



Managing Small Stream Networks for Improved Water Quality, Catchment Biodiversity and Ecosystem Services Protection

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Identifying pressures

The SSNet project aims to advance knowledge on the role of small streams (first and second order) in water quality, biodiversity and ecosystem services protection. It also aims to inform policy, measures and management options. In doing so, the project supports the achievement of the Water Framework Directive objectives and other regulatory targets.

Informing policy

The research is relevant for the Water Framework Directive and other policies relating to biodiversity, such as national biodiversity plans, the EU Biodiversity Strategy for 2030, the Habitats Directive, the Birds Directive, the UN Convention on Biological Diversity and the new Nature Restoration Law. Elements of the research are also relevant to climate adaptation and mitigation, as well as agendas such as the UN Sustainable Development Goals.

Developing solutions

SSNet is the first large-scale research project in Ireland on first- and second-order streams to have undertaken investigations spanning hydrochemistry and multiple ecological elements, as well as experimental work, giving insights into the likely impact of climate change stressors.

It is recommended that more widespread monitoring of the water quality of small streams should be undertaken to protect not only small stream biodiversity but also water quality further downstream. Here, there is great potential for citizen science to contribute. Although small streams may have relatively low levels of biodiversity at site level, compared with some mid-order rivers, their communities are more heterogeneous across and within tributaries, and they are thus important in terms of their collective or regional biodiversity. Therefore, assessment and protection of small stream biodiversity should take a network perspective. Small streams originating in areas with high regional biodiversity should be identified and given priority for monitoring and protection measures.

