ROADBRIDGE LYDFORD	R12F012	-	-	-	-	-	-	-	-	-	-
LYD	GREENLANES BRIDGE	R12F001	-	-	-	-	-	-	-	-	-	-
LYD	SYDENHAM BRIDGE	R12F011	-	-	-	-	-	-	-	-	-	-
LYD	LIFTON BRIDGE	R12F002	-	-	-	-	-	-	-	-	-	-
QUITHER BROOK	PRIOR TO RIVER LYD	R12F013	-	-	-	-	-	-	-	-	-	-
LEW	COMBEBOW BRIDGE	R12F003	-	-	-	-	-	-	-	-	-	-
LEW	PRIOR TO RIVER LYD	R12F004	-	-	-	-	-	-	-	-	4	-
COMBEBOW STREAM	ROAD CULVERT NEAR COMBEBOW QUARRY	R12F010	-	-	-	-	-	-	-	-	55	-
THRUSHEL	RIVERMEAD BRIDGE	R12G001	-	-	-	-	-	-	-	-	-	-
THRUSHEL	WRIXHILL BRIDGE	R12G002	-	-	-	-	9	-	-	-	-	-
THRUSHEL	STOWFORD BRIDGE	R12G003	-	-	-	-	71	64	55	32	-	-
THRUSHEL	TINHAY BRIDGE	R12G004	-	-	-	-	12	4	-	-	-	-
BREAZLE WATER	PRIOR TO RIVER THRUSHEL	R12G010	-	-	-	-	188	14	-	48	-	-
BRATTON BROOK	BRATTON CLOVELLY	R12G009	-	-	-	-	-	-	-	-	-	-
WOLF	WEEK'S MILL BRIDGE	R12G005	-	-	-	-	-	-	-	-	-	-
WOLF	REXON BRIDGE	R12G006	-	-	-	-	-	-	-	-	-	-
WOLF	PRIOR TO RIVER THRUSHEL	R12G007	-	-	-	-	-	-	-	1	-	-
BROADWOOD BROOK	KELLACOTT BRIDGE	R12G012	-	-	-	-	44	-	-	38	-	-
HENNARD STREAM	PRIOR TO ROADFORD	R12G096	-	-	-	-	-	-	-	-	-	-
KENSEY	BADGALL BRIDGE	R12N003	-	-	-	-	-	-	-	-	-	31
KENSEY	BADHARLICK BRIDGE	R12N001	-	-	-	-	-	-	-	-	-	-
KENSEY	TRUSCOTT BRIDGE	R12N004	-	-	-	-	-	-	-	-	-	-
KENSEY	NEWPORT	R12N005	-	-	-	-	-	-	-	-	-	-
KENSEY	ST. LEONARDS BRIDGE	R12N002	-	-	-	-	-	-	-	-	-	-
TREGEARE STREAM	RED DOWN BRIDGE	R12N006	-	-	-	-	-	-	-	-	-	-
CAREY	HALMILL BRIDGE - QUODITCH	R12H006	-	-	-	5	109	79	-	-	-	-
CAREY	ASHMILL BRIDGE	R12H001	-	-	-	12	33	2	-	-	-	-
CAREY	MIDDLE BRIDGE VIRGINSTOW	R12H007	-	-	-	-	-	-	-	-	-	-
CAREY	BOLDFORD BRIDGE	R12H008	-	-	-	-	-	20	-	-	-	-
CAREY	HEALE BRIDGE	R12H002	-	-	-	-	-	-	-	-	-	-
HENFORD WATER	HENFORD	R12H005	-	-	-	-	-	-	-	-	-	-

## NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION

## 1991 RIVER WATER QUALITY CLASSIFICATION

## PERCENTAGE EXCEEDENCE OF DETERMINAND STATISTICS FROM QUALITY STANDARDS

CATCHMENT: TAMAR

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
OTTERY	OTTERHAM MILL	R12M004	-	-	-	-	20	4	-	-	-	-
OTTERY	TRENGUNE BRIDGE	R12M005	-	-	-	-	-	-	-	-	-	-
OTTERY	CANWORTHY WATER BRIDGE	R12M001	-	-	-	-	-	-	-	-	-	-
OTTERY	HELLESCOTT BRIDGE	R12M002	-	-	-	-	-	-	-	-	-	-
OTTERY	YEOLMBRIDGE	R12M006	-	-	-	-	9	-	-	-	-	-
OTTERY	HAM MILL BRIDGE	R12M007	-	-	-	-	-	-	-	-	-	-
BOLESBRIDGE WATER	200 METRES D/S OF NAVARINO BRIDGE	R12M012	-	-	-	32	220	136	-	6	103	-
CAUDWORTHY WATER	CAUDWORTHY BRIDGE	R12M010	-	-	-	-	-	-	-	-	-	-
CAUDWORTHY WATER	PRIOR TO RIVER OTTERY	R12M011	-	-	-	-	-	-	-	29	-	-
CANWORTHY WATER	PRIOR TO RIVER OTTERY	R12M008	-	-	-	-	-	-	-	-	-	-
TALA WATER	BRIDGETOWN	R12J006	-	-	-	-	-	-	-	-	-	52
LANA LAKE	LANA BRIDGE	R12J005	-	-	-	-	24	45	-	-	-	-
CLAW	CLAW BRIDGE	R12K016	-	-	-	4	-	16	-	-	-	-
CLAW	CLAWTON BRIDGE	R12K001	-	-	-	-	-	-	-	-	-	-
CLAW	TETCOTT BRIDGE	R12K002	-	-	-	-	-	-	-	-	-	-
DEER	RYDON BRIDGE	R12K003	-	-	-	-	-	-	-	-	-	-
DEER	WINSOTT BRIDGE	R12K004	-	-	-	-	-	-	-	-	-	-
DEER	DEER BRIDGE	R12K005	-	-	-	-	-	-	-	-	-	-
COLESMILL STREAM	100 METRES BELOW HOLSWORTHY STW	R12K007	-	-	-	-	-	-	-	-	-	-
DERRIL WATER	DUALSTONE BRIDGE	R12L005	-	-	-	24	62	-	-	-	-	-
SMALL BROOK	HEADON BRIDGE	R12L011	-	-	-	-	39	-	-	-	-	-
SMALL BROOK	YOULDON BRIDGE	R12L008	-	-	-	-	95	76	-	-	-	-
LAMBERAL WATER	FORDA	R12L010	-	-	-	-	-	-	-	-	-	-
LAMBERAL WATER	MORETON POUND BRIDGE	R12L007	-	-	-	-	-	-	-	-	-	-