NERC GI INNOVATION PROJECTS: THUMBNAIL STATEMENTS

1. **An Ecosystem Services Approach to Green Infrastructure Partnership Planning [NE/N017447/1]**

Date of proposed completion: 1st January to 31st March 2016

This aimed at demonstrating the benefits of a previously developed ecosystem services (ESS) mapping approach through 4 urban demonstration areas. Its ambition was to influence the delivery of public services and policy making, including the targeting of investment for most public benefit. Outputs were to include the quantification of the value of services and a standardised approach which would enable judgements about trade-offs, greater interdisciplinary working and communication across a wider range of stakeholders (including the private sector) to achieve shared objectives.

2. **A national benchmark for green infrastructure [NE/N016971/1]**

Date of proposed completion: 1 Jan 2016 - 28 Feb 2017

This project explicitly aimed to fill a gap in applied knowledge by creating a national benchmark or standard of what 'good GI' should be throughout the GI creation process from policy to management on the ground. It proposed to work with end users to create the benchmark and then demonstrate its effectiveness by applying it through demonstration projects. To be freely available to all once published, the project envisaged that the benchmark would be used by and deliver social, economic and environmental benefits to a wide range of producers and consumers of GI. It also expected that it would enable a wider sharing of the knowledge used to create the benchmark. NE/N016971/1.

3. **Implementing GI approaches to river engineering protection measures**

Date of proposed completion: 1 Feb 2016 - 28 Apr 2017

This project was aimed at resolving some of the procedural, cultural and technical barriers which currently obstruct the application of GI to river engineering protection schemes. It proposed to develop a decision support tool to enable end users and decision makers to select GI engineering options to meet business case, technical and regulatory requirements. It was also envisaged that the tool would be a building block toward a larger GI guidance manual integrating coastal and fluvial GI interventions. In turn this would be a resource for a wider set of stakeholders. A specific reference was made to the potential for integrating with the outcomes of the NERC funded 'A Decision Framework for Integrated Green Grey Infrastructure (IGGIframe)' under this same GI Innovation Programme.

4. **Solar Park Impacts on Ecosystem Services: a Framework for Best-Practice (Both SPIES) [NE/N016912/1] & [NE/N016955/1]**

Date of proposed completion: 1/1/2016 – 30/6/2017

This is one project with 2 grants separated for administrative purposes. It is led by UoLancaster and by UoYork. The project proposed to develop a practical decision support tool to assess the impact of ground-mounted solar parks on the landscape and the ecosystem services of GI. It aimed to address the gap in current knowledge about impacts and opportunities. The project proposed a 5 step process for the study involving 11 partners and stressed the engagement of industry stakeholders.

The outcomes would particularly inform policy as well as practice, including the construction and management of solar parks for optimal balance of ESS and the enhancement of GI. Additional benefits would be the creation of a research and practice network and that the tool would be a means of the UK demonstrating international leadership, with consequent benefits for the solar industry.

5. **A National Scale Model of Green Infrastructure for Water Resources [NE/N017714/1]**

Date of proposed completion: 1st Jan 2016 – 31st August 2017

This project aimed to take local experiences and outputs of individual natural resource water management (NRWM) and build a generalised model to identify the costs and benefits of a range of options for new NRWM, including mapped financial and carbon solutions. It proposed to draw on existing knowledge from the UK and overseas to develop a model of the effects of NRWM on water. The model would be applied and tested for the impact of variables such as climate change, population, energy and water demand. The engagement of national stakeholders such as Defra, NE, JNCC was highlighted, as was a tie in with a major private sector company.

6. **A Decision Framework for Integrated Green Grey Infrastructure (IGGIframe) [NE/N017404/1]**

Date of proposed completion: 1/4/16 – 30/9/17

This project stated a focus on achieving multi-functionality from grey infrastructure to achieve greener urban environments. It proposed to synthesise current best practice into a toolkit of how to apply green infrastructure principles to grey infrastructure. End users would include national agencies, businesses and consultancies who would benefit from having access to harder evidence about the direct and measurable costs and benefits to inform the business case for new investment. It stressed close working co-designing the project with key partners and mutual co-operation with other funded projects (including NERCs River Engineering/Wallingford GI project). A case study was proposed.

7. **Assessing the contribution of domestic gardens to urban ecosystem services [NE/N017374/1]**

Date of proposed completion: 1 Jan 2016 - 30 April 2017

The project promised to provide a novel citizen science approach to data about domestic gardens and the co-development of an action plan to prioritise urban greening solutions. It proposed to address data deficiencies and errors through combining people surveys and satellite data which would then be used to model the role of garden vegetation. Using Manchester as a test bed, the results would inform city-wide GI delivery as well as action at the domestic and neighbourhood scales by the City Council, a Housing Trust and environmental NGOs.

8. **Valuing Green Infrastructure through Tree Assessment TooLs (VITAL) [NE/N017927/1]**

Date of proposed completion: 1/1/2016 – 31/12/2017

The project aimed to develop a free to use system that allows everyone to understand the value of trees and the ecosystem services they provide. It proposed the improvement of an existing valuation tool and enhanced links to and synergies with another established tool in use, so providing a more powerful suite of tools. End users/partners would be involved in the development and demonstration of the tool and wider dissemination through the Tree Council's network of members

and volunteers. The project would embed a greater wealth of data and knowledge of the tool in end users, with an expectation that this would lead to greater empowerment of citizens to influence environmental decision making.

9. Injecting a Natural Capital Planning Tool into Green-Blue Infrastructure Management [NE/N017587/1]

Date of proposed completion: 1/3/2016 – 28/2/2018

Through the development of an existing Natural Capital Planning Tool (NCPT) this project aimed to assess the natural capital and ecosystem services provided by G&BI and to incorporate these values and benefits into the UK planning system. It proposed to provide a model for integration and consensus building for providers of G&BI. The project would engage end users through case study partners and national bodies and so be informed by working across different scales and settings. Benefits would accrue to policy makers, businesses, civil society and knowledge brokers. Activity would be structured into 3 work packages which involved testing the tool, translating it into practice (an extensive set of actions), peer review and publication.

10. TOOLS FOR PLANNING AND EVALUATING URBAN GREEN INFRASTRUCTURE - BICESTER AND BEYOND [NE/N017730/1]

Date of proposed completion: 1/1/2016 – 28/2/2018

The Project seeks to address the lack of guidance available to GI practitioners in choosing the best tools for their needs. This proposal is driven by the current needs of [end user] Cherwell DC to integrate GI into new development at Bicester. A number of other local and national stakeholders are named. The U o Oxford and Forest Research will compile the toolbox, apply it to Bicester and then test it in a number of other local authorities. By using the tool, planners, developers and greenspace managers will be able to deliver more benefits and lists these as economic development, health and wellbeing, biodiversity, climate change resilience and social engagement.

11. Tree Selection for Green Infrastructure [NE/N017773/1]

Date of proposed completion: 1 Jan 2016 - 30 Mar 2018

This project sought to address the lack of guidance for urban planners, landscape architects and other local authority officers on the appropriate selection of tree species within GI schemes. A decision-support tool would be created to enable the selection of a more diverse range of species to match the challenges of urban sites and so help increase the resilience of and future proof GI. End users would be directly involved in identifying needs and the tool would be based upon credible research of tree ecology and physiology and the ecosystem services trees provide. The tool would be informed by commercial perspectives and be refined by knowledge exchange sessions before publication. The bid noted a broader potential to use the model for other GI components.

12. Green Growth: Increasing Resilience in Cities Through the Delivery of Green Infrastructure-based Solutions [NE/N017498/1]

Date of proposed completion: 1 Apr 2016 - 31 Mar 2018

The project proposed to develop and test a means of translating GI research into a practical user interface and so improve the take up of GI implementation. A ‘route-map’ would integrate GI science into end user organisations in such a way that it would be institutionalised within

organisations and help multi-functional GI to become usual in development. Manchester would be the test city. The key benefit would be to provide end-users with both an improved understanding of the barriers and complexities of user uptake of GI and the integration of science into decision making.

13. PROSuDs: Providing Real-world Opportunities for Sustainable Drainage Systems [NE/N017307/1]

Date of proposed completion: 1 Jan 2016 - 19 Jun 2018

This project proposed to resolve the lack of standardised valuation guidance for SuDS, which is limiting the full take up of research and evidence of benefits of SuDS. To address the gap, the project will create best practice guidance and a RICS accredited practice note for calculating the capital costs of SuDS, quantifying the economic values to developments and to explore what other contributions can be sought for off-site benefits. End users would be involved through developers, regulators and SuDS designers. The guidance will help quantity surveyors and developers to accept GI as assets of value and assess the economic case with confidence. The standardised economic case will consider environmental and social externalities and regulators can use the guidance as leverage to achieve multiple environmental benefits.