

PROTECTING OUR WATER RESOURCES

Water resources must be managed in a sustainable way to protect our aquatic environment and its beneficial uses. Ireland has an abundant supply of fresh water, although this is not evenly distributed across the country. The quality of this resource is vital, as we depend on surface-water and groundwater sources for our drinking-water supplies. Water provides an important habitat for freshwater and marine plants and animals and is an amenity for us to enjoy. General anthropogenic and climate change impacts have the potential to affect

the quality and quantity of these water resources significantly.

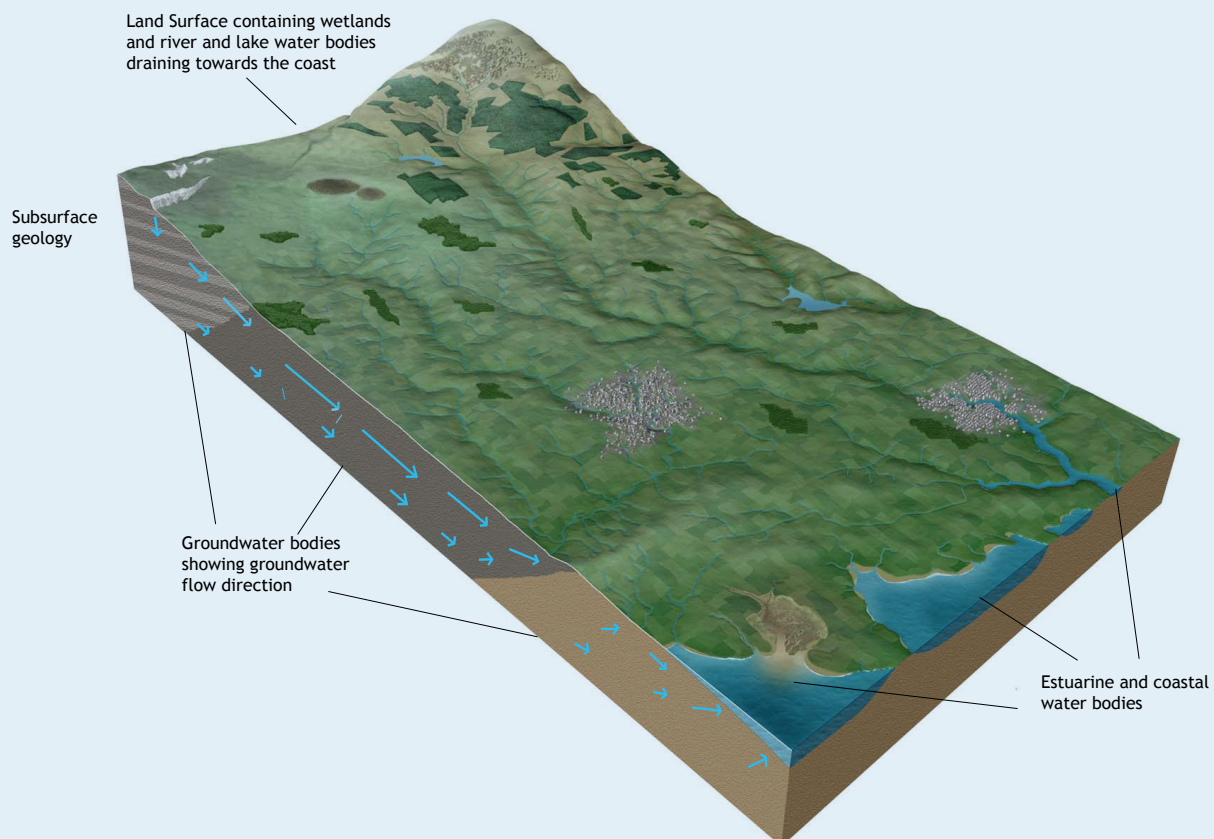
The Water Framework Directive (WFD) marks a new approach to the protection and improvement of our water resources and aquatic ecosystems. In contrast to previous legislation, the WFD aims at protecting all waters and water-dependent ecosystems: groundwater, rivers, lakes, transitional waters (estuaries), coastal waters and wetlands. The objectives of the WFD are demanding and include the prevention of any deterioration

in status and the achievement of good status or higher in all waters by 2015.

Key Issues Facing Our Water Resources

In order to track and manage the key issues facing our water resources, the results of a number of monitoring programmes, carried out by the EPA, local authorities and other agencies, were examined. These monitoring activities together with the characterisation assessment carried

Figure S3.1 The WFD Aims at Protecting all Surface Waters of the Hydrological Cycle: Groundwater, Rivers, Lakes, Estuaries, Coastal Waters and Wetlands (Source: www.wfdvisual.com)



out on our river basins have identified water bodies that are at risk of failing to meet their WFD objectives and the key issues involved. The monitoring programmes were recently consolidated into the WFD Monitoring Programme developed by the EPA.

In our groundwaters, significant issues include elevated nitrate concentrations in the east and south-east of the country, microbiological contamination in the more vulnerable aquifers and elevated phosphate levels in the Karst limestone aquifers in the west. Proper management of groundwater resources is needed in order to prevent pollution of groundwater sources, maintain the quality and yield of drinking water from these sources, and ensure that groundwater is not having a detrimental impact on surface water and ecological receptors.

In our rivers and lakes, eutrophication through nitrate and phosphate enrichment remains a significant issue, especially in the north midlands of the country. The principal sources of these nutrients are municipal sewage discharges and losses from agricultural activities. Of particular concern is the ongoing loss of high-status water quality in rivers and lakes.

The most recent river assessment highlighted a 2 percentage point increase in unpolluted (good status or better) channel length (to 71.4%). It is hoped that this trend will continue into the future in order to meet the requirements of the WFD. The majority (85.3%) of lakes were of satisfactory water quality. The remaining lakes were less than

satisfactory and mostly located in Counties Monaghan, Cavan and Leitrim. The continued spread of zebra mussels and of other invasive alien species is a cause for concern.

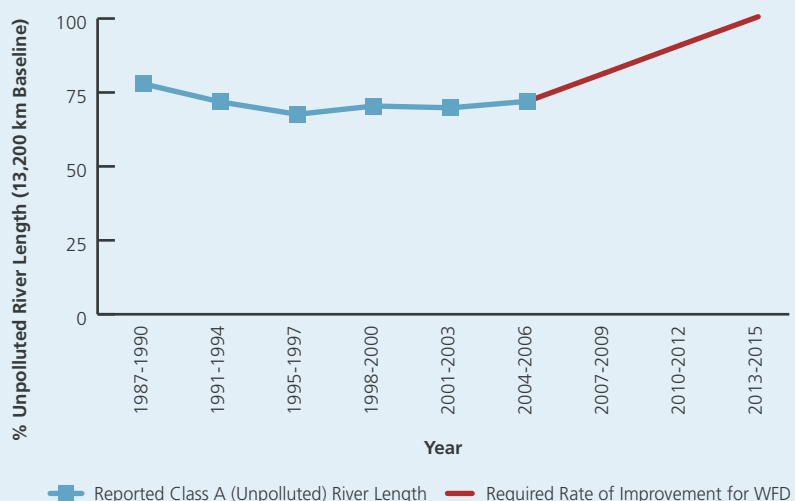
The extensive offshore areas off the Irish coast are generally not affected by pollution, while inshore, water quality in the majority of estuarine and coastal waters remains high. A number of estuaries, however, mainly in the south-east and south of the country, continue to display symptoms of nutrient enrichment and have been classed as eutrophic. The quality of bathing waters is high, and while the bacteriological quality of shellfish in shellfish-growing waters is reasonably good, it is likely that additional measures will be required to prevent further deterioration in certain areas.

The greatest human impact on Ireland's marine environment continues to be commercial fishing. Many fish stocks are now at unsustainably low levels. There is also mounting evidence that climate change has the capacity to alter the functioning of marine ecosystems by influencing the distribution and seasonality of a wide range of marine species.

Responding To The Challenges Facing Our Water Resources

The WFD establishes a framework for the protection of all waters and water dependent ecosystems. Challenging objectives are set out in the WFD that have to be achieved within a given timeframe. To meet these objectives, the WFD requires

Figure S3.2 Current Rate of Improvement of Water Quality in Irish Rivers and Rate Required to Meet the Objective of 'Good' Status under the WFD by 2015 (Source: Lucey, 2007)



that River Basin Management Plans (RBMPs) be drawn up, containing programmes of measures to protect and restore as necessary, the status of our waters. These plans will come into effect in 2009 and are renewed every six years thereafter.

Many of our waters do not currently meet the objectives of the WFD. While progress has been made in reducing discharges of pollutants to waters in recent years, eight water management issues have been identified as being of national importance:

1. Wastewater and industrial discharges;
2. Landfills, quarries, mines and contaminated lands;
3. Agriculture;
4. Waste from unsewered properties;
5. Forestry;
6. Usage and discharge of dangerous substances;
7. Physical modifications to surface waters;
8. Abstractions.

In addition there are many local issues to be resolved. The RBMPs will address these issues principally by applying the basic measures set out in the WFD and as outlined in a number of existing directives such as the Urban Waste Water Treatment Directive, the Nitrates Directive and the Integrated Pollution Prevention Control Directive. Additional supplementary measures may also be required.

Environmental Quality Standards, which set limits on pollutants in the aquatic environment, must be fully complied with. Discharges to waters must be controlled and incidences of pollution accurately tracked back to their source and tackled. Ireland's Nitrates Action Plan must be fully implemented to tackle pollution from diffuse agricultural sources. Development planning in Ireland needs to link better with appropriate provision of sewerage treatment facilities and of safe drinking water. Sea fishing must be undertaken in a sustainable fashion and with due regard to impacts on the non-target species and the wider environment.

The RBMPs must be in place by 2009 to address the main issues in each basin through the working partnerships between the EPA, local authorities and other relevant public authorities. The public must be informed and their active involvement facilitated in the development and implementation of the RBMPs. Easier access to timely and targeted information on water is required. Developments in this area include the EPA's web resources, *ENVision* and *HydroNet*. Through *ENVision*, the EPA's online viewer, the public can access EPA information on water quality such as river water quality, lake water quality and bathing water quality. Hydrometric data on the flows and water levels in Ireland's rivers and lakes may also be accessed through the EPA *HydroNet* site. The monitoring programmes must be fully resourced and operational to ensure that any changes in status are identified and

to determine the efficacy of the programmes of measures. Research needs to continue to support the implementation of the WFD and improve our understanding of aquatic ecosystems.

The challenge for water resources management in Ireland in the coming decade will be the successful development and roll-out of effective programmes of measures, which will require real public/stakeholder engagement and a concerted effort by all relevant public authorities to implement and enforce the RBMPs fully.

References

Lucey, J. (2007) *Water Quality in Ireland 2006 – Key Indicators of the Aquatic Environment*. EPA, Wexford.

