

****Please note – this report must be read in conjunction with the Northern Ireland Water Framework Directive Summary Report of the characterisation and impact analyses required by Article 5****

(<http://www.ehsni.gov.uk/pubs/publications/article5report.pdf>)

Impacts (Freshwaters) Assessment Summary

1. Summary

This methodology describes the use of impact data from monitoring for rivers and lakes. It is based on the UKTAG guidance¹, and includes the use of current classification schemes and assessments for Protected Areas. The final 'at risk' categories will be assigned from a combination of pressure and impact data from the respective assessments.

2. Rivers

Data Sources

EHS Water Management Unit (WMU) Water Quality Archive:

All chemical and biological General Quality Assessment (GQA) classifications and Directive compliance monitoring data for rivers available from the WMU Water Quality Archive, were used for the assessments. This included data for Priority Substances collected for reporting for OSPAR, as well as pH data and suspended solids data.

Macrophytes, Diatoms and Nutrients:

Macrophyte surveys have been carried out across a selection of Northern Ireland river catchments. These data are reported as a Mean Trophic Ranking (MTR) score. An initial set of diatom monitoring results is available for 2003. Data on nutrients are also available from monitoring of trophic status under the Urban Waster Water Treatment Directive (UWWTD) and the Nitrates Directive.

3. Lakes

Data Sources

No routine monitoring or classification system is available for lakes in Northern Ireland. Data from the synoptic lakes survey, limited routine monitoring and trophic waters studies enabled some assessments to be made according to the UKTAG guidance for Chlorophyll a and Total Phosphorus. Only limited data are available for Diatom, Acid Neutralising Capacity (ANC) and site specific assessments for lakes.

4. Approach to Analysis of Data

Impacts data, where available, were assessed according to UKTAG criteria. Primarily, monitoring data provide information about water pollution from diffuse or point sources only. Classification methods are not available to distinguish the effects of pressures such as flow modification, morphological changes or other pressures, including overfishing and alien species.

A review was carried out of all the monitoring points against the river water body dataset using GIS layers. The use of current monitoring data was maximised by attempting to assign as many monitoring points as possible to cover the defined water bodies. In some cases, this resulted in two or more points assigned to a water body.

¹ http://www.wfduk.org/tag_guidance/Article_05/Folder.2004-02-16.5332/TAG2003_WP_7f%2801%29/view

However, not all points could be assigned because of their proximity to water body boundaries, and the possibility that they might be unrepresentative.

A risk category was assigned to each monitoring point, based on an assessment of the monitoring data available against the criteria set out by UKTAG. This included compliance with Freshwater Fish, Urban Waste Water Treatment, and Habitats Directives. These assessments were then assigned to the relevant water body. Where two or more monitoring points occur in a water body, then the highest risk score was applied. It is recognised that this is a ‘worst case’ or precautionary approach, but this will be addressed as part of the refinement of the assessments under further characterisation.

5. Data Gaps and Future Work

The current monitoring programmes have not been set up to meet the requirements of the Water Framework Directive. Therefore, in future, monitoring programmes will be refined to meet these requirements, and this will include investigative or surveillance monitoring to increase the confidence in the pressure and impact assessments.