

# Environmental Protection Report

## River Lynher Catchment River Water Quality Classification 1991

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Water Quality Planner



**NRA**

*National Rivers Authority*

*South West Region*

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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



110239

# RIVER WATER QUALITY IN THE RIVER LYNHER CATCHMENT

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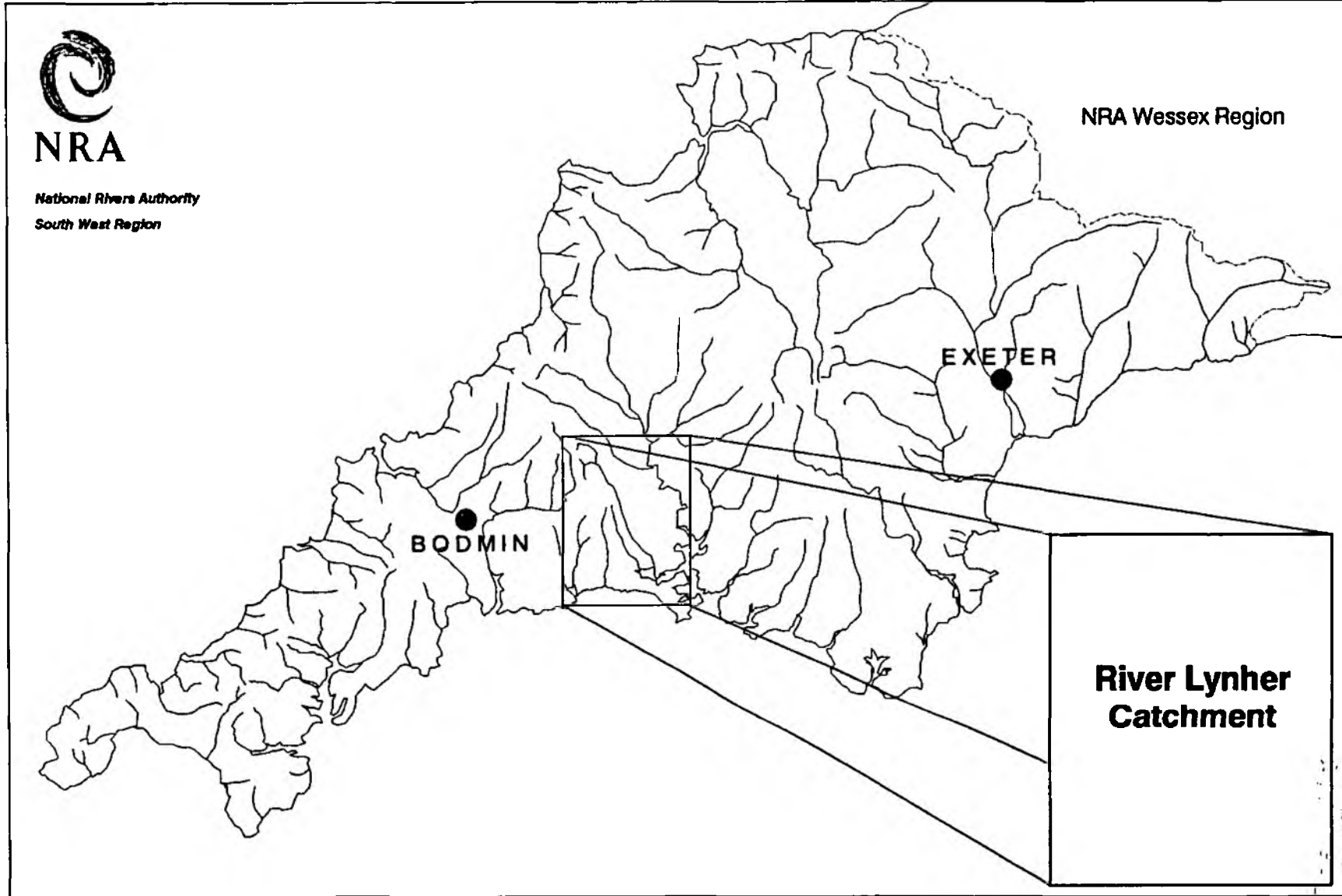
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# National Rivers Authority South West Region



**NRA**

*National Rivers Authority  
South West Region*



**River Lynher Catchment**

**River Lynher  
Catchment**

## 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 Lynher catchment.

## 2. RIVER LYNHER CATCHMENT

The River Lynher flows over a distance of 34.8 km from its source to the tidal limit, (Appendix 8.1). Water quality was monitored at eight locations on the main river; seven of these sites were sampled at approximately monthly intervals. The site at Notter Bridge, which is a National Water Quality monitoring point, was sampled fortnightly.

Throughout the Lynher catchment four secondary tributaries of the River Lynher was monitored at approximately monthly intervals.

The River Tiddy flows over a distance of 15.9 km from its source to the tidal limit, (Appendix 8.1). Water quality was monitored at four locations at approximately monthly intervals.

The Trecorme Stream flows over a distance of 7.3 km from its source to the confluence with the River Tiddy, (Appendix 8.1). Water quality was monitored at one location at approximately monthly intervals.

### 2.1 SECONDARY TRIBUTARIES

Kelly Brook and Withey Brook flow over a distance of 3 km and 7.5 km respectively from their source to the confluence with the River Lynher, (Appendix 8.1) and were monitored at two locations.

The Marke Valley Stream and Dean's Brook flow over a distance of 4.1 km and 6.5 km respectively from their source to the confluence with the River Lynher, (Appendix 8.1) and were both monitored at one location in the lower reaches.

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

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

### 3. NATIONAL WATER COUNCIL'S RIVER CLASSIFICATION SYSTEM

#### 3.1 River Quality Objectives

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

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

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

#### 3.2 River Quality Classification

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

Table 1 - National Water Council - River Classification System

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

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

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

#### 4. 1991 RIVER WATER QUALITY CLASSIFICATION

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

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

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

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

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

#### 5. NON-COMPLIANCE WITH QUALITY OBJECTIVES

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

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

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

## 6. GLOSSARY OF TERMS

RIVER REACH	A segment of water, upstream from sampling point to the next sampling point.
RIVER LENGTH	River distance in kilometres.
RIVER QUALITY OBJECTIVE	That NWC class, which protects the most sensitive use of the water.
95 percentiles	Maximum limits, which must be met for at least 95% of the time.
5 percentiles	Minimum limits, which must be met for at least 95% of the time.
BIOLOGICAL OXYGEN DEMAND (5 day carbonaceous ATU)	A standard test measuring the microbial uptake of oxygen - an estimate of organic pollution.
pH	A scale of acid to alkali.
UN-IONISED AMMONIA	Fraction of ammonia poisonous to fish, $\text{NH}^3$ .
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

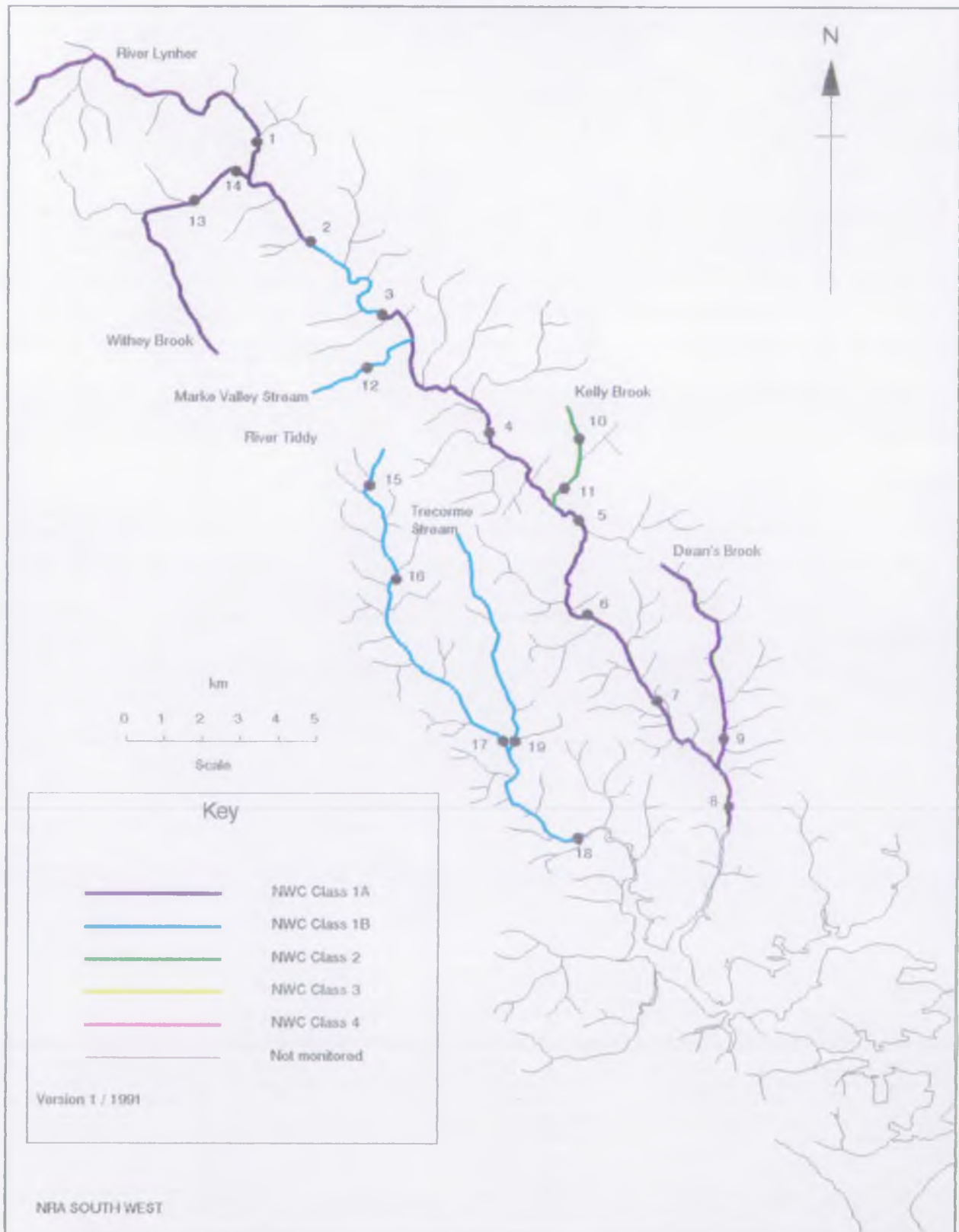
### Reference

- 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.



# Lynher 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 uS/cm  
Water temperature (Cel)  
Oxygen dissolved % saturation  
Oxygen dissolved as mg/l O  
Biochemical oxygen demand (5 day total ATU) as mg/l O  
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 CaCO<sub>3</sub>  
Chloride as mg/l Cl  
Orthophosphate (total) as mg/l P  
Silicate reactive dissolved as mg/l SiO<sub>2</sub>  
Sulphate (dissolved) as mg/l SO<sub>4</sub>  
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 CaCO<sub>3</sub>

## MNC 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  $NH_4$ . \*\*
  - (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  $NH_4$ /l to mg N/l)

Class 1A	0.4 mg $NH_4$ /l = 0.31 mg N/l
Class 1B	0.9 mg $NH_4$ /l = 0.70 mg N/l
	0.5 mg $NH_4$ /l = 0.39 mg N/l

## NWC RIVER CLASSIFICATION SYSTEM

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

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

## STATISTICS USED BY NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION

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

## NWC RIVER CLASSIFICATION SYSTEM

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

## SOLUBLE COPPER

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

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

## TOTAL ZINC

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

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION  
 1991 RIVER WATER QUALITY CLASSIFICATION  
 CATCHMENT: LYNHER

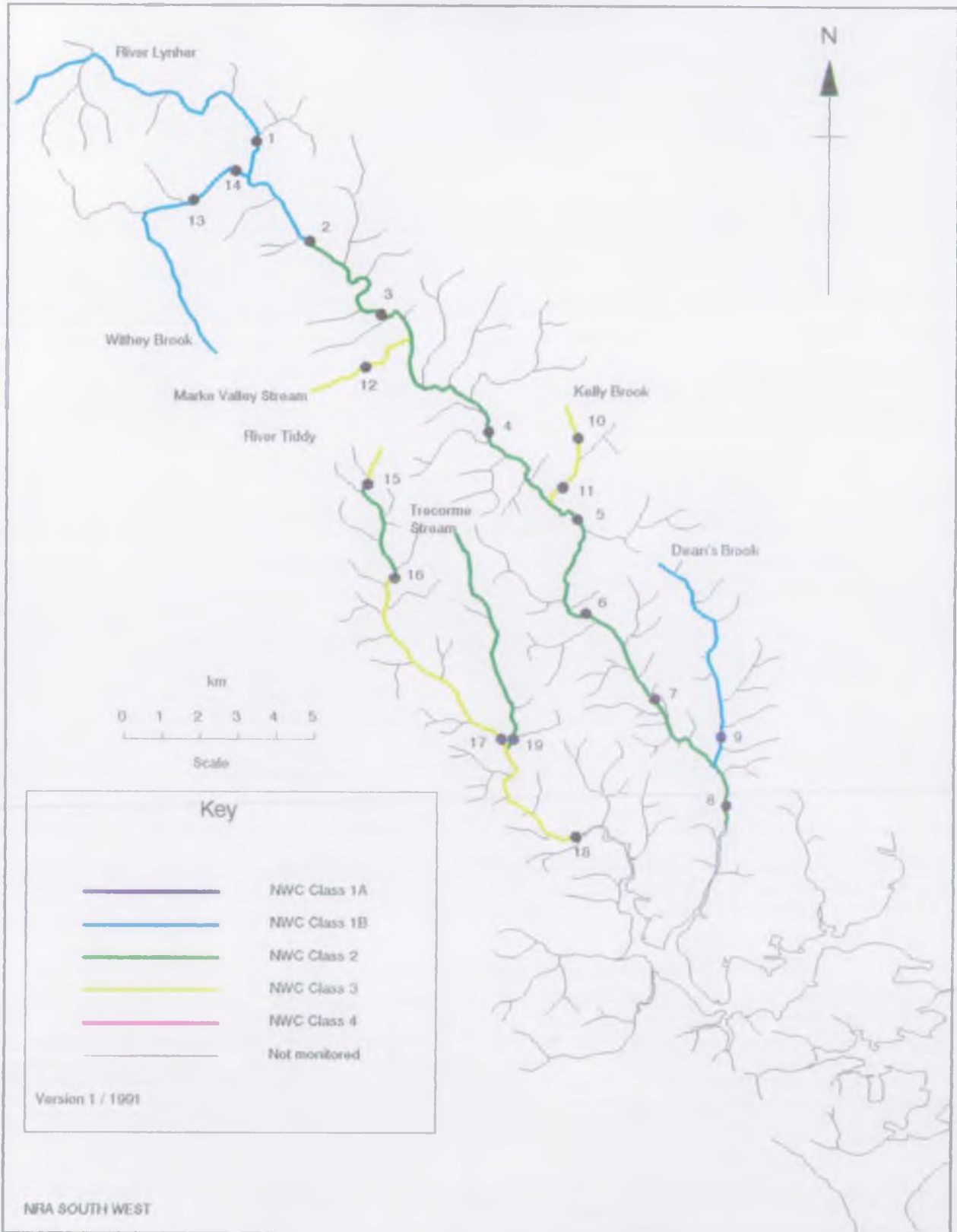
1991 Map Position Number	River	Reach upstream of	User Reference Number	National Grid Reference
1	LYNHER	TREBARTHA ROAD BRIDGE	R12Q001	SX 2603 7778
2	LYNHER	BERRIOWBRIDGE	R12Q002	SX 2733 7564
3	LYNHER	RILLA MILL BRIDGE	R12Q003	SX 2948 7311
4	LYNHER	BICTON MILL BRIDGE	R12Q004	SX 3215 7005
5	LYNHER	NEWBRIDGE	R12Q005	SX 3473 6801
6	LYNHER	CLAPPER BRIDGE	R12Q025	SX 3515 6526
7	LYNHER	PILLATON BRIDGE	R12Q006	SX 3650 6324
8	LYNHER	NOTTER BRIDGE	R12Q007	SX 3850 6090
9	DEAN'S BROOK DEAN'S BROOK	BRIDGE LYNHER CONFLUENCE (INFERRED STRETCH)	R12Q029	SX 3825 6224
10	KELLY BROOK	HAYE	R12Q026	SX 3470 6991
11	KELLY BROOK KELLY BROOK	CADDAPIT LYNHER CONFLUENCE (INFERRED STRETCH)	R12Q009	SX 3400 6888
12	MARKE VALLEY STREAM MARKE VALLEY STREAM	UPTON CROSS LYNHER CONFLUENCE (INFERRED STRETCH)	R12Q027	SX 2870 7195
13	WITHEY BROOK	UPSTREAM OF BASTREET INTAKE	R12Q010	SX 2435 7637
14	WITHEY BROOK WITHEY BROOK	PRIOR TO RIVER LYNHER LYNHER CONFLUENCE (INFERRED STRETCH)	R12Q008	SX 2610 7723
15	TIDDY	ABOVE PENSILVA S T W	R12R001	SX 2900 6890
16	TIDDY	BUTTERDON MILL	R12R002	SX 2944 6617
17	TIDDY	TILLAND MILL BRIDGE	R12R003	SX 3288 6188
18	TIDDY TIDDY	TIDEFORD BRIDGE NORMAL TIDAL LIMIT (INFERRED STRETCH)	R12R004	SX 3443 5960
19	TRECORME STREAM TRECORME STREAM	TILLAND BRIDGE TIDDY CONFLUENCE (INFERRED STRETCH)	R12R006	SX 3315 6196

Reach Length (km)	Distance from source (km)	River Quality Objective	85	86	87	88	89	90	91
			NWC Class	NWC Class	NWC Class	NWC Class	NWC Class	NWC Class	NWC Class
9.2	9.2	1A	1A	1B	1B	1B	1B	1B	1B
2.9	12.1	1A	1A	1B	1B	1B	1B	1B	1B
4.2	16.3	1B	1B	2	2	2	2	2	2
5.0	21.3	1A	1B	2	2	1B	2	2	2
4.0	25.3	1A	1B	2	1B	3	3	2	2
3.5	28.8	1A	1B	2	1A	1A	2	2	2
2.6	31.4	1A	1B	2	1A	1A	2	2	2
3.4	34.8	1A	1B	2	2	1B	2	2	2
5.9	5.9	1A	1B					2	1B
0.6	6.5	1A	1B					2	1B
1.3	1.3	2	2	3	3	3	3	2	3
1.3	2.6	2	2	3	3	3	3	3	3
0.4	3.0	2	2	3	3	3	3	3	3
2.3	2.3	1B	2					3	3
1.8	4.1	1B	2					3	3
5.3	5.3	1A	1B	2	2	2	2	1B	1B
2.1	7.4	1A	1B	1B	1B	2	1B	1B	1B
0.1	7.5	1A	1B	1B	1B	2	1B	1B	1B
0.7	0.7	1B	1B	2	2	4	4	3	3
3.3	4.0	1B	1B	2	2	4	4	3	2
6.5	10.5	1B	2	1B	1B	2	2	2	3
3.6	14.1	1B	2	1B	1B	2	2	2	3
1.8	15.9	1B	2	1B	1B	2	2	2	3
6.8	6.8	1B						2	2
0.5	7.3	1B						2	2



# Lynher Catchment Water Quality - 1991

Appendix 8.6

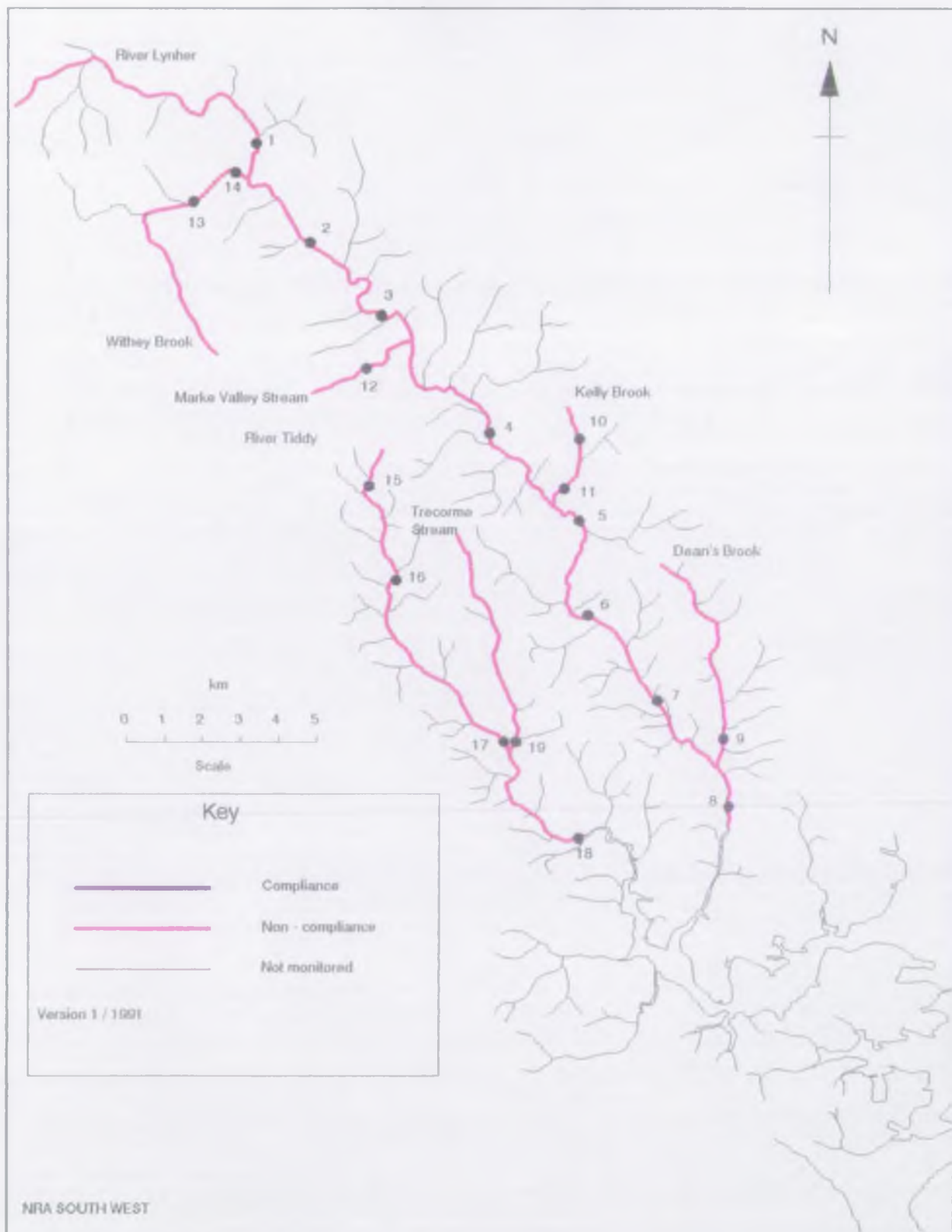


NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION  
 1991 RIVER WATER QUALITY CLASSIFICATION  
 CALCULATED DETERMINAND STATISTICS USED FOR QUALITY ASSESSMENT  
 CATCHMENT: LYNHER

River	Reach upstream of	User Ref. Number	ROD	Calculated Determinand Statistics used for Quality Assessment																			
				pH Lower Class 5kile		pH Upper Class 95kile		Temperature Class 95kile		DO (%) Class 5kile		BOD (RTU) Class 95kile		Total Ammonia Class 95kile		Union. Ammonia Class 95kile		S.Solids Class Mean		Total Copper Class 95kile		Total Zinc Class 95kile	
LYNHER	TREBARTH ROAD BRIDGE	RL2Q001	1A	1A	6.4	1A	7.7	1A	15.3	1A	80.2	1A	2.9	1B	0.319	1A	0.010	1A	17.2	1A	9.9	1A	56.5
LYNHER	BERRIOA BRIDGE	RL2Q002	1A	1A	6.3	1A	7.2	1A	15.4	1A	86.0	1B	3.2	1A	0.205	1A	0.010	1A	9.7	1A	7.4	1A	44.7
LYNHER	TILLA MILL BRIDGE	RL2Q003	1B	1A	6.6	1A	7.4	1A	15.5	1A	81.5	1B	4.5	1A	0.157	1A	0.010	1A	14.3	2	43.8	1A	131.8
LYNHER	BEICION MILL BRIDGE	RL2Q004	1A	1A	6.7	1A	7.4	1A	16.1	1A	80.5	1B	3.6	1A	0.280	1A	0.010	1A	17.9	2	80.6	1A	143.2
LYNHER	WENERIDGE	RL2Q005	1A	1A	6.6	1A	7.5	1A	16.1	1B	79.9	1B	3.2	1B	0.321	1A	0.010	1A	17.0	2	80.8	1A	191.0
LYNHER	CLAPPER BRIDGE	RL2Q025	1A	1A	6.6	1A	7.5	1A	16.0	1A	83.3	1B	3.4	1A	0.269	1A	0.010	1A	18.0	2	128.0	2	221.9
LYNHER	PILLATION BRIDGE	RL2Q006	1A	1A	6.7	1A	7.5	1A	16.2	1A	84.3	1B	3.1	1A	0.279	1A	0.010	1A	20.1	2	129.4	2	230.1
LYNHER	WOTTER BRIDGE	RL2Q007	1A	1A	6.7	1A	7.5	1A	16.5	1A	85.0	1B	3.2	1A	0.120	1A	0.010	1A	9.9	2	23.0	1A	78.4
DEAN'S BROOK	BRIDGE	RL2Q029	1A	1A	7.0	1A	7.7	1A	17.5	1B	74.5	1B	3.8	1A	0.170	1A	0.010	1A	9.9	1A	4.0	1A	8.0
KELLY BROOK	HAYE	RL2Q026	2	1A	6.6	1A	7.4	1A	15.3	1B	76.1	2	5.9	1A	0.080	1A	0.010	1A	4.5	1A	32.6	3	1001.5
KELLY BROOK	CADAPIT	RL2Q009	2	1A	6.7	1A	7.3	1A	17.2	1B	74.7	2	5.2	3	3.815	1A	0.020	1A	8.6	2	42.2	2	506.2
MARKE VALLEY STREAM	UPTON CROSS	RL2Q027	1B	1A	5.8	1A	6.8	1A	14.0	1A	82.7	3	10.1	1A	0.059	1A	0.010	1A	11.2	2	384.8	3	1292.0
WITHEY BROOK	UPSTREAM OF BASTINGET INTAKE	RL2Q010	1A	1A	5.5	1A	6.7	1A	15.3	1B	75.4	1A	2.3	1A	0.050	1A	0.010	1A	2.9	1A	4.5	1A	16.5
WITHEY BROOK	PRIOR TO RIVER LYNHER	RL2Q008	1A	1A	5.5	1A	7.5	1A	14.8	1A	82.0	1B	4.4	1A	0.157	1A	0.010	1A	10.4	1A	7.2	1A	22.9
TILLY	ABOVE HENSIDA S T W	RL2N001	1B	1A	6.2	1A	7.8	1A	15.2	1A	82.8	3	9.7	1B	0.638	1A	0.010	1A	20.8	2	27.6	1A	66.0
TILLY	BUTTERION MILL	RL2N002	1B	1A	6.8	1A	7.6	1A	16.5	1A	83.0	2	5.4	1B	0.340	1A	0.010	1A	15.5	1A	13.7	1A	113.5
TILLY	TILLAND MILL BRIDGE	RL2N003	1B	1A	7.1	1A	8.6	1A	18.2	1A	82.0	2	6.1	1A	0.308	1A	0.010	3	33.0	1A	22.2	1A	204.3
TILLY	TILDFORD BRIDGE	RL2N004	1B	1A	7.1	1A	8.0	1A	17.4	1A	80.7	2	6.7	1B	0.367	1A	0.010	3	31.3	1A	30.2	1A	102.8
TRICORNE STREAM	TILLAND BRIDGE	RL2N006	1B	1A	6.8	1A	7.9	1A	16.7	1B	77.4	2	7.6	1B	0.503	1A	0.010	1A	16.7	1A	7.9	1A	32.7

# Lynher 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: LANNER

River	Reach upstream of	User Ref. Number	pH Lower		pH Upper		Temperature		DO (%)		ECG (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
LANNER	TREBRITHA ROAD BRIDGE	RL2Q001	32	-	32	-	32	-	31	1	32	1	32	1	26	-	32	4	22	-	22	-
LANNER	BERRIDGEBRIDGE	RL2Q002	32	-	32	-	32	-	32	-	32	1	32	-	28	-	31	4	32	-	32	-
LANNER	RILLA MILL BRIDGE	RL2Q003	34	-	34	-	34	-	34	-	34	1	34	-	34	-	34	3	34	2	34	1
LANNER	BICTON MILL BRIDGE	RL2Q004	32	-	32	-	32	-	32	1	32	1	32	1	30	-	32	4	31	6	31	-
LANNER	NEWBRIDGE	RL2Q005	32	-	32	-	32	-	32	1	32	1	32	1	32	-	32	4	31	5	31	1
LANNER	CLAPPER BRIDGE	RL2Q025	32	-	32	-	32	-	32	-	32	1	32	1	31	-	32	3	22	3	22	2
LANNER	PILLATON BRIDGE	RL2Q006	32	-	32	-	32	-	32	-	32	1	32	1	32	-	32	3	22	3	22	1
LANNER	NOTTER BRIDGE	RL2Q007	66	-	66	-	67	-	66	1	66	3	66	-	10	-	66	5	65	4	65	-
DEAN'S BROOK	BRIDGE	RL2Q029	29	-	29	-	29	-	29	1	29	1	29	-	28	-	29	1	12	-	12	-
KELLY BROOK	HAVE	RL2Q026	30	-	30	-	31	-	30	-	30	-	30	-	26	-	30	1	22	-	22	1
KELLY BROOK	CADAPIT	RL2Q009	32	-	32	-	31	-	30	-	32	-	32	7	30	-	32	3	31	-	31	-
MARK VALLEY STREAM	UPTON CROSS	RL2Q027	30	-	30	-	30	-	30	-	30	2	30	-	21	-	30	3	27	26	27	26
WITHEY BROOK	UPSTREAM OF BASINSET INTAKE	RL2Q010	31	-	31	-	31	-	31	3	30	-	31	-	23	-	31	-	29	-	29	-
WITHEY BROOK	PRIOR TO RIVER LANNER	RL2Q008	34	-	34	-	34	-	34	1	34	2	34	-	19	-	33	3	30	-	30	-
TIDDY	ABOVE PENSIWA S T W	RL2R001	28	-	28	-	28	-	28	-	28	3	28	-	27	-	28	3	21	1	21	-
TIDDY	BUTTERDEN MILL	RL2R002	32	-	32	-	31	-	31	-	32	1	32	-	28	-	32	3	30	-	30	-
TIDDY	TILLAND MILL BRIDGE	RL2R003	32	-	32	1	31	-	31	-	32	2	32	-	31	-	32	4	22	-	22	-
TIDDY	TILDFORD BRIDGE	RL2R004	33	-	33	-	33	-	33	-	33	2	33	1	32	-	33	3	33	-	33	-
TRECOMBE STREAM	TILLAND BRIDGE	RL2R006	30	-	30	-	30	-	30	-	30	2	30	-	27	-	30	3	22	-	22	-

NATIONAL RIVERS AUTHORITY - SOUTH WEST REGION

1991 RIVER WATER QUALITY CLASSIFICATION

PERCENTAGE EXCEEDENCE OF DETERMINAND STATISTICS FROM QUALITY STANDARDS

CATCHMENT: LYNHER

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
LYNHER	TREBARTHA ROAD BRIDGE	R12Q001	-	-	-	-	-	3	-	-	-	-
LYNHER	BERRIOWBRIDGE	R12Q002	-	-	-	-	5	-	-	-	-	-
LYNHER	RILLA MILL BRIDGE	R12Q003	-	-	-	-	-	-	-	-	99	-
LYNHER	BICTON MILL BRIDGE	R12Q004	-	-	-	-	20	-	-	-	266	-
LYNHER	NEWBRIDGE	R12Q005	-	-	-	-	6	3	-	-	267	-
LYNHER	CLAPPER BRIDGE	R12Q025	-	-	-	-	14	-	-	-	482	11
LYNHER	PILLATON BRIDGE	R12Q006	-	-	-	-	4	-	-	-	488	15
LYNHER	NOTTER BRIDGE	R12Q007	-	-	-	-	5	-	-	-	5	-
DEAN'S BROOK	BRIDGE	R12Q029	-	-	-	7	27	-	-	-	-	-
KELLY BROOK	HAYE	R12Q026	-	-	-	-	-	-	-	-	-	-
KELLY BROOK	CADDAPIT	R12Q009	-	-	-	-	-	145	-	-	-	-
MARKE VALLEY STREAM	UPTON CROSS	R12Q027	-	-	-	-	102	-	-	-	1649	546
WITHEY BROOK	UPSTREAM OF BASTREET INTAKE	R12Q010	-	-	-	6	-	-	-	-	-	-
WITHEY BROOK	PRIOR TO RIVER LYNHER	R12Q008	-	-	-	-	48	-	-	-	-	-
TIDDY	ABOVE PENSILVA S T W	R12R001	-	-	-	-	93	-	-	-	25	-
TIDDY	BUTTERDON MILL	R12R002	-	-	-	-	8	-	-	-	-	-
TIDDY	TILLAND MILL BRIDGE	R12R003	-	-	-	-	22	-	-	32	-	-
TIDDY	TIDEFORD BRIDGE	R12R004	-	-	-	-	35	-	-	25	-	-
TRECORME STREAM	TILLAND BRIDGE	R12R006	-	-	-	-	53	-	-	-	-	-