

**\*\*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>)**

## **Point Source Pressures Risk Assessment Summary**

### **1. Summary**

We have broadly followed the approach suggested by UKTAG for the risk assessment of point source pressures<sup>1</sup>. Point source pressures are discharges of effluent or waste from identifiable outfalls. These are generally subject to regulation and control. The UKTAG guidance describes a preliminary stage using information on existing authorisations. This assumes that most discharges have been issued with an authorisation that meets a range of statutory requirements, set as standards for the quality and quantity of effluent discharges, and that the appropriate treatment methods are in place to meet these authorisations.

The preliminary stage set out in UKTAG guidance, that is based on the assumption that authorisations meet current standards and adequate treatment levels, cannot be applied to Northern Ireland. The approach we have adopted for the initial characterisation report is therefore to use information on the location of discharges and their compliance record to identify water bodies at risk from point sources. This has been applied to rivers, lakes, transitional and coastal water bodies; the assessment for groundwater is recorded elsewhere.<sup>2</sup>

The results of the analysis were reviewed by experts from the relevant EHS Regulation Teams.

### **2. Data Sources**

Data on compliance history, where available within EHS WMU, for Water Treatment Works and Waste Water Treatment Works with a Population Equivalent (PE) of greater than 250, were collated. Data were also collected on any consented industrial discharge with a compliance history. In addition, information was obtained on consented discharges of Priority Substances. Finally, available data and expert opinion were used to assess the effects of Combined Sewage Overflows (CSOs).

### **3. Risk Analysis**

Water bodies with no point source discharge data were assigned a category of 'probably not at risk' (2a) because of the many unknown variables, such as the presence of septic tanks, waste disposal sites and Waste Water Treatment Works with a PE of less than 250.

Therefore the lowest reporting category assigned to any water body for point source pressures is 'probably not at risk' (2a).

#### **Industrial Discharges**

Any compliant consented discharges were categorised as not putting the water body at significant risk. All non-compliant consented discharges were assessed using expert opinion to categorise the risk to the associated water body.

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<sup>1</sup> [http://www.wfduk.org/tag\\_guidance/Article\\_05/Folder.2004-02-16.5332/view](http://www.wfduk.org/tag_guidance/Article_05/Folder.2004-02-16.5332/view)

<sup>2</sup> [http://www.ehsmi.gov.uk/pubs/publications/RA\\_Groundwater.pdf](http://www.ehsmi.gov.uk/pubs/publications/RA_Groundwater.pdf)

### Water Service Discharges

Any compliant consented discharges were categorised as not putting the water body at significant risk, except those considered by expert opinion to be putting the water body at risk, mainly because of inadequate treatment levels.

All non-compliant consented discharges were assessed using expert opinion to categorise the risk to the associated water body. The assessment included consideration of the likelihood of consented discharges meeting environmental needs standards and of the lack of suitable treatment. Expert opinion was also used to determine whether the identified risk would be addressed through the DRD Capital Works Programme, with work started or due to start by the end of 2005.

### Priority Substances

Water bodies receiving discharges consented for priority substances, where the discharge has exceeded twice the Environmental Quality Standards (EQS), were identified as 1b, 'probably at risk'.

Each point source discharge was linked to the water body that it resides in or may cause a risk to. The risk applied to each point source discharge was therefore applied to the water body it was associated with. If there was more than one point source discharge then the worst risk category was applied to the water body.

## **4. Data Gaps and Future Work**

In order to refine the assessments, the following additional datasets and actions are proposed:

### Water Service Discharges

- Data and co-ordinates for Waste Water Treatment Works less than 250 PE
- More information on Septic tanks and Water Treatment Works
- The Urban Pollution Monitoring (UPM) programmes will supply detailed information on CSOs as these are completed
- SIMCAT models for more catchments, enabling modelling of the cumulative effect of a number of point sources (identified under NS Share)

Contaminated Land and Waste Disposal Sites (information required from EHS WMCL).

- Contaminated Land co-ordinates, monitoring data and risk assessment
- Waste Disposal sites co-ordinates, monitoring data and risk assessment

### Quarries and Mines

- Quarries and mines co-ordinates and monitoring data

### Others

- Pollution Incidents data, especially in areas of repeated problems
- Chemical storage locations, and risk assessment of sites
- Usage and disposal of Priority Substances

In addition, in areas identified as ‘probably at risk’, further assessment of individual and cumulative effects of point sources should be undertaken to establish specific problems and the extent of problems to downstream water bodies. Suitable modelling techniques will be explored to assist with this in line with UKTAG guidance.