



Briefing following the Programme for Government Roundtable on Water Resources, 23rd April 2024

Summary

The key actions for LINK regarding freshwater and water resources are to:

- Reduce water leakages through infrastructure renewal and maintenance, improved leakage detection, and enhance water conservation measures.
- Reduce sewage spills from overflows and their impacts.
- Better flood risk management through effective planning and nature-based solutions.
- Restore rivers to their natural state through the removal of defunct structures and freshwater habitat restoration.
- Restore and monitor smaller freshwater bodies.

Background

Scotland is renowned for its freshwaters. From their source to the sea, they provide a home to iconic species such as the Atlantic Salmon and Freshwater Pearl Mussel, provide drinking water, are used to generate electricity, support game fisheries and are essential for the production of food and drinks, such as whisky. As such they are important for our heritage and promote health and well-being by providing opportunities for many recreational activities and aesthetic enjoyment. Their natural capital means that they have considerable economic value.

1. Water leakages

Scotland's drinking water infrastructure is facing a critical challenge regarding significant leakage from its mains system. Despite ongoing efforts, the current rate of water loss from the system remains unacceptably high, posing significant risks to the nation's water security, environmental sustainability, and economic efficiency. Immediate and comprehensive actions are imperative to address this pressing issue and safeguard the future of Scotland's water resources.

- According to the latest information from Scottish Water, around 30% of treated drinking water supplied was lost from Scotland's drinking water mains in 2022/23. This translates to a loss of over 454 million liters of treated water, enough to supply over 3,200 households.



- Drinking water is treated to a high standard using chemical and mechanical processes, requiring energy and resource expenditure. Leakages contribute to avoidable greenhouse gas emissions.
- Drawdown of reservoir levels and over-extraction of groundwater can have compounding effects on surrounding ecosystems. As the volume of a reservoir reduces, shoreline vegetation dries out and habitat areas for fish, amphibians, plants, invertebrates, and water birds shrink. Groundwater depletion also reduces baseflows in streams, stressing aquatic species.
- Addressing leakages is critical to adapting to the climate crisis, as summers are predicted to become hotter and drier. Continued and unnecessary water loss exacerbates the strain on limited freshwater resources, potentially leading to supply disruptions and water scarcity during periods of drought and high demand.
- The financial burden of treating and pumping lost water translates to higher operational costs for Scottish Water, which may be passed onto the consumer.
- Scotland has the highest per capita water usage in the UK, and one of the highest in Europe.

Action required

- Advanced Leakage Detection and Monitoring will enable the pinpointing of leaks and initiate timely repairs.
- Infrastructure renewal and maintenance – Leakages must be reduced by prioritising the systematic replacement and rehabilitation of aging water infrastructure.
- Pressure Management and Optimisation strategies, including installing pressure-reducing valves, will maintain optimal pressure levels, significantly reducing the likelihood of leaks and bursts.
- Water conservation efforts should be promoted through public education campaigns, incentives for water-efficient appliances and fixtures, and the adoption of water-saving technologies in both residential and commercial sectors.
- Encourage the adoption of grey water re-use - Around a third of water supplied to households is used to flush toilets. To accelerate the adoption of this technology a grant scheme should be developed to encourage and enable householders to retrofit grey water systems. In addition, the installation of grey water systems should be encouraged through the planning system.

LINK Freshwater Group have prepared a more detailed [briefing](#) on this issue.

2. Sewage overflows

Scottish Water recently published data on just 245 of the total 3,614 Sewer Overflows (SOs) in Scotland, amounting to just 7% of the total SOs within the sewer network. In comparison, 99% of SOs in Wales are currently monitored, with Welsh Water having installed 2,300 monitors since 2015. Monitored overflows in Scotland spilled over 21,000 times in 2023, an



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average of 88 spills per overflow, discharging untreated sewage into rivers, lochs and coastal waters. In 2023 there was an increase in both the volume of untreated sewage discharged and the number of spills from 2022. Ambition for dealing with sewage discharges is currently poor.

Despite Scottish Water publishing a route map for Urban Waters in 2021 and updating this annually, only 3% of SOs have been identified as high priority discharges for improvement by 2027. In 2023, only 4 improvement projects were delivered.

Action required

- Implement monitoring of all SOs and make spillage data publicly available in real time.
- Reduce reliance on SOs through investments in the Scottish sewerage network. Large and frequently spilling SOs, and those affecting protected areas, should be prioritised.
- In the interim, the outfalls from SOs should be fitted with screens to prevent sewage-related debris from entering watercourses and coastal waters.
- Invest in nature-based solutions such as SUDS, rain gardens, and green roofs to reduce reliance on the sewerage network.
- Ban all single-use plastics in wet wipes and sanitary products where suitable alternatives exist, and make reusable sanitary products more accessible. Where this is not suitable, improve labeling and consumer awareness to promote correct disposal.
- Apply Extended Producer Responsibility (EPR) to all sanitary products to cover clean-up costs.

Scottish Environment LINK is preparing a more detailed briefing on this issue.

3. Flood risk management

It is estimated that 284,000 properties, businesses, and services are at risk of flooding in Scotland. Climate change predictions for Scotland suggest that the number and severity of flooding events in Scotland are likely to increase in the coming years. A new Flood Risk Management Assessment is due this year.

Action required

- Local authorities should be required as part of their local development plan to develop sustainable surface water management plans that provide biodiverse habitat areas that are properly informed by ecologists.
- There should be a tightening up of planning restrictions on paving gardens and artificial grass in new housing developments so going forward there is a focus on permeable ground as part of climate adaptation measures and biodiversity enhancement.



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4. River restoration

Scotland's rich industrial heritage has resulted in a legacy of interventions to the natural flow of rivers, and few rivers can be considered free-flowing. This has resulted in several ecological impacts, including an increased likelihood of flooding. Natural processes such as functioning floodplains will lessen the impact of flooding events, acting as a nature-based solution to climate change, whilst also contributing to biodiversity restoration through the creation of floodplain wetlands. Furthermore, in free flowing rivers, water and sediments can move downstream unimpeded, fish and invertebrates can migrate freely.

Scotland's current River Basin Management Plan aims to remove just 149 barriers restricting fish migration between 2021 and 2027, which is a very slow rate of action. The EU's Biodiversity Strategy for 2030 includes a target to restore at least 25,000km of free-flowing rivers.

Action required

- Support projects which will restore freshwater habitats as nature-based solutions to climate change.
- Identify and remove unnecessary and defunct structures on rivers and comprehensively assess the impact of new projects on all aspects of freshwater ecosystems, including on plants, amphibians, invertebrates, and flood risk.
- Knowledge-sharing about techniques that work with natural processes with key stakeholders, particularly Local Authorities, and those involved in Flood Risk Management.
- Habitat restoration and creation, planned and prioritised through a spatially mapped national Nature Network informed by local knowledge to enhance ecosystem connectivity.
- The European Biodiversity Strategy has set a target of restoring 25,000 km of rivers to be free-flowing. Scotland should set similar goals for river restoration, freshwater species abundance, and the extent of pond and wetland habitats.

A more detailed briefing on the importance of free-flowing rivers can be seen [here](#).

5. Small freshwater bodies and riparian habitats

Small Freshwater bodies provide huge ecological benefits, supporting a wide range of aquatic species and offsetting some of the negative impacts of many environmental issues facing us such as climate change, flooding, chemical and noise pollution. They act as flood defences and are remarkably good carbon sinks, sequestering carbon at a rate 20-30 times higher than woodlands, grasslands and other habitat types.



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One third of ponds are thought to have disappeared in the last fifty years or so and of those that remain more than 80% are considered to be in 'poor' or 'very poor' condition. Overall there has been an estimated 50% loss of small freshwater bodies.

Action required

- We need investment to create new smaller freshwater bodies. Restoring and creating new smaller freshwater bodies is a key nature-based solution to climate change, with the scope to lock up carbon, benefit biodiversity and enhance human well-being.
- Current monitoring of the freshwater environment focuses on rivers and lochs. We should extend this monitoring to other freshwater bodies such as ponds, marshes, ditches, and streams.

A more detailed briefing on the ecological importance of small freshwater bodies and riparian habitats can be found [here](#).

Scottish Environment LINK is the forum for Scotland's voluntary environment community, with over 40 member bodies representing a broad spectrum of environmental interests with the common goal of contributing to a more environmentally sustainable society.

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