

# Assessing, preventing & managing Priority & Hazardous Substances in surface & groundwaters

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## Overview

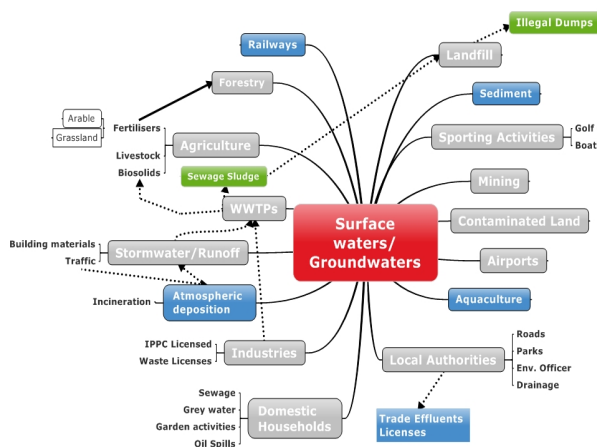
This scoping study will provide a comprehensive review of the current state of knowledge & research in the assessment, management & prevention of PS/PHS in surface and groundwaters. The short desktop project builds on substantial existing work been carried out by the Analytical Environmental Research Group research group at DCU, and will engage actively with international experts to assess practices occurring in other EU jurisdictions. The adequacy of existing pollution control systems and the potential need for additional pollution control systems will be examined. The final report will provide the relevant agencies with a report that will make recommendations on how best to manage the issue of exceedances of specific pollutants, PS/PHS in surface waters and recommend appropriate management strategies for preventing and limiting inputs of hazardous & non-hazardous substances, as identified by the EPA into groundwaters.

## Current Monitoring Programme

Ireland's waters are relatively unaffected by dangerous chemical substances with background levels of organic chemicals in Irish waters relatively low, owing in part to its less industrialised history compared with the rest of Europe. The Surface Water Regulations 2009 have established legally binding environmental quality standards for 57 chemical substances in water, comprising both EU-wide priority substances and substances found to be relevant in Irish waters. The EPA WFD surveillance monitoring programme for PS/PHS in rivers & lakes was undertaken in 2007-2009 after an initial screening programme. The monitoring programme included 33 substances or group of substances on the WFD list of Annex IX & X priority substances. Monitoring was also undertaken for the WFD Annex VIII list of 28 relevant or specific pollutants selected for Ireland. Monitoring was undertaken at 256 river & lake sites at a frequency of 12 times per year once the programme commenced in mid 2007. In general the levels of priority pollutants were very low with very few exceedances being found (McGarrigle *et al.*, 2010).

## Origin of PS/PHS in Ireland

All EU member states are tasked with ensuring specific measures are taken against pollution of water by priority substances, taking into account all significant sources. Legislation enacted in each member states aims at protecting and improving the aquatic environment, through the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of priority hazardous substances. Figure 1, below details the sources of PS/PHS emissions to surface and groundwaters in Ireland.



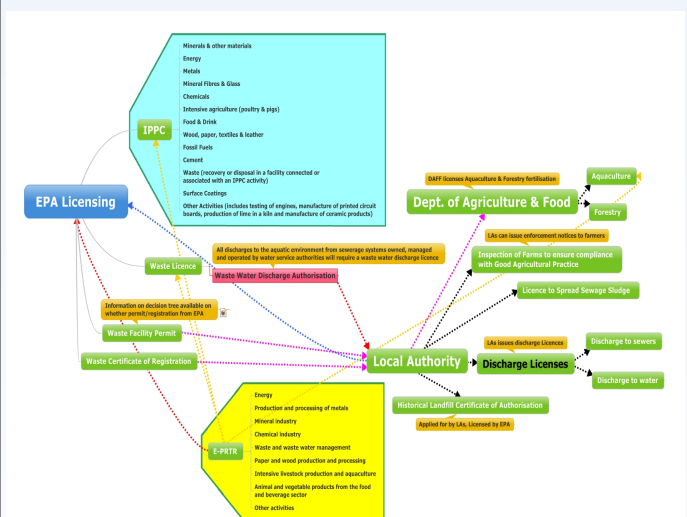
**Figure 1** A conceptual outline of the origin of PS/PHS emissions from anthropogenic sources to surface waters and groundwaters.

## Roles & Responsibilities in relation to PS/PHS in Ireland

A four-tier system of authorisation has been established in Ireland to regulate waste activities. A waste recovery or disposal activity at a facility is either:

- an exempted activity (no authorisation required);
  - requires a Waste (or IPPC) licence;
  - requires a Waste Facility Permit; or
  - requires a Waste Certificate of Registration / Registration Certificate.
- Depending on the authorisation required, these activities are controlled either by the EPA or by local authorities (LAs) within their own areas. The EPA regulates all non-exempted LA waste facility activities. The waste licences are single, integrated licences dealing with emissions to all environmental media including water. They are subject to regular review and amendment in accordance with the legislation. Activities other than IPPC, Waste licence activities and wastewater discharges that discharge trade or sewage effluents to waters or sewers require a single media effluent discharge licence from the appropriate LA.

Figure 2, below gives an overview of licensing responsibility in relation to PS/PHS in Ireland. The Surface Water Regulations 2009 have established legally binding environmental quality standards for 57 chemical substances in water, comprising both EU-wide priority substances and substances found to be relevant in Irish waters.



**Figure 2** Overview of Licensing responsibility in relation to PS/PHS in Ireland



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