

River Basin Management Plans

Programme of measures

Key Sectors — Waste

Pressure Type — Diffuse and Point Source Pollution

Introduction

Waste disposal sites (including old un-lined landfills) may produce lesser discharges to waters than wastewater treatment plants and industries, but residues or waste products from previous activities may have seeped into the ground and continue to threaten groundwater and surface waters. Our knowledge of these sites is incomplete and needs updating to assess the scale of this problem. We have good records of today's engineered landfills but not of the contents or locations of past landfills. The Northern Ireland Environment Agency (NIEA) maintains a database of approximately 12,000 sites, including waste disposal sites, where land in Northern Ireland may be affected by contamination from previous activities.

Contamination of land and groundwater can also occur, through a wide range of circumstances, from diffuse or point sources. This can be an issue in urban development when potentially contaminated sites are redeveloped. For example, land and groundwater may be affected by contamination on former industrial sites such as factories and petrol filling stations where spillages of materials may have occurred over time. Contamination may also occur due to naturally elevated levels of certain substances (e.g. arsenic or nickel).

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. Estimates suggest that in 2002–2004, a minimum of 250,000 tonnes of household waste from Ireland were illegally dumped in Northern Ireland; the cost of removal is likely to exceed £28 million. The two jurisdictions have agreed joint enforcement operations to penalise and deter illegal activities. Republic of Ireland have agreed to let a contract to begin the process of removing illegally disposed of waste and legally dispose of it in that jurisdiction.

What causes the environmental impact?

The potentially harmful properties of landfill leachates result from the presence of:

- high levels of ammonia and suspended solids;
- dissolved solids;
- toxic compounds;
- immiscible organic chemicals;
- high chemical/biochemical oxygen demand (COD/BOD);
- high levels of nutrients;
- microbiological contaminants.

Some components of leachates are List I or List II substances under the Groundwater Directive on the basis of their toxicity, bioaccumulation and persistence. Landfilled waste decays over a period of decades and therefore the pollution from leachate and gas continues to be emitted over a long period of time.

Contaminated land is a potential risk as a source of diffuse and point pollution to surface and groundwater.



What action are we already taking?

Key legislation

Water (Northern Ireland) Order 1999

The Water Order identifies responsibilities for addressing water pollution incidents and the requirement to consent discharges to waters. NIEA applies the principles of integrated pollution prevention, the polluter pays principle and the precautionary approach when dealing with historic, unregulated sites. Licensed sites in Northern Ireland are monitored regularly for compliance. Waste management facilities currently operating under the terms of a licence may be required to hold a discharge consent under the Water (NI) Order, where necessary. Discharges to the water environment from landfill and other large waste management facilities are controlled by permit conditions.

Groundwater Regulations (Northern Ireland) 2009

The Groundwater Regulations implement the 1980 Groundwater Directive which seeks to protect groundwater by preventing the direct discharge of certain hazardous substances into groundwater and subjecting the discharge of other substances to an authorisation procedure.

The Waste & Contaminated Land (Northern Ireland) Order 1997

The Waste and Contaminated Land Order is the primary control for regulated waste management. Northern Ireland's Waste and Contaminated Land Order has been amended to include new measures for the investigation, enforcement and prevention of waste offences, with increased penalties and new powers to stop, search and seize vehicles used in committing offences. The powers of NIEA to direct the removal of waste are limited and the responsibility for removing the waste from land remains with the defendant.

Under the Waste and Contaminated Land Order (NI) 1997 Article 27 only allows NIEA to direct a keeper of waste (if identifiable) to remove the waste on lands to a licensed facility. The cost of removal and disposal of the waste is far in excess of the penalty for breach of such a direction. Where NIEA investigates and identifies no responsible person then the incident may be referred to the district council for consideration of an Article 28 Notice under the Waste and Contaminated Land (Northern Ireland) Order 1997 as amended by the Waste (Amendment)

(Northern Ireland) Order 2007.

It should be noted that Article 28 gives a district council powers to enter a site and remove the waste. NIEA has issued requests by virtue of Article 24(2) of the Council Regulation (EC) No. 1013/2006 on Shipment of Waste Regulations to the Dublin City Council, requiring them to ensure that the waste on the land is removed and taken back to the Republic of Ireland for disposal.

The provisions for a new regulatory regime for the identification and remediation of contaminated land in Northern Ireland are contained within Part III of the Waste and Contaminated Land Order (NI) 1997, for which the implementation timetable has yet to be confirmed. This regime will provide a statutory definition of 'contaminated land' based on risks of significant harm to human health and the environment, or pollution of controlled waters. Statutory guidance will be published along with the Regulations. Remediation Notices could be served on appropriate persons listing the measures required to remediate the land to a condition that is "suitable for use". A register available for public inspection, detailing contaminated land sites which had been the subject of a Notice served, would also be maintained by District Councils and the NIEA. A consultation paper is out to strengthen and amend some Articles in the WCL Order e.g. contaminated land, producer responsibility and access to illegal waste, and powers to remove.

Shipments of Waste Regulations 2006

This establishes procedures and control regimes for shipping waste depending on its origin, destination and route, and the type of waste and treatment that will be applied. Under the EU Shipments of Waste Regulations an agreement has been developed by officials from the Department of the Environment (NI) and the Department for the Environment, Heritage and Local Government in the Republic of Ireland to remove waste, originally from the Republic of Ireland, which was dumped illegally in NI. The framework agreement will lead contractual arrangements to remove the waste illegally dumped in Northern Ireland and return it to the Republic of Ireland. The framework agreement sets out the roles of the relevant authorities in arranging the necessary contracts and the liability falling to each jurisdiction. Under the agreement, the costs of disposing of the waste will be met by the Republic of Ireland in full. The Republic of Ireland will meet 80% of the costs of excavating and removing the waste and remediating

the sites, with Northern Ireland meeting 20% of these costs. It is expected that the work could take up to five years to complete for the 250,000 tonnes of municipal and commercial waste illegally deposited at 20 sites between October 2002 and the end of 2004.

Proceeds of Crime Act (POCA) 2002

The vast majority of waste crime is carried out in order to make money, and the potential income from such activity is vast. NIEA is determined to ensure that the proceeds of illegal activities which harm the environment are recovered, removing them from use by offenders to fund further illegal activity.

NIEA have developed links with a number of agencies via the Organised Crime Task Force partnership leading to confiscation of the proceeds of criminal conduct under the Proceeds of Crime Act (POCA) and have successfully concluded on a number of criminal confiscation investigations resulting in the granting of Confiscation Orders in respect of persons convicted on counts of keeping and disposing of illegal waste. This relates to more serious waste offences which were classified as serious crime because of the financial gain involved. In 2007- 2008 this led to confiscation of assets worth more than £833,000 following prosecution in four cases involving illegal dumping of waste. This new enforcement method is likely to act as a deterrent to other potential offenders. NIEA now has its own team of financial investigators, accredited under the POCA by the National Policing Improvement Agency. NIEA is now able to carry out its own confiscations and money laundering investigations.

Landfill Regulations (Northern Ireland) 2003

This legislation places stringent requirements on landfill operators to ensure the environment is protected. No new phases of landfilling designed in accordance with the Landfill Regulations and operated under a PPC permit have been identified as a risk to surface water or groundwater status.

The Pollution Prevention and Control Regulations (Northern Ireland) 2003 (PPC Regulations)

Both new and existing refuse disposal sites are regulated under the PPC Regulations; the latter often include older, poorly engineered phases. Other sites where waste deposition has now ceased are regulated and controlled through the Waste Management Licensing Regulations. In 2007/08 NIEA received in excess of 50 PPC permit applications to meet the European Union Landfill Directive standards.

Waste Management Licensing Regulations (Northern Ireland) 2003

NIEA is also responsible for processing applications for waste management licences (WML) and exemptions. End of life vehicles (ELVs) have the potential to release harmful substances into the environment if they are not stored, treated and disposed of properly. ELVs are classed as hazardous waste until they have been fully treated and de-polluted. As a result of concerns about the environmental and economic impacts of waste vehicles, the European Union adopted the End of Life Vehicles Directive (2000/52/EC) in October 2000. NIEA approve and monitor the Authorised Treatment Facilities under the WML regime to ensure that ELVs are treated correctly. NIEA also investigate and take enforcement action against operators of illegal sites. These sites threaten the environment and undermine legitimate operators.

Some activities involving waste materials are exempt from licensing if they meet the requirements detailed in Regulation 17 of the Waste Management Licensing Regulations (Northern Ireland) 2003 as amended by the Waste Management Regulations (Northern Ireland) 2006. Although an activity may be exempt from waste management licensing, it is still subject to statutory controls to prevent environmental pollution and harm to human health.

NIEA uses PPC permit conditions and Waste Management Licensing closure procedures to ensure waste operators manage and reduce the contaminant footprint of older landfill sites and associated groundwater contamination. However there are historic areas of waste disposal that are not subject to effective regulatory control. Measures to address these pressures would need to be implemented to tackle contaminated land.

Planning (Northern Ireland) Order 1991

Under the Planning (Northern Ireland) Order 1991 “material planning considerations” would include the impacts that land affected by contamination may have on land use. Through a Service Level Agreement (SLA) with PS, NIEA provides advice on planning applications involving waste management proposals where there is a potential risk due to the land being affected by contamination. The approach recommended in such situations is that a suitable risk assessment is completed at the application stage and in the event that unacceptable risks are identified, a remediation strategy would need to be agreed. Any planning approval for such an application should be conditioned to ensure that the remediation work is implemented and verified, so that the new development will be “suitable for use”.

The Environmental Liability (Prevention and Remediation) Regulations (Northern Ireland) 2009

The Environmental Liability (Prevention and Remediation) Regulations (Northern Ireland) 2009 establish a framework of environmental liability based on the ‘polluter-pays’ principle to prevent and remedy environmental damage to land, water and biodiversity. With regard to water, environmental damage is damage to surface water or groundwater (Water Framework Directive defined water bodies) caused by an activity specified in Schedule 2 to the Regulations, that is consistent with an adverse change in status. Operators are required to take steps to prevent environmental damage, prevent further environmental damage and, where environmental damage has occurred, carry out appropriate remedial measures to restore the water to the status it would have been in before the damage took place. Under appropriate circumstances the Regulations also provide for compensatory and complementary remediation.

European Union ‘Mining Waste Directive’

The EU Directive on the Management of Waste from the Extractive Industries was adopted in 2006. Its aims are to prevent or reduce, as far as possible, any adverse effects on the environment, and any resultant risks to human health. The DOE are in the process of introducing legislation to give legal effect to this Directive.

The Litter (NI) Order 1994

The Litter Order places a duty on District Councils to keep land clear of litter. The Order contains powers designed to help District Councils deal with litter problems and fly tipping. The Department recognises that fly tipping is a serious problem in Northern Ireland and that it can have a serious detrimental impact on local amenity. In recognition of this in 2007 the Department increased the penalties for the illegal disposal of waste.

Strategies and guidelines

The Northern Ireland Waste Management Strategy 2006 – 2020 ‘Towards Resource Management’ provides a framework for the development and achievement of effective resource and waste management practices in Northern Ireland. The policies and actions identified in the Strategy are applicable to all controlled wastes.

NIEA has developed a monitoring strategy under their waste licensing and authorisations responsibility. A monitoring plan is now in place which outlines target visits for each authorised site based on a risk rating system. Facilities that are perceived as being at a higher risk of causing environmental pollution are inspected more frequently as a result.

A Strategic Plan for the Closure of Landfill Sites in Northern Ireland was finalised at the start of 2008. NIEA also issued guidance on land spreading exemptions, and published Relevant Convictions policy and guidance.

NIEA is the competent authority for movements of waste into and out of Northern Ireland from and to other countries outside the UK and therefore proactively carry out visits to facilities to not only audit transboundary movements, but also to provide advice on the Transfrontier Shipment Regulations.

A Quality Protocol for the production of aggregates from inert waste in Northern Ireland has been published by Waste and Resources Action Programme (WRAP) supported by DOE.

DOE is considering the revised WFD target for the re-use, recycling and other material recovery of construction and demolition waste and will be determining how best to work with stakeholders to deliver any necessary changes to current practices, this will include consideration of measures such as Site Waste Management Plans.

The Planning Policy Statement (PPS 11) on Planning & Waste Management sets out the Department’s planning policies for the development of waste management facilities. It seeks to promote the highest environmental standards in development proposals, give guidance on likely material issues, and explains the relationship between the planning system and the waste management and regulation systems.

Advice, education and training

NIEA continues to provide a high level of advice and guidance to legitimate producers, carriers and managers of waste. For example ‘The Safe Storage And Disposal Of Used Oils’ pollution prevention guidelines are intended to help everyone that handles used oils, from people carrying out a single engine oil change to large industrial users.

Education and awareness campaigns endeavour to provide an integrated approach to changing behaviour and attitudes towards waste, aimed at encouraging waste prevention, maximising the use of waste as a resource, and increasing reuse, recycling and recovery.

The “Bag it and Bin it” campaign will be an on-going exercise with Education Officers actively engaging with schools, hospitals, nursing homes, libraries and community groups. NI Water has also participated in a beach clean up awareness exercise. Further information on the campaign can be obtained from the NI Water website www.niwater.com.



Education

Voluntary schemes and campaigns

NIEA continued to provide funding for NETREGS and Tidy NI. TIDY Northern Ireland has teamed up with several councils throughout the province to tackle the problems presented by both visitor generated litter and litter of marine origin. Several councils promote initiatives such as the Clean Coast programme. For more information visit www.tidynorthernireland.org , or www.adoptabeach.org.uk. NIEA also support, promote and participate in The Marine Conservation Society ‘Beach clean’ which removes litter from selected beaches.

The Northern Ireland Hazardous Waste Forum consists of key stakeholders and has been established to advise on a way forward for hazardous waste reduction, recovery and management.

Riverwatch waterway clean up projects, organised by Lough’s Agency, provide valuable education opportunities.

What improvements will current measures achieve?

Northern Ireland has a range of legislation dealing with the establishment and operation of waste management facilities. Legislation for dealing with contaminated lands and development of brownfield sites is being prepared currently; the legislation is supported by policies and guidance on best practice for addressing water pollution problems. The current regulatory controls assign the responsibilities for managing these sites. The challenge is to enforce these controls, particularly to deal with historic, unregulated sites.

The following tables summarise the existing/ planned measures and supplementary measures for Waste.

Key Sector: Waste**Pressure Type:** Diffuse and point source pollution**Summary of existing and planned measures**

Improvement Required	Actions	Delivery mechanism	Lead Department / Agency	Support Provider	Deadline for delivery of mechanism (year end)	
Reduction in discharges/ impacts from waste disposal and contaminated land	Prosecute those responsible for illegal deposit of controlled waste	Water (Northern Ireland) Order 1999 and The Waste & Contaminated Land (Northern Ireland) Order 1997	DOE/ NIEA		In place	
	Remove waste illegally dumped in Northern Ireland and return it to Republic of Ireland	The Litter (Northern Ireland) Order 1994	District Councils		In place	
		EU Shipments of Waste Regulations	NIEA, DEHLG		In place	
	Recover monetary benefit from illegal activities which harm the environment	Proceeds of Crime Act (POCA) 2002	DOE		In place	
	Consent and regulate effluent discharges	Groundwater Regulations (Northern Ireland) 2009 / The Water (Northern Ireland) Order 1999			In place	
	Regulate waste related activities	The Waste & Contaminated Land (Northern Ireland) Order 1997			In place	
		Landfill Regulations (Northern Ireland) 2003			In place	
		The Pollution Prevention and Control Regulations (Northern Ireland) 2003			In place	
		Waste Management Licensing Regulations (Northern Ireland) 2003 as amended			In place	
		Strategic plan for closure of Landfill sites in NI			In place	
	Provide an integrated approach to changing behaviour and attitudes towards waste	Guidelines		DOE		In place
		Waste Management Strategy				
		Waste Management Monitoring Strategy				
		Advice, Education and Training		DOE		In place

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Improvement Required	Actions	Delivery mechanism	Lead Department / Agency	Support Provider	Deadline for delivery of mechanism (year end)
	Remove litter from waterways	Voluntary schemes and campaigns	NIEA, LA	All	In place
	Ensure better management of waste from construction through adoption of sustainable construction practices	Site Waste Management Plans	DOE	NIEA	2010
	Ensure Best Practice on production of aggregates from inert waste	Quality Protocol for the production of aggregates from inert waste in Northern Ireland	Waste and Resources Action Programme	DOE	In place
	Exercise effective regulatory control over historical contamination sites	Contaminated Land regime Contaminated Land Regulations The Waste & Contaminated Land (Northern Ireland) Order 1997 The Environmental Liability Directive	DOE		2010
	Manage waste from the extractive industries	Mining Waste Directive & Mining Waste Regulations	DOE		2009
	Acquire additional powers to deal with illegal disposal e.g. contaminated land, producer responsibility and access to illegal waste, and powers to remove	The Waste & Contaminated Land (Northern Ireland) Order 1997	DOE		In place

Key Sector: Waste**Pressure Type:** Diffuse and point source pollution**Summary of supplementary measures**

Improvement Required	Actions	Delivery mechanism	Lead Department / Agency	Support Provider	Deadline for delivery of action (year end)
No supplementary measures have been identified for this sector					

