

science summary



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Social impacts of stormwater management techniques including river management and SUDS

Science Summary SC020009/SS

Introduction

Research undertaken by a PhD student, Stella Apostalaki, at the University of Abertay, Dundee, forms the basis of this report on public attitudes to stormwater management. It contains an assessment of perceptions of sustainable drainage systems (SUDS) and river management approaches held by the public and by staff working within relevant organisations. The report provides information on public understanding and acceptability of the systems, the influence of SUDS on property values and the effectiveness of projects aimed at influencing public opinion. The report also identifies links between environmental theory, environmental ethics and sustainability, using SUDS as an example and exploring and defining the meaning of 'amenity' in relation to SUDS.

Key findings and recommendations

The report shows the importance of public awareness and participation in planning when new techniques are to be implemented within urban areas. Recommendations are made to improve public acceptability of new and modified stormwater management systems. The research shows that members of the public hold strong views as to what they like or dislike about SUDS and water management installations constructed in their local area. Strength of opinion was found to be independent of familiarity with the techniques in question, and was often true in cases where there were low levels of public awareness of SUDS and requirements to treat stormwater.

The amenity, recreational value and aesthetics of new schemes seem to be of major importance in determining public acceptability, while function, efficiency and maintenance are primarily important in areas facing flooding problems. The report uncovers a general preference for sustainable urban water management and for river restoration schemes compared with more conventional, 'hard engineering' approaches such as culverting rivers to channel them under roads and railways. This preference was expressed both by

members of the public and by professionals involved in planning and implementation.

Research approach

The research assessed public attitudes towards stormwater management techniques used at a number of sites in the UK and in Athens, Greece. The cases examined were within residential areas and in particular related to the application of SUDS, mainly ponds, and river management schemes. Perceptions of SUDS in the UK (principally ponds) were investigated at a wide range of locations. In addition, the research investigated different river management techniques and approaches adopted by authorities in three heavily urbanised European cities: Glasgow, London and Athens.

Who should read the report?

This research is of great relevance to planners and other staff based in local authorities, to environment agencies and to water utilities. The results are also relevant to developers and consultancies active in urban construction. The methods used in this project show how perceptions relating to stormwater management can be explored, and the results highlight the types of construction that the public are most likely to accept.

The research also shows that providing information about stormwater management in appropriate formats can influence attitudes, even on sensitive issues such as safety - an approach that authorities can use to enhance the acceptability of new schemes. These results also support the case for publicity and information aimed at the public about environmental policies and practices (such as proposed stormwater management schemes) prior to implementation, particularly where there are currently low levels of awareness.

This information will be particularly useful for the development of the Environment Agency's policy on SUDS and urban flood risk management. It will also assist area planning and development control staff in their discussions with planners in local authorities.

Background to research

Stormwater management is becoming ever more important in urban areas with the apparent increase in the frequency of flooding incidences. This combined with the increased need for runoff collection and treatment to mitigate against diffuse pollution is of particular importance in meeting the objectives of the Water Framework Directive. Watercourse management, in combination with sustainable drainage systems (SUDS) can provide appropriate solutions for heavily urbanised areas. Unfortunately, the social impacts of stormwater management technologies, although of major importance, have often been ignored. Unless the needs and views of affected local parties are taken into account, national policy objectives to develop sustainable communities and achieve social and environmental justice are unlikely to be met. Public perception of construction is a matter of increasing importance both in the UK and internationally, given that socio-economic parameters have to be taken into consideration in the planning and application of all relevant projects. The aim of this research was to provide information for regulators and planners to enable them to match technical solutions and planning requirements with society's views and needs.

Local authorities and other relevant organisations recognise the importance of public involvement in planning which should, in theory, provide several practical advantages. When the public is properly informed, misconceptions are minimised and unfounded negativity within communities is avoided. When communities become involved in planning, this fosters shared responsibility between authorities and the public. Finally, by engaging with the planning process, the public can demonstrate their contribution to society and can play an active role in decision-making. Listening to and respecting the views of the local community engenders ownership of the solutions and makes a major contribution to the success of a programme.

Key words: stormwater management, SUDS, river management, public perception, public involvement, urban planning, community engagement, community planning, green space, open space.

This Summary relates to information from Science Project SC020009 (P2-261/15) reported in detail in the following output:-

Sniffer Report SUDS01

Title: Social impacts of stormwater management techniques including river management and suds

March 2005

Internal Status: Released to Regions

External Status: Released to Public

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This project was funded by our Science Group, which provides scientific knowledge, tools and techniques to enable us to protect and manage the environment as effectively as possible.

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Summary Product Code: SCH00805BJQC-E-P