

Appendix 12.4

GQA Classification



1. GENERAL QUALITY ASSESSMENT CLASSIFICATION

The macro-invertebrates (small animals that can be seen with the naked eye) within a sample are compared with the range of species would be expected in the river if it was not polluted and assigned a grade. Natural changes that happen such as geology and flow are also taken into account when the grade is assigned.

Table A12.4.1 Biological Classification

Biology	
Classification	Description
A - very good	Biology similar to that expected for an unpolluted river
B - good	Biology is a little short of an unpolluted river
C - fairly good	Biology worse than expected for unpolluted river
D - fair	A range of pollution tolerant species present
E - poor	Biology restricted to pollution tolerant species
F - bad	Biology limited to a small number of species very tolerant of pollution

Samples are tested for ammonia, biochemical oxygen demand (BOD) and dissolved oxygen. The results for each site are averaged and percentiles are calculated. These are compared with limits set for each of the six grades in the table below. A grade is assigned to the river according to the lowest grade achieved in any of the three tests. For example if the site gets a grade A for ammonia and dissolved oxygen but a grade B for BOD, then the site is a grade B.

Table A12.4.2 Chemical Classification

Chemistry classification method	
Classification	Likely uses and characteristics *
A - very good	All abstractions
	Very good salmonid fisheries
	Cyprinid fisheries
	Natural ecosystems
B - good	All abstractions
	Very good salmonid fisheries
	Cyprinid fisheries
	Ecosystems at or close to natural

Table A12.4.2 Chemical Classification Continued

Chemistry classification method	
Classification	Likely uses and characteristics *
C - fairly good	Potable supply after advanced treatment
	Other abstractions
	Good cyprinid fisheries
	Natural ecosystems, or those corresponding to good cyprinid fisheries
D - fair	Potable supply after advanced treatment
	Other abstractions
	Fair cyprinid fisheries
	Impacted ecosystems
E - poor	Low grade abstraction for industry
	Fish absent or sporadically present, vulnerable to pollution **
	Impoverished ecosystems **
F - bad	Very polluted rivers which may cause nuisance
	Severely restricted ecosystems
	*providing other standards are met
	**where the grade is caused by discharges of organic pollution

*providing other standards are met

**where the grade is caused by discharges of organic pollution