

Current environmental baseline and trends for water – NORTHERN IRELAND

Sub-topic	Current environmental baseline	Trends
Overall	<ul style="list-style-type: none"> In 2008, 34% of all NI water bodies were classed as good or better, by 2015 this will be 72%. 	<p>There has been some reduction in chemical pollution of NI rivers in recent years and the quality of the bathing waters around NI coasts is improving. The biological quality of NI rivers has deteriorated in recent years and levels of nutrients are relatively high in lakes and some rivers.</p>
Water quality	<ul style="list-style-type: none"> Drinking water: Overall microbiological quality has shown a significant improvement at 99.85% compliance. However water quality issues where compliance with the regulatory standards still has to be achieved has been highlighted. Bathing water: In 2008 all but one of NI's 24 identified bathing waters achieved the mandatory standards of the Bathing Water Directive. Groundwater: Results show that in the period of 2000 to 2006, of 55 sites continuously monitored approximately 95% did not display elevated levels of nitrate. Surface water: In 2007, 16% of monitored river length in Northern Ireland were identified as sensitive to eutrophication according to UK guidance. Nitrates: In October 2004, a total territory approach to the implementation of the Nitrates Directive was adopted in NI because of eutrophication of surface waters 	<ul style="list-style-type: none"> Drinking water quality at consumer taps is assessed using 'mean zonal compliance'. In 2007, the mean zonal compliance for NI was 99.3%, a significant improvement on the level in 2004 of 98.65%. Up until 2006, there were 16 beaches monitored in Northern Ireland. In 2008, this number increased to 24. The number of NI lakes in the eutrophic and hypertrophic classes has increased from 11 in 2004 to 15 in 2007.

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Water pollution- Diffuse sources	<ul style="list-style-type: none"> • General: Water bodies are affected by diffuse source pollution impacts from agriculture, forestry, and land drainage and urbanisation. • Agriculture: Since 2001, there has been a steady decline in the percentage of river length with levels indicative of enrichment, decreasing from 27% in 2001 to the current level of 16%. This decrease coincides with a decline in the purchase and rate of application of phosphorus fertilisers. • Forestry: Forest and woodland cover now accounts for just over 6% of Northern Ireland's land area with public forests amounting to 70% of this area. • Urban development: Impacts include rain water falling upon impermeable surfaces, increase in use of household products and misconnections between the sewerage system and surface water drains. • Other sources: Includes contaminated run-off from roads, construction sites, fuel storage areas and other hard surfaces, septic tanks, the deposition of acid pollutants and nutrients from the air. In rural areas, many houses and businesses are not connected to public systems that collect, treat and dispose of wastewater: they rely mainly on on-site systems. 	<ul style="list-style-type: none"> • Agriculture: It has been estimated that a 20% rate of environmental improvement will be delivered by current regulatory and voluntary actions in the agriculture sector. • Forestry: The objective in Northern Ireland is to steadily expand woodland over the next 50 years to achieve 12% forest cover. Strategically positioned new woodland and well managed existing forests will benefit the aquatic environment by protecting soils from erosion, landslip and by providing a 'buffer' between watercourses and other land uses. • Urban development: Inputs from urban development sources are growing. The use of SuDS is encouraged in all responses to planning and permitted development applications however good practice is key to reducing pollution and alleviating flooding.

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Water pollution- Point sources	<ul style="list-style-type: none"> • The number of substantiated incidents attributed to each source for the period 2001 - 2006, shows that industry, farm and water utility services have continued to be the major sources of pollution, though farm incidents have reduced over the 6-year period. • Water utility discharges: Water Treatment Works and Waste Water Treatment Works are monitored against registered standards and the Urban Waste Water Treatment Regulations. Some Waste Water Treatment Works have been identified as discharging to sensitive areas and their effluent will require more stringent treatment. • Industry: The monitoring of effluent discharges gives an indication of levels of pollution to the water environment and improvements in controls. • Waste: There are at least 200 unregulated or illegal waste management facilities throughout Northern Ireland. NIEA receive approximately 1,000 reports of alleged illegal dumping each year. 	<ul style="list-style-type: none"> • There was a 3.8% increase in pollution attributed to Industrial sources and a 1.6% increase in pollution from 'other' sources during 2006. • Water utility discharges: Overall compliance with Waste Water Treatment Works registered standards has shown an increase since 1997, up from 73% to 84% in 2006. • Industry: There has been a steady increase from 69% in 2000 to 88% in 2007 for trade effluent compliance. • Waste: Estimates suggest that in 2002–2004, a minimum of 250,000 tonnes of household waste from Ireland were illegally dumped in Northern Ireland. Legislation for dealing with contaminated lands and development of brownfield sites is being prepared currently.

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Water resources	<ul style="list-style-type: none"> In NI water is abstracted for public drinking water supply, industrial use, use in the food and drink industry, hydro-power generation, agricultural and agri-industry use, recreational use (such as golf courses) and for use in fisheries. Abstraction and flow regulation for water supply accounts for 90% of the impacts upon hydrology in river water bodies. The remaining 10% of water bodies are affected by a range of sectors including flood control and manufacturing industries. Approximately 786,000 domestic and commercial properties in Northern Ireland are connected to the public water supply and each day Northern Ireland Water supplies approximately 625 million litres of drinking water to customers. The main sources of this public water supply are reservoirs (48%) and loughs (40%). Rivers and groundwater each supply 6%. 	<ul style="list-style-type: none"> Rising demand (due to population growth) and the impact of climate change may mean that some areas will experience a reduction in the available water resource in the future.

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Hydromorphology	<ul style="list-style-type: none"> • Freshwater: Examples of activities which have caused morphological alterations include construction of impounding structures such as dams and weirs on rivers and lakes for water supply and hydroelectric power. • Marine water: <ul style="list-style-type: none"> ○ There are many morphological pressures on the marine environment around Northern Ireland. In addition to construction pressures within ports, the drive for renewable energy is rapidly extending into the marine environment. Other morphological pressures on the marine environment include the extraction of marine minerals for the construction industry. ○ Fishing and aquaculture activities can also have a morphological impact, and in particular invasive techniques such as bottom trawling, fisheries-related dredging and bottom-culture mussels. There are extensive aquaculture activities within the sea loughs and this industry is important for the Northern Ireland economy. In 2008 64 marine sites licensed for the cultivation of shellfish and 2 marine sites licensed for the cultivation of finfish were recorded. 	<ul style="list-style-type: none"> • Freshwater: In some areas rivers and lakes have been altered to such a degree that attempting to return them to a natural condition would now be economically or technically infeasible. Such water bodies have been designated as Heavily Modified Water Bodies (HMWBs) 68 in total. • Marine water: <ul style="list-style-type: none"> ○ In addition to the major ports in NI 6 out of the 7 transitional waters have been designated as HMWBs. ○ Three NI transitional and coastal water bodies are considered to be at high status for morphology. The remainder of the transitional and coastal waters, with the exception of those that have been designated as heavily modified, are at good status morphologically.
Flooding	<ul style="list-style-type: none"> • It is estimated that in an event with a 100 to 1 chance of occurrence in any one year, some 60,000 properties in NI are at risk from flooding. Nearly 14,000 of these are situated within the Greater Belfast Area. 	<ul style="list-style-type: none"> • With increasing development and climate change the number of properties at risk is likely to increase.

Sources:

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