The Blue-Green Path to Urban Flood Resilience

Thursday 7th March 2019, Newcastle Centre for Life

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Developing and implementing Blue-Green visions through Learning and Action Alliances

Newcastle and Ebbsfleet LAAs

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Implementing transformative change and creating Blue-Green infrastructure requires stakeholders to develop long-term, shared visions for achieving urban flood resilience, which requires collaboration between multiple organisations and branches of city government and administration.

Thorne et al., 2018 DOI:10.1111/jfr3.12218
Downscaling climate projections

Climate change
Modelling
Impacts of climate change
Natural hazards
Engineering uncertainty
Existing infrastructure
Retro-engineering
downscaling climate projections

Biophysical

Governance
Partnerships and collaboration
Institutional capacity/expertise
Political leadership
Legislation, regulations
Statutory standards
Inter-agency working
Champions
Adoption

Competing priorities

Communication
Resistance to change
Responsibilities
Awareness
Stewardship
Ownership

Maintenance
Knowledge
Multiple benefits
Risk (cost/performance)
Available space

Socio-political

Population and demographic change
Public preferences
Economic/urban development
Responses to climate change impacts
Culture
Education

Uncertainties and barriers to the implementation of Blue-Green infrastructure
Learning and Action Alliances (LAAs)

LAAs are usually open, informal arrangements where participants create a joint understanding of a problem and its possible solutions based on rational criticism and coherence through discussion.

It facilitates the identification of innovative ideas for the solution of complex (‘wicked’) problems outside the constraints of existing formal institutional settings.

Solutions or ideas are afterwards presented in formal inter-organisational decision-making processes.
Core group

Attend regular face-to-face meetings, share information on current projects, raise awareness of BGI within professional remit.

Organising group (coordinators)

Organise, facilitate and attend regular face-to-face meetings, create a rapport between members.

Wider group

Attend face-to-face meetings as appropriate, e.g. themed meetings in area of expertise/interest. Participate in online (LinkedIn) group discussions.

LAA membership

O’Donnell et al., 2018. DOI: 10.1016/j.envsci.2017.10.013
Newcastle and Ebbsfleet LAAs

Newcastle upon Tyne (retrofit)
Established in 2014 (Blue-Green Cities)
Focus: Innovative flood risk management
Promoting Blue-Green infrastructure in flood and water management practice and policy, opportunistic intervention, dissemination of best practice, wide stakeholder engagement

The **Vision** is for Newcastle to become a city that follows the principles of a Blue-Green City by maximising the opportunities to achieve multiple benefits of Blue-Green approaches to surface water management.

Our overarching goal is to promote this vision and to realise it by recognising, and utilising, windows of opportunity for potentially influencing the strategies of decision makers.
Newcastle helps lead the way in blue-green cities move to combat flood risk

More water storage and greening spaces in Newcastle are the basis for the city conference pledge at the Life Science Centre.
Identify 'quick wins'

Evidence and uptake into practice and policy

Engagement with LAA members (and recruitment of new members) throughout process

O'Donnell et al., 2018. DOI: 10.1016/j.envsci.2017.10.013
Newcastle and Ebbsfleet LAAs

As an area develops, it can become a *Blue-Green City* if water management and urban greening are woven into its design.

By creating the Ebbsfleet LAA we aim to champion urban flood resilience through its vision of encouraging the realistic delivery of sustainable water management in the urban environment.

**Ebbsfleet Garden City, Kent (new build)**

Established in 2017

Focus: Sustainable water use in Garden City

Development of a system dynamics model that investigates current and future water use in Ebbsfleet (key challenge)
Developing a system dynamics model with the Ebbsfleet LAA to investigate sustainable water use options
Progress with the Ebbsfleet system dynamics model
Newcastle and Ebbsfleet LAA panel session

Darren Varley  
(Principal Engineer, Newcastle City Council)

Louise Petrie (Senior Surveyor, Newcastle University)

Simon Harrison (Head of Design, Ebbsfleet Development Corporation)

Paul Kent (Environment and Wastewater Strategy Manager, Southern Water)
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Reflections from the day

Kit England, Climate Ready Clyde Project Manager, SNIFFER