



POSITION STATEMENT

DIFFUSE POLLUTION

ISSUE

Diffuse pollution may be defined as: *pollution arising from land-use activities (both urban and rural) that are dispersed across a catchment, or sub-catchment, and do not arise as a process effluent, municipal sewage effluent, or an effluent discharge from farm buildings.*

Fisheries, in both the sense of a conservation resource supported by a healthy ecosystem and as an important recreational facility available to a wide range of social classes, represent a significant asset to the countryside (and urban recreational areas) of the British Isles. Their value to tourism and the general economy cannot be over-estimated. The international obligations of EU Directives such as the Water Framework Directive require governments to comply with a whole series of measures to maintain, improve and develop freshwater and other fisheries and the ecosystems of which they form a part.

Effects of diffuse pollution diminish the potential for fisheries in inland waters and make it difficult to comply with the requirements of the Water Framework Directive. The effects on aquatic ecosystems can be due to physical or chemical burdens. For example, an increase in sediment load can reduce the penetration of biologically available light, can smother substrates (stream beds, leaves of aquatic plants) or prevent fish from seeing their prey. In extreme cases suspended solids can abrade biological membranes increasing the chance of infection. Substances may be toxic to aquatic life either directly or as a result of bioaccumulation and biomagnification in food webs. Plant nutrients (forms of nitrogen, phosphorus and other essential elements) may give rise to eutrophication – the unnaturally enhanced production of plant life. Aerial deposition may give rise to acidification or other problems originating in sources at great distances from the sites of impact.

IFM POSITION

The IFM urges its members to maintain an awareness of the issue of diffuse pollution, its causes, effects and possible remedies, and to communicate this information in a professional manner to all interested or involved stakeholders.

The IFM corporately will promote awareness of the issues by means of its training system and the programmes of its Branch meetings and Annual Conferences.

The IFM urges all those with a responsibility for causing diffuse pollution to consider means for reducing its impact in a sustainable manner.

The IFM urges all those with regulatory responsibilities for the environment of the British Isles, and wherever else IFM members operate, to pay due regard to the consequences of diffuse pollution and to initiate such measures of education, amelioration and legislation as may be in their power to bring about a reduction in this form of pollution so that fisheries (including the whole ecosystem of which they are a part) can be sustainably maintained, improved and developed. As part of this process, the provisions of the Water Framework Directive must be applied in a timely and competent manner.

SUPPORTING INFORMATION

PROBLEMS OF MEASUREMENT AND CONTROL

The nature of diffuse pollution, where there is no identifiable outfall (ie pipework) makes it more difficult to monitor and control than point-source pollution in which there are identifiable discharge points to the environment. This, combined with the almost infinite number of inputs to the environment and the major cumulative effect of this plethora of inputs, means that the impact of diffuse pollution can be every bit as severe as point-source discharges.

EXAMPLES OF DIFFUSE POLLUTION SOURCES

Almost every use of the land surface may give rise to diffuse pollution. Urbanisation, forestry, mineral exploitation and agriculture may all be implicated. In-stream processes such as fish farming can also lead to diffuse pollution depending on the nature of the process.

It is useful to distinguish urban sources of diffuse pollution from rural sources. The former include run-off from hard surfaces exposed directly or by aerial deposition to contaminants (such as those substances arising from transport or factory operations). Rural sources include losses of fertilisers and pesticides used in agriculture or forestry and influx of farmyard wastes as well as generation of sediment from bank erosion.

Engineering work in or near water bodies can introduce sediment and chemicals. The development of land which had formerly been used for polluting industries (eg coal gas works, spoil heaps) may lead to particular problems of contaminated soil and groundwater.

EXAMPLES OF METHODS FOR PREVENTING OR REDUCING THE IMPACT OF DIFFUSE POLLUTION

Despite the difficulties presented by diffused pollution there are possible control measures including (preferably) prevention and amelioration by which the impact of diffuse pollution may be avoided or lessened. 'Prevention is better than cure' and may include such low-technology solutions as improved fencing of river banks to stop cattle from eroding banks. Higher technology solutions include the injection of

sewage sludge into soil rather than spreading it, new biodegradable forms of pesticide etc. Amelioration can also be achieved with simple technology such as the establishment of riparian buffer zones.¹ Acidified waters can be limed (although not without due consideration for the resulting changes in water chemistry); engineering sites can be bunded to prevent run-off of solids etc.

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¹ Note that the rush to use land for growing biofuels may put back into agricultural production land which had been set-aside as riparian buffers.