

How do we increase public understanding of the benefits provided by sustainable urban drainage systems?

KEY FINDINGS

- A 'water and sustainable urban drainage systems (SUDS)' learning package was developed and delivered in the context of Scotland: the Hydro Nation. This fostered enthusiasm, knowledge retention and empowerment – learning whilst also having fun.
- A total of 106 children (ages 3-10) and 14 adults were engaged in the outreach programme, which was flexible enough to fit the time available and suit the knowledge level of the target audiences.
- The programme was deemed an unquestionable success by the local authority, teachers, and school children. This was attributed to a strategic approach taken in developing and delivering a 'water and SUDS' learning package.
- The learning package developed in this project is a valuable teaching asset that could be up scaled and rolled out across Scotland.



BACKGROUND

The Scottish Government is developing Scotland as the world's first Hydro Nation, a country which places great emphasis on water as central to its national identity. This agenda is increasing the international profile of Scotland's skills and experience in supporting the good stewardship of water resources.

Legislative and policy reform have been responsible for SUDS becoming commonplace in Scotland.

RESEARCH UNDERTAKEN

This project was a public outreach activity for primary and secondary school children living to the north of Dundee where there are excellent examples of SUDS. The key objective was to raise awareness of the Hydro Nation agenda with a scope that was twofold:

- explain the urban water cycle; and
- promote awareness and understanding of the local SUDS and related benefits.

To realise these objectives we had to ensure alignment of the science, environmental,

There is a lack of understanding, however, of the benefits SUDS can provide to communities; such as pollution control, flood prevention, enhancement of biodiversity, and of wildlife habitats. Increasing understanding of the benefits to people who live near SUDS can help foster acceptance towards them as innovative green technologies that are replacing traditional forms of drainage.

engineering, and social aspects of SUDS with the curriculum for excellence, and in a way which contributed to general science experiences and outcomes. This was undertaken via the delivery of a water and SUDS learning package that included: classroom lessons involving animated graphics, talks and discussions; interactive activities such as a learning game developed by Abertay during an EU funded project called Water Town (<http://watertown.abertay.ac.uk/>); a laboratory experiment; and local show-and-tell walks to the Ardler and Mill O' Mains SUDS.

The water and SUDS learning package incorporated units that explained (in simple language) the hydrological cycle, urbanisation, and the urban water cycle. This included water services, such as water supply, use and disposal; impacts on the environment, such as flooding due to development, and diffuse pollution related to human activities that pollute our watercourses; and the new management process such as SUDS that help mitigate these impacts.

Competitions were devised for the P6 and P3 levels. The P6 competition was a poster competition based on the design of an information leaflet highlighting the benefits of the local

watercourse (the River Tay). The P3 competition was based on the SUDS modelling exercise undertaken during the class sessions following the Ardler and Mill O' Mains show-and-tell visits.



RECOMMENDATIONS

- Timing is crucial to ensure alignment with the curriculum, particularly for secondary schools, where lesson planning is undertaken prior to the start of the academic year.
- Hands on sessions, including experiments and digital technology related to local real world issues combined with local walks, were powerful strategies. They provided a direct and personal connection that engaged, promoted and embedded learning concepts and new terminology.
- The SUDS learning package materials with current lesson plans fit the curriculum for excellence; the learning package developed in this project is a valuable teaching asset that could be up scaled and/or rolled out across Scotland.
- The Community Group session with 14 adults was designed and implemented in a limited time scale. The session was beneficial for the Group because of dialogue with Dundee City Council planners, however, a more bespoke session and discussion would have enhanced understanding of current best practice in SUDS.



RESEARCH TEAM AND CONTACTS

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