









The Blue-Green Path to **Urban Flood Resilience**

Thursday 7th March 2019, Newcastle Centre for Life





@bluegreencities #bluegreenadvantage

www.urbanfloodresilience.ac.uk

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



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 interorganisational decision-making processes







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.







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Newcastle helps lead the way in blue-green cities move to combat flood risk

15:30, 19 FEB 2016 BY TONY HENDERSON

More water storage and greening spaces in Newcastle are the basis for the city conference pledge at the Life Science Centre





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Blue-Green Cities conference line up, left to right, Fula Ogunyoye, Haskoning DHV: David Wilkes, Arup: Marie Fallon, Environment Agency: Clare Rogers, Newcastle University: Richard Warneford, Northumbrian Water; Coun Ged Bell, Newcastle City Council

Blue and green could rival black and white as key colours in the Newcastle of the future.



Newcastle and Ebbsfleet LAAs



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)

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.



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

