

## **The Surface Waters (Fishlife) (Scotland) Directions 2003**

The Scottish Ministers in exercise of the powers conferred on them by section 40 of the Environment Act 1995<sup>(a)</sup> and of all other powers enabling them in that behalf hereby give the Scottish Environment Protection Agency the following Directions:–

### **Citation, commencement and interpretation**

**1.**—(1) These Directions may be cited as the Surface Waters (Fishlife) (Scotland) Directions 2002 and shall come into force on 10 March 2003.

(2) In these Directions, "the 1997 Regulations" means the Surface Waters (Fishlife) (Classification) (Scotland) Regulations 1997<sup>b</sup>.

(3) Expressions used in these Directions which are also used in Directive 78/659/EEC<sup>(c)</sup> (on the quality of fresh waters needing protection or improvement in order to support fishlife) shall have the same meaning as in that Directive.

### **Guideline values**

**2.** In discharging its functions in relation to any waters classified under the 1997 Regulations, the Scottish Environment Protection Agency shall endeavour to respect the guideline values and comments specified in the Schedule to these Directions for waters of the relevant class.

### **No deterioration principle**

**3.** Implementation of measures taken pursuant to Directive 78/659/EEC may on no account lead, either directly or indirectly, to increased pollution of fresh waters.

### **Compliance with relevant requirements**

**4.**—(1) Subject to sub-paragraphs (2) and (3) below, any waters classified under the 1997 Regulations shall be treated in relation to any period of 12 months as complying with any standard for any parameter adopted by the Scottish Environment Protection Agency for those waters as a result of paragraph 2 above if in that period in relation to those waters–

(a) in the case of the parameter for BOD<sub>5</sub>, non-ionised ammonia, total ammonium, nitrites or dissolved copper, 95 per cent of the samples taken for that parameter in accordance with paragraph 5 below comply with the standard;

(b) in the case of the parameter for dissolved oxygen, the percentages specified in that Schedule of samples taken for that parameter in accordance with paragraph 5 below comply with the standard;

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<sup>(a)</sup> 1995 c.25. The functions of the Secretary of State were transferred to the Scottish Ministers by virtue of section 53 of the Scotland Act 1998 (c.46).

<sup>(b)</sup> S.I. 1997/2471 (as amended by S.S.I. 2003/ ).

<sup>(c)</sup> O.J. No. L222, 14.8.1978. p.1.

(c) in the case of the parameter for suspended solids, the average concentration of samples taken comply with the standard.

(2) When the frequency of sampling is lower than one sample per month for any parameter mentioned in sub-paragraph (1)(a) above in relation to any waters classified under the 1997 Regulations, 100 per cent of samples taken for each of those parameters in accordance with paragraph 5 in relation to those waters must comply if the waters are to be treated as meeting the standard adopted as a result of paragraph 2 above.

(3) Non-compliant samples shall be ignored for the purposes of sub-paragraphs (1) and (2) above if they are the result of a flood or any other natural disaster.

### **Sampling and analysis**

**5.—**(1) The Scottish Environment Protection Agency shall ensure that waters classified under the 1997 Regulations are sampled in relation to any standards adopted as a result of paragraph 2 above and samples are analysed in accordance with the following provisions of this paragraph.

(2) Samples in relation to any waters classified under the 1997 Regulations shall always be taken at the same sampling point, and at the same depth, as samples taken in relation to those waters under those Regulations.

(3) Subject to sub-paragraphs (4), (5) and (6) below, sampling for any parameter shall be carried out at least at the minimum frequency specified in the Schedule to these Directions for that parameter for waters of the relevant class.

(4) Where the Scottish Environment Protection Agency records that the quality of any waters classified under the 1997 Regulations is appreciably higher for any parameter than the minimum required by those Regulations for waters of that class and the standards adopted as a result of paragraph 2 above, the frequency of the sampling may be reduced for that parameter.

(5) Where the Scottish Environment Protection Agency records that there is no pollution or no risk of deterioration in the quality of any waters classified under the 1997 Regulations, the Agency may decide that no sampling is necessary.

(6) Where sampling shows that the standards adopted as a result of paragraph 2 above are not being met, the Scottish Environment Protection Agency shall establish whether this is the result of chance, a natural phenomenon or pollution and shall adopt appropriate measures.

(7) Samples for any parameter shall be analysed using the reference methods of analysis specified in the Schedule to these Directions in relation to that parameter or methods which are at least as reliable as the reference methods.

## **Derogations**

**6.—**(1) The Scottish Environment Protection Agency may derogate from the requirements of these Directions—

- (a) in the case of parameter for suspended solids, because of exceptional weather or special geographical conditions;
- (b) where waters classified under the 1997 Regulations undergo natural enrichment in certain substances as a result of which they do not comply with any standard adopted as a result of paragraph 2 above for those waters.

(2) In these Directions, “natural enrichment” means a process whereby without human intervention a given body of water receives from the soil certain substances contained therein.

## **Programmes**

**7.-** The Scottish Environment Protection Agency shall establish programmes in order to reduce pollution in waters classified under the 1997 Regulations and to ensure that waters so classified comply with the standards adopted as a result of paragraph 2 above.

## **Registers**

**8.—**(1) The Scottish Environment Protection Agency shall maintain on its registers under section 41 of the Control of Pollution Act 1974<sup>(a)</sup> (Registers) full details of—

- (a) sampling points fixed under regulation 4(3) of the 1997 Regulations;
- (b) results of analysis of samples taken under those Regulations and these Directions;
- (c) standards adopted by the Scottish Environment Protection Agency as a result of paragraph 2 above in relation to any waters classified under the 1997 Regulations;
- (d) derogations under regulation 5 of the 1997 Regulations or under paragraph 6 above.

(2) The Scottish Environment Protection Agency shall make information entered on its registers under sub-paragraph (1) above, and facilities for obtaining copies of entries, available to members of the public at the same time, in the same manner and on the same terms as information and facilities provided by virtue of section 41 of the Control of Pollution Act 1974.

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<sup>(a)</sup> 1974 c.40: section 41 was amended by section 120 and paragraphs 29(17), (8) and (19) of Schedule 22 to the Environment Act 1995 (c.25).

## **Revocation of the 1997 Directions**

- 9.** The Surface Waters (Fishlife) (Scotland) Directions 1997 are hereby revoked.

Victoria Quay,  
Edinburgh  
13 February 2003

E Mitchell  
A member of the staff of the Scottish Ministers

SCHEDULE

PART 1

GUIDELINE VALUES IN RELATION TO THE QUALITY OF SALMONID AND CYPRINID WATERS

<i>No. in Annex 1 to 78/659/EEC</i>	<i>Parameter</i>	<i>Salmonid waters (guidelines values and comments)</i>	<i>Cyprinid waters (guidelines values and comments)</i>	<i>Methods of analysis or inspection</i>	<i>Minimum sampling and measuring frequency</i>	<i>Observations</i>
2.	Dissolved oxygen (mg/l O <sub>2</sub> )	50% ≥ 9 100% ≥ 7	50% ≥ 8 100% ≥ 5	Winkler's method or specified electrodes (electro-chemical method)	Monthly, minimum one sample representative of low oxygen conditions of the day of sampling  However, where major daily variations are suspected, a minimum of 2 samples in one day shall be taken	

<i>No. in Annex 1 to 78/659/EEC</i>	<i>Parameter</i>	<i>Salmonid waters (guidelines values and comments)</i>	<i>Cyprinid waters (guidelines values and comments)</i>	<i>Methods of analysis or inspection</i>	<i>Minimum sampling and measuring frequency</i>	<i>Observations</i>
4.	Suspended solids (mg/l)	≤ 25	≤ 25	Filtration through a 0.45 μm filtering membrane, or centrifugation (5 minutes minimum, average acceleration of 2,800 to 3,200g) drying at 105°C and weighing.		The values shown are average concentrations and do not apply to suspended solids with harmful chemical properties  Floods are liable to cause particularly high concentrations
5.	BOD <sub>5</sub> (mg/10 <sub>2</sub> )	≤ 3	≤ 6	Determination of O <sub>2</sub> by the Winkler method before and after 5 days' incubation in complete darkness at 20 ± 1°C (nitrification should not be inhibited)		

<i>No. in Annex 1 to 78/659/EEC</i>	<i>Parameter</i>	<i>Salmonid waters (guidelines values and comments)</i>	<i>Cyprinid waters (guidelines values and comments)</i>	<i>Methods of analysis or inspection</i>	<i>Minimum sampling and measuring frequency</i>	<i>Observations</i>
7.	Nitrites (mg/1 NO <sub>2</sub> )	≤ 0.01	≤ 0.03	Molecular absorption spectrophotometry		
10.	Non-ionised ammonia (mg/1 NH <sub>3</sub> )	≤ 0.005	≤ 0.005	Molecular absorption spectrophotometry using indophenol blue or Nessler's method associated with pH and temperature determination	Monthly	Values for non-ionised ammonia may be exceeded in the form of minor peaks in the daytime
11.	Total ammonium (mg/1 NH <sub>4</sub> )	In order to diminish the risk of toxicity due to non-ionised ammonia, of oxygen consumption due to nitrification and of eutrophication, the concentrations of total ammonium should not exceed 0.04 mg/1 for salmonid waters and 0.2 mg/1 for cyprinid waters.		Molecular absorption spectrophotometry using indophenol blue or Nessler's method associated with pH and temperature determination	Monthly	

<i>No. in Annex 1 to 78/659/EEC</i>	<i>Parameter</i>	<i>Salmonid waters (guidelines values and comments)</i>	<i>Cyprinid waters (guidelines values and comments)</i>	<i>Methods of analysis or inspection</i>	<i>Minimum sampling and measuring frequency</i>	<i>Observations</i>
14.	Dissolved copper (mg/1 Cu)	≤ 0.04	≤ 0.04	Atomic absorption spectrometry		<p>The values correspond to a water hardness of 100 mg/1 CaCO<sub>3</sub></p> <p>For hardness levels between 10 and 300 mg/1 corresponding limit values can be found in the Table in Part II of this Schedule</p>

## PART II

### COPPER CONCENTRATIONS (mg/1 Cu) FOR DIFFERENT WATER HARDNESS VALUES BETWEEN 10 AND 300 mg/1 CaCO<sub>3</sub>

Water hardness (mg/1 CaCO <sub>3</sub> )				
(mg/1 Cu)	10 0.005 <sup>(a)</sup>	50 0.022	100 0.04	300 0.112

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<sup>(a)</sup> The presence of fish in waters containing higher concentrations of copper may indicate a predominance of dissolved organo-cupric complexes.