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## APPENDICES











## APPENDIX A continued

### Notes:

+	Species listed in the Wildlife and Countryside Act (1981 and subsequent amendments)
*	Reported as dominant species in certain reaches
1	Notified as an SSSI on 4 February 1993
2	Brackish water species
Wen	River Wensum
Coq	River Coquet
Der/Cok	Rivers Derwent/Cocker
Edn	River Eden
Tem	River Teme
Tes	River Test
Itc	River Itchen
Beu	River Beult
Bar	River Barle
Lug	River Lugg
Lym	Lymington River
Axe	Lower River Axe
K/L	Rivers Kennet and Lambourn
Avn	River Avon
Frm	River Frome
Old	Old Bedford/Ouse Washes
Nar	River Nar
Ise	River Ise
Rib	River Ribble
Eye	River Eye
Bly	River Blythe
Arn	Arun Banks
Cml	Cornmill Stream and Old River Lea
Fra	Frays River
Ber	Bere Stream
Mor	Moors River
Hul	River Hull headwaters
Wha	River Wharfe

Species lists were not available or included in the citations for the proposed SSSIs of the Rivers Tove and De Lank and notified SSSIs of the Malham/Arncliffe Streams, and the Rivers Barle, Lathkill, Loddon and Wye. The species list for the River Frays is based on that from Fray's Farm Meadows

**APPENDIX B - Sites with significant temporal differences in SRP concentrations.**

Values are the mean (in mg l<sup>-1</sup>) of each time step.

**B.1 Level of statistical significance set at 99% (p=0.01)**

REGION (River)	SITE	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>SEVERN-TRENT</b>											
Teme <sup>2</sup>	Tenbury*					-0.086				-0.181	
Wye <sup>1</sup>	Rowsley*					-0.158				-0.205	0.411
<b>SOUTHERN</b>											
Test <sup>2</sup>	Testwood			-0.143				-0.193		-0.238	
<b>SOUTHWEST</b>											
Axe <sup>2</sup>	A358 Bridge @ Weycroft		-0.210					-0.305			
Axe <sup>2</sup>	Bow Bridge		-0.198					-0.305			
Walkham	Magpie Bridge*					-0.014				-0.029	
Walkham	Grenhofen Bridge	-0.040						-0.077			
<b>WELSH</b>											
Lugg <sup>2</sup>	Mordiford Bridge		-0.140					-0.200			
Dee	Llandderfel Bridge	-0.013						-0.060			



APPENDIX B continued

B.1 continued

REGION (River)	SITE	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>Yorkshire</b>											
Derwent <sup>1</sup>	Low Hutton	-----0.046-----			-----			-----0.115-----			
Hull <sup>3</sup>	Grovehill Road Bridge*	----0.136---			-----		-----0.221-----				
Swale	Hudswell	-----		-----0.010-----			-----		-----0.032-----		
Swale	Norton-on-Swale	-----0.039-----			-----			-----0.085-----			
Tarnbeck	entry to Malham Tarn				-----0.007-----		--0.018--		-----0.044-----		
Ure	West Tanfield*	----0.009---			-----		-----0.029-----				

\* Sites that do not have two step intervals of at least two years duration using the available time series, but may have if the time series were extended.

<sup>1</sup> SSSI rivers

<sup>2</sup> pSSSI rivers

<sup>3</sup> SSSI rivers where the site in question falls outside of the designated stretch.

APPENDIX B continued

B.2 Level of statistical significance set at 95% (p=0.05)

REGION (River)	SITE	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>Welsh</b>											
Teifi	Lampeter Road Bridge*	---0.019---		-----	-----	-----	-----	-----	-----	-----	-----
Teifi	Henllan Bridge	-----0.012-----		-----	-----	-----	-----	-----0.022-----	-----	-----	-----
West Cleddau	Prendergast G/S	-----0.034-----		-----	-----	-----	-----	-----0.050-----	-----	-----	-----
<b>Yorkshire</b>											
Dove	Sparrow Hall Salton	-----	-----	-----0.048-----	-----	-----		-----	-----0.075-----	-----	-----
Rye	Nunnington Bridge	-----	-----	-----0.027-----	-----	-----		-----	-----0.045-----	-----	-----

\* Sites that do not have two time steps of at least two years duration using the available time series, but may have if the time series were extended.

<sup>1</sup> SSSI rivers

<sup>2</sup> pSSSI rivers

<sup>3</sup> SSSI rivers where the site in question falls outside of the designated stretch.

APPENDIX C Sites with significant positive linear trends in SRP levels, using Garland's (1991) trend analysis data.

Region	River	Site	Initial NCC river type	Test statistic for trend	Estimated initial concn. (mg l <sup>-1</sup> ) <sup>+</sup>	Estimated final concn. (mg l <sup>-1</sup> ) <sup>+</sup>
Anglian	Nene	Dog in a doublet sluice	I	2.41	0.72 (C5)	1.50 (C5)
Anglian	Nene	Wansford Old Bridge	I	3.46	0.79 (C5)	1.80 (-)
Severn-Trent	Teme	Tenbury	VI	1.30	0.07 (C3)	0.16 (C4)
Severn-Trent	Wye	Rowsley	VI	2.00	0.13 (C4)	0.29 (C5)
Southern	Test	Testwood	III	3.36	0.12 (C4)	0.24 (C5)
Southwest	Axe	Bow Bridge	VI	2.11	0.19 (C4)	0.36 (C5)
Southwest	Axe	A358 Bridge Weycroft	VI	1.90	0.20 (C4)	0.37 (C5)
Southwest	Walkham	Magpie Bridge	VII	1.09	0.01 (C1)	0.03 (C2)
Thames	Colne	Confluence	I	1.63	2.00 (C5)	2.60 (C5)
Thames	Enborne	Brimpton G/S	III	1.07	0.26 (C5)	0.57 (C5)
Thames	Kennet	100m above Thames	II	2.71	0.51 (C5)	0.84 (C5)
Thames	Kennet	Stitchcombe Mill	III	1.23	0.17 (C4)	0.27 (C5)
Thames	Windrush	Newbridge G/S	I	1.16	0.20 (C4)	0.30 (C5)
Welsh	W Cleddau	Prendergast G/S	VII	1.29	0.04 (C2)	0.06 (C2)
Welsh	Wye 1	Redbrook Railway Bridge	V	1.35	0.11 (C3)	0.18 (C4)
Welsh	Lugg	Mordiford Bridge Wye confl	II	1.40	0.15 (C4)	0.28 (C5)
Welsh	Dee	LLanderfel Bridge	VIII	1.29	0.05 (C2)	0.11 (C3)
Yorkshire	Swale	Norton-on-Swale	VI	1.55	0.06 (C2)	0.14 (C4)
Yorkshire	Swale	Hudswell	VII	1.67	0.01 (C1)	0.06 (C2)
Yorkshire	Dove 1	Kirkby Mills	VII	1.04	0.04 (C2)	0.08 (C3)
Yorkshire	Dove 1	Sparrow Hall Salton	VII	1.33	0.06 (C2)	0.12 (C4)
Yorkshire	Rye	Nunnington Bridge	VII	1.02	0.04 (C2)	0.07 (C3)
Yorkshire	Hull	Grovehill Road Beverley	I	1.85	0.18 (C4)	0.36 (C5)
Yorkshire	Derwent 1	Low Hutton	I	3.24	0.06 (C2)	0.17 (C4)
Yorkshire	Derwent 1	Sutton Lock	I	2.15	0.08 (C3)	0.17 (C4)
Yorkshire	Derwent 1	Loftsome Bridge	II	1.35	0.10 (C3)	0.14 (C4)
Yorkshire	West Beck	Wansford	III	1.39	0.05 (C2)	0.11 (C3)
Yorkshire	Aire	Malham Tarn	IX	2.38	0.004 (C1)	0.051 (C2)
Yorkshire	Tarnbeck	entry to Malham Tarn	IX	2.48	-0.017 (C1)	0.082 (C3)

Test statistic is observed 't' value divided by the critical 't' value. Values above unity indicate a significant trend at the 95% level of significance, with the highest values being the most significant.

+ Initial and final concentrations over a ten year time period estimated from the linear least squares regression line produced by Garland (1991).

Codes in parenthesis are the inferred achieved EN target levels at each site at the beginning and end of the time series.

**APPENDIX D - Water quality and macrophyte site pairings for water quality sites with significant temporal differences in SRP concentration.**

Sites in bold were rejected since they did not comply with the stated selection criteria (see Section 5.3).

Region (River)	Water quality site	NGR	Macrophyte site NGR	Survey date	Surveyor	Inter-site distance (km)	Comments on pairing
<b>SEVERN-TRENT</b>							
Teme	Tenbury	SO 595 685	SO 595 686	SEP 80	Holmes	<0.1	No confl, no obs disch
<b>Wye</b>	<b>Rowsley</b>	<b>SK 257 656</b>	<b>NONE</b>				
<b>SOUTHERN</b>							
<b>Test</b>	<b>Testwood</b>	<b>SU 355 150</b>	<b>SU 338 278</b>	<b>Jul 79</b>	<b>Holmes</b>	<b>&gt;10</b>	<b>Dun confl &amp; tribs between</b>
<b>SOUTH WEST</b>							
Axe	A358 Bridge @ Weycroft	ST 307 000	ST 323 019	Jan 85	Holmes	3	2 small tribs, on obv disch
<b>Axe</b>	<b>Bow Bridge</b>	<b>SY 290 983</b>	<b>SY 284 974</b>	<b>Jan 85</b>	<b>Holmes</b>	<b>1</b>	<b>STW disch between</b>
<b>Walkham</b>	<b>Magpie Bridge</b>	<b>SX 504 704</b>	<b>NONE</b>				
<b>Walkham</b>	<b>Grenofen Bridge</b>	<b>SX 490 710</b>	<b>NONE</b>				
<b>WELSH</b>							
<b>Dee</b>	<b>Llanderfel Bridge</b>	<b>SH 982 366</b>	<b>NONE</b>				
Lugg	Mordiford Bridge	SO 570 375	SO 570 374	Jul 79 91	Holmes Withrington	<0.1	No confl, no obv disch
<b>Teifi</b>	<b>Lampeter Road Bridge</b>	<b>SN 581 476</b>	<b>NONE</b>				

## APPENDIX D continued

Region (River)	Water quality site	NGR	Macrophyte site NGR	Survey date	Surveyor	Inter-site distance (km)	Comments on pairing
Teifi	Henllan Bridge	SN 356 401	NONE				
W. Cleddau	Prendergast G/S	SM 954 177	NONE				
YORKSHIRE							
Derwent	Low Hutton	SE 765 677	SE 821 771	Jul 82	Holmes	>10	Rye confl & tribs between
Dove	Sparrow Hall Salton	SE 706 813	SE 712 802	Jul 90	Smith		
Hull	Grovehill Road, Beverley	TA 054 397	TA 030 566 TA 063 560	May 80	Holmes	>15	Many confl between
				May 80	Holmes	>15	Many confl between
Rye	Nunnington Bridge	SE 669 795	SE 665 794	Jun 79	Holmes	0.5	No confl, no obv disch
Swale	Hudswell	NZ 146 007	NONE				
Swale	Norton-on-Swale	SE 319 918	NONE				
Tarnbeck	entry to Malham Tarn	SD 888 670	SD 894 662	Jun 89	Southey	1	macro site is d/s of tarn
Ure	West Tanfield	SE 269 788	SE 267 780	Jul 82	Holmes	1	no confl, no obv disch

Confl = confluence; Obv disch = obvious discharges