



Sheffield factsheet

Sheffield, located in South Yorkshire, England, spans approximately 368 km² and has a population of around 556,500. The city's hydrology is defined by its hilly terrain and numerous waterways, including the River Don and the Sheaf. Once an industrial hub, Sheffield's rivers suffered severe pollution, but national and European legislation, particularly the Water Framework Directive (2000/60/EEC), has driven significant restoration efforts. Despite improvements, flood risks remain a concern, especially due to riverine flooding exacerbated by heavy rainfall and urban runoff. Sustainable drainage systems (SuDS) and community-led projects have been implemented to enhance flood resilience and face the growing concerns of climate change-induced extreme rainfall events. However, sewage discharge into rivers from CSO events remains a pressing concern – in 2024, the Environment Agency saw a 33% increase compared to the previous year.

URBAN WATER MANAGEMENT






The UK's water and sewerage systems are largely managed by private companies, while flood risk management and water quality oversight fall under municipal authorities and the Environment Agency. National policies are promoting NBS, such as swales and bioretention areas. Sheffield is one of the leading cities in the UK for Green Roofs.

The City Council is promoting green roofs as an effective tool to mitigate stormwater runoff as part of its urban nature recovery efforts and has included them as part of its City Centre Strategic Vision (2022). Moreover, the Sheffield Local Biodiversity Action Partnership has written a Habitat Action Plan (HAP 2010) for Sheffield's Green Roofs. The plan aims to increase the biodiversity value of green roofs in the city.

Unlike cities with centralised urban water-master planning, Sheffield follows the Local Development Framework (2009), which offers flexibility but lacks a comprehensive vision for catchment-based water management. Sheffield has pioneered SuDS through projects like the **Gray to Green** scheme, the UK's largest SuDS retrofit, which transformed impervious urban spaces into stormwater-absorbing green areas. This initiative, funded by European sources, highlights

successful collaboration between local authorities, NGOs, and universities. Citizen engagement plays a crucial role in Sheffield's approach to water governance. Volunteer networks and advocacy groups actively promote green infrastructure and help in cleaning actions and the promotion of a sustainable urban environment.

NICHES IN SHEFFIELD

-  NICHES will provide valuable case study information to inform urban water management discussions.
-  NICHES will support research and educational efforts on climate, environment, and sustainability.
-  NICHES will contribute insights to the University of Sheffield Global Sustainable Development module.
-  NICHES will support and enhance the understanding of stormwater challenges and governance frameworks.
-  NICHES will facilitate knowledge exchange on nature-based solutions and policy integration.

OPPORTUNITIES TO GET INVOLVED IN NICHES

We will promote interactive multi-stakeholder arenas for developing, testing and monitoring most of the strategies that will be developed in NICHES. If you want to get involved, send an email to t.wild@sheffield.ac.uk.



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