

Draft Social and Environmental Guidance for Water and Sewerage Services (2015-21)

Comments by

Northern Ireland Environment Link

31st January 2014

Northern Ireland Environment Link (NIEL) is the networking and forum body for non-statutory organisations concerned with the environment of Northern Ireland. Its 65 Full Members represent over 90,000 individuals, 262 subsidiary groups, have an annual turnover of £70 million and manage over 314,000 acres of land. Members are involved in environmental issues of all types and at all levels from the local community to the global environment. NIEL brings together a wide range of knowledge, experience and expertise which can be used to help develop policy, practice and implementation across a wide range of environmental fields.

These comments are made on behalf of Members, but some members may be providing independent comments as well. If you would like to discuss these comments further we would be delighted to do so.

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Northern Ireland Environment Link (NIEL) welcomes the opportunity to comment on DRD's Draft Social and Environmental Guidance for Water and Sewerage Services (2015-21). There is much to commend within the document, in which issues of climate change and sustainability in the water environment are framed as serious challenges for Northern Ireland in the coming decades. NIEL endorses this view, and emphasises that action needs to be taken now so the worst effects of climate change can be either mitigated and/or planned for and adapted to.

1 Introduction

Summary

Paragraph 1.2

NIEL agrees with the key investment themes outlined and it is pleasing to see environmental understanding demonstrated in prioritising issues of sustainability and climate change, and the outlining of a catchment approach to solve problems related to leakage, water pollution and energy efficiency. NIEL aims to promote an ecosystem services approach throughout all government departments, in recognition of the invaluable services that flow from nature to society - using nature and natural processes to accomplish work that we would otherwise have to pay for through treatment works is a crucial way forward both in terms of economy and respect for environment (the envelope in which economy sits).

Environmental compliance is also important for the good of Northern Ireland – we must aim to achieve European standards dictated by the WFD and other relevant pieces of legislation, or face infraction penalties. NIEL emphasises that investment in work that helps us to reach required targets is crucial. However, as outlined in the 'Sustainability and Climate Change' theme, this does not necessarily mean greater investment in treatment works etc., but rather a shift in mind-set and emphasis toward the appropriate use of natural processes to achieve societal aims (the ecosystem services approach, i.e. using the kind of sustainable treatment solutions outlined in the consultation document – for example, use of wetlands and reed beds in waste water treatment).

Paragraph 1.11 raises the issue of metering, which (despite the Executive's commitment not to introduce additional water charges until at least 2015) NIEL believes is crucial to the future successful management of the water and sewerage system. While there is a public and political perception in Northern Ireland that there is no shortage of water (probably due to our temperate, relatively high, annual rainfall receipt) and therefore no urgent need to reduce demand, we cannot stress enough that clean and safe water is a precious resource – the aim of government should be to see recognition of this at a general public level. This valuation of our water resource should be reflected in water charges.

The preciousness of our water resource is likely to become more apparent in coming decades. There is already evidence of unsustainable levels of water abstraction in the west of the province – an problem that is likely to worsen with CC Climate change impacts on the water environment will bring greater unpredictability of supply. The capital valuation charging and flat-rate systems currently in place do not encourage (and in fact are likely to discourage) the efficient use of water.

Thus, while no move to universal metering is currently envisaged, NIEL recommends regular re-evaluation of this position and an ultimate move toward it in line with other areas of the UK.

Sustainable Water Management

Paragraph 1.12 and 1.13

NIEL very much welcomes the inclusion and prominence of Sustainable Water Management in the consultation document, as a policy driver for the delivery of more efficient, affordable and 'greener' service provision by NI Water.

2 Drinking Water Quality and Supply

Introduction

Paragraph 2.1

NIEL welcomes the investment priorities under this theme, and especially the emphasis placed on energy efficiency, risk management, sustainable catchment management and water demand management.

We would take this opportunity to underline that lakes are a significant source of drinking water supplies in NI – thus, the quality of the natural freshwater environment is crucial to the wellbeing of society. There are 21 lakes currently monitored in Northern Ireland of which 5 achieved a good standard in 2011. This highlights the issue of tackling the problem of drinking water quality at source – if our lakes themselves were in better condition it would significantly reduce the cost of treatment to comply with drinking water standards. As stated in the document itself, preventing and reducing substances entering our water system is a more cost-effective way of tackling water quality issues than subsequent treatment. Considering that agriculture is a main contributor to water quality problems through nutrient enrichment, resulting in eutrophication causing accelerated growth of algae, excessive plant growth & damage to water quality, NIEL recommends that NI Water work with all landowners including farmers to prevent pollution.

Water Pricing

Paragraphs 2.18 and 2.19

NIEL would again emphasize the principle that paying for a service leads to greater valuing of that service. To foster the right public attitude toward our precious water resources in this country, we recommend that water charging is introduced via metering.

Water Leakage Detection and Reduction

Paragraph 2.24

If customers are to ultimately accept water and sewerage charges, and embrace the culture of water efficiency that DRD are promoting through documents such as this, they must have confidence that the service provider is also cost effective and resource efficient. In approximate figures, 23% of water is lost from the system due to leakage (>181 million litres per day at an estimated cost of £5 million per year, in 2011). Dealing with this problem therefore should remain a priority for government and NI Water.

Managing Water Consumption

Paragraphs 2.25 and 2.26

NI Water supplies approximately 560M litres of clean drinking water to households each day¹. On average we use approximately 150 litres a day, with an estimated 95% of water delivered to our homes going down our drains. We use around 70% more water than we

¹ <http://www.niwater.com/home/>

did 40 years ago². This increase in consumption is unsustainable, especially in the context of projected climate change impacts.

NIEL suggests that the issues of water pricing and managing water consumption are closely related, where the former can be used as a control on the latter. However, pricing alone will not bring about the desired reduction in water usage – there is a need for educating householders in NI on the best ways to conserve water and reduce use. While this kind of information is available on, for example, the Consumer Council website, a high profile, sustained, media campaign around water (its preciousness as a finite resource, how much it costs to clean polluted water to drinking standard, how much we waste and how we can reduce wastage) would actively help to promote behavioural change. The Waterbus is a good way communicating these messages to the public at community level, and associated education programmes should be maintained and expanded.

3 Environmental Protection and Improvement

NIEL welcomes the recognition of the strong demands of the WFD and UWWTD within the consultation document, and the environmental (and societal) benefits to be reaped by the transposition of these directives in Northern Ireland.

The table below demonstrates that, in terms of meeting EU WFD commitments to restore rivers and lakes to ‘Good Ecological Quality’, Northern Ireland is not on target.

% of Northern Ireland’s Rivers and Lakes to be Restored to ‘Good Ecological Quality’ or Better (EU WFD)			
Target 2027	Target 2021	Target 2015	Level 2012
100%	92%	55%	22% of rivers and lakes in are currently of sufficient quality to meet ‘Good Ecological Quality’

The Article 17 Report on the implementation of the Habitats Directive (2013) stated that:

- i. Habitats and species are still being lost, primarily through agricultural intensification on the one hand, and abandonment on the other;
- ii. Water pollution (eutrophication) is still a major factor in freshwater systems;
- iii. Aerial deposition of Nitrogen is predicted to be a major factor in the future, with critical thresholds exceeded for many habitats across NI (one of the major sources in NI is from intensive livestock farming);
- iv. Invasive species are a problem on some sites, and in some habitats.

Costing of work to meet our European obligations should be a priority for DRD (along with other relevant Departments and Agencies across government) so as to avoid infraction penalties. We recommend that NI Water have resources and plans in place to deal with major pollution incidents potentially caused by extreme weather and/or overloading of treatment facilities.

² <http://www.nienvironmentlink.org/cmsfiles/images/News%20Items/From-Source-to-Sea.pdf>

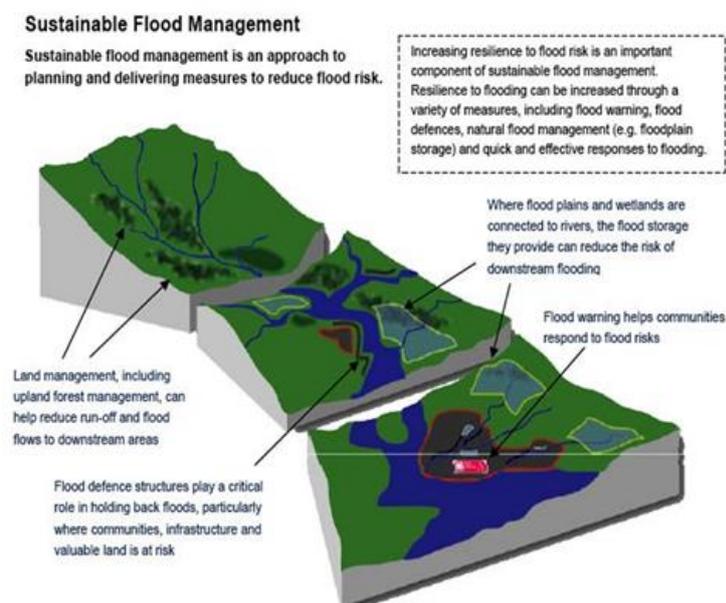
4 Flood Risk Management and Drainage

It is well understood that large areas of vegetation cover decrease the severity and extent of flooding (an ecosystem service that would otherwise be a significant cost to society³). Thus, risk of flooding increases as green areas are reduced. Trees and shrubbery specifically slow down the rate at which rainfall reaches the ground surface, allowing soil infiltration to take place over a longer period of time. NIEL recommends that green infrastructure networks should form a part of any water management strategy, as a natural and sustainable flood risk management tool.

NIEL welcomes the consideration of SuDS as a preferred drainage solution, and would encourage schemes that implement SuDS to be progressed as quickly as possible. Sustainable solutions to drainage must form a part of our approach to the built environment going forward, and it is encouraging to see that this guidance could be potential a driver for this.

The below illustration⁴ depicts a combination of measures that might be adopted as part of such a sustainable approach. Sustainable Flood Risk Management should:

- Focus on managing sources and pathways of floodwaters
- Address flood risk to health, environment, cultural heritage and the economy
- Target all forms of flooding (river, coastal, pluvial, sewerage and groundwater)
- Include options to adopt both structural or non-structural measures.



Natural Flood Management (NFM) includes any means of reducing flood risk by implementing environmentally positive features that retain and delay water away from areas of known flood susceptibility⁵. Such catchment interventions could include, for

³ Gomez-Baggenhun, E., Barton, D. N. 2013. Classifying and valuing ecosystem services for urban planning. *Ecological Economics* 86: 235 – 24

⁴ <http://www.scotland.gov.uk/Publications/2008/02/13095729/9>

⁵ <http://www.bbc.co.uk/news/uk-politics-25752320>

example, wetlands, on and off line ponds, drain blocking, log dams, changes to agricultural practice, tree planting, river restoration, hedge improvement, landscaping, buffer strips, bunds, high flow channels. The approach can deliver multiple benefits for water quality, climate change, and biodiversity, for example.

See also, 'From Source to Sea 10 Steps to Sustainable Water Use in Northern Ireland' (produced by the NI Fresh Water Task Force), which includes recommendations to 'Slow, manage and clean up drainage from roads and buildings' and 'Retain water on floodplains and wetlands'⁶.

In regard to Flood Risk Management, NIEL recommends that NI Water and DRD work in close partnership with other relevant authorities (NI Rivers Agency, DARD) to approach the issue in a joined-up and strategic manner.

6 Sustainability, Climate Change and Resilience

Resilience in the face of climate change is a key challenge for society in the coming decades. Increasing seasonality of precipitation, higher temperatures across all seasons and greater day-to-day uncertainty in regard to extreme weather events, present significant challenges for the management of the water environment in Northern Ireland. Impacts in the fresh water environment are likely to include:

- Increased loads of diffuse pollutants from urban & rural areas (related to increased runoff – especially in winter, but also in late summer⁷ due to increased potential for intense convective storm activity);
- Increase in 'inherited'/historic land pollutants being washed into river courses and lakes;
- Some point source discharges may no longer be adequately diluted due to periods of lower summer flow;
- Enhanced algal and plant growth due to increased temperature and increased nutrient run-off will exacerbate effects of eutrophication.

We would encourage NI Water to put in place robust climate change adaptation plans in anticipation of impacts.

Renewable Energy

Paragraph 6.7

In the context of sustainability and climate change, NI Water must also seek to manage their carbon footprint. As the consultation document acknowledges, NI Water are the largest consumer of electricity in NI. Electricity and carbon costs are projected to rise by approximately 38% from the present day to 2040. NIEL endorses the view, and emphasises, that NI Water should look for more sustainable ways to reduce electricity consumption (from water pumping to heating of premises) and potentially generate its own supply from renewable sources as a matter of priority. Thames Water, for example, produces a significant amount of electricity from its own resources (two sludge-powered generators and 19 combined heat and power plants generate 187 GWh of renewable electricity⁸). NI Water should actively pursue the up-scaling of its own renewable energy production.

⁶ <http://www.nienvironmentlink.org/cmsfiles/images/News%20Items/From-Source-to-Sea.pdf>

⁷ Wilby, R. 2007. A review of climate change impacts on the built environment. Built Environment 33:31-45

⁸ <http://www.thameswater.co.uk/media/806.htm>

Procurement decisions by NI Water should be based on long-term projections so that the right technologies are invested in now for a more sustainable future (this behaviour should be encouraged and facilitated where possible by Government).

7 Tourism, Recreation and Biodiversity

NIEL welcomes the inclusion of a section so clearly recognising the importance of our water environment for natural capital, and its potential to enrich society – not just economically (through tourism), but through cross-sectoral benefits impacting on environment, health, wellbeing, and community. The services that flow from nature to society cannot be underestimated in this context, and the value that they bring to NI should be captured and emphasised in documents such as this.

We would welcome further discussion around NI Water's contribution to the development and implementation of the NI Biodiversity Strategy (through a Biodiversity Implementation Plan), and in development of their own long-term estate management strategy. NIEL is currently involved in promoting the need for a Land Use Strategy within NI (through our Land Matters Task Force), and discussion with NI Water related to this may prove very useful for both parties.

Reservoirs

Paragraph 7.6 discusses the issue of unused reservoirs, and approaches to their possible disposal. NIEL would recommend that such land be retained for the public good – the potential social and environmental benefits associated with such spaces is significant. These areas should only be disposed of after a full and detailed environmental impact assessment has clearly justified their disposal. If this is the case, and assets are to be sold, then full market value should be sought.

Other issues

Septic tanks are not dealt with in the consultation document. The management of septic tanks is a key issue for water and sewerage services in Northern Ireland, and should receive warranted attention in any environmental guidance for water and sewerage services.

It is estimated that some 120,000 septic tanks are in use in Northern Ireland. However, there are no accurate records because regulatory controls were only introduced in the early 1970s. While a properly installed and well-maintained septic tank system is unlikely to have adverse impacts on the natural environment, it is estimated that at least 12,000 septic tanks are not in possession of necessary discharge consents⁹, and hence 'invisible' to the system.

As a fundamental element of sustainable water management in Northern Ireland, NIEL recommends better regulation of septic tanks, supported by community awareness campaigns. While NIEA should continue to act as the competent authority for licensing and regulation of septic tank discharges (though we would recommend that they deal with the problem in a more direct manner), we would encourage NI Water to play a greater role in providing a sewerage service for rural dwellers which does not cause pollution to local waters (hence raising the cost of treatment).

⁹ <http://www.nienvironmentlink.org/cmsfiles/images/News%20Items/From-Source-to-Sea.pdf>

In tackling diffuse pollution from septic tanks, government policy and funding is required to maintain WWTW, and to promote sustainable waste treatment through use of wetlands and reed beds, where appropriate (NIEL welcomes this approach being included in the consultation document).