



SNAPSHOT - EDINBURGH: SQUARE METRE FOR BUTTERFLIES



KEY POINTS

- The project aims to improve urban biodiversity by enhancing green roofs
- Participating organisations planted ‘square metres’ of plants to attract native butterfly species
- The initiators, Royal Botanic Garden Edinburgh and Butterfly Conservation, provide time, knowledge, and materials (e.g. plants)
- Implementation is done jointly by the project organisers and the participants
- Participants, mainly private actors, are responsible for maintenance

ABOUT THE PROJECT

NATure-based URban innovATION is a 4-year project involving 14 institutions across Europe in the fields of urban development, geography, innovation studies and economics. We are creating a step-change in how we understand and use nature-based solutions for sustainable urbanisation.





Sustainability challenges and opportunities

Edinburgh faces a combination of greenspace challenges including austerity, rapid urbanisation, and climate change; at the same time the city showcases innovative responses through community empowerment, partnership working, and funding mechanisms (e.g. participatory budgeting).

In this context, the Square Metre for Butterflies project aims to enhance urban biodiversity by improving the quality of green roofs, so that they better support Edinburgh's natural ecosystem. In addition, it is a way of showing people how the urban landscape can be enhanced to benefit biodiversity even on a small scale. ***"[An objective] in the long term [is] to demonstrate that having biodiverse green roofs is more of a benefit than just a kind of green wash. That's what I would like to see in the long term. [...] And that when people are designing buildings, [... they] really think about what is needed in a local context and the context of Edinburgh."***¹

Solution story and key actors

The Square Metre for Butterflies project was initiated by the Royal Botanic Garden Edinburgh (RBGE) in partnership with Butterfly Conservation in 2016. It aims to better support and sustain native butterfly species, and to enhance urban biodiversity by improving the quality of green roofs.

Three types of butterflies have been chosen as specific target species, but the project is likely to benefit other insects and the animals feeding on them too, and as such supports Edinburgh's natural ecosystem. In addition, it is a way of showing people how the urban landscape can be enhanced to benefit biodiversity even on a small scale. A co-benefit is the creation of awareness of urban biodiversity through engaging with different kinds of organisations and providing knowledge and training.

Potential project partners were asked to implement 'square metres' of vegetation to highlight that small actions can make a substantial impact. This, and the focus on a particular native species of butterfly, were expected to add to people's buy-in into the project. ***"We hatched up this notion of a square metre because we thought that's not too onerous. It's quite neat: you provide a square metre of a particular food plant species for a particular butterfly and then you see what happens. So, it's experimental and it's innovative as well, in the sense that we can actually realistically create a habitat for butterflies on roofs."***² Funding by the RBGE, knowledge on native butterfly species and their habits, available information on green roofs in the area, and networking by the project initiators were essential for the engagement of organisations to enhance their green roofs. The initial stage was successful; the project has been picked up by different organisations, but it has proven to be difficult to build upon this momentum due to limited organisational and financial capacity.



Governance strategies

The project is an example for co-governance, having been initiated by nature conservation organisations and being jointly implemented by project organisers and participants. It has been developed in consultation with the municipality, environmental organisations and knowledge institutions united in the Edinburgh

Living Landscape initiative.

The project is not a direct result of policies or strategic visions by local authorities, but rather originates from a strong tradition of community engagement and partnership working in greenspace management.

RBGE and Butterfly Conservation identified and contacted potential participants, i.e. organisations in the city centre with green roofs, near the Edinburgh hills where the butterflies have their natural habitat. The initiators provide time, knowledge, and materials (e.g. plants). Implementation is done by the project organisers and the participants together. Maintenance is carried out by participants. ***“[We put in] free labour and we supply the plants. We grew them at the nursery here, Botanics, from Scotia Seeds [a local seed growing company]. We just encouraged and cajoled, so there was no financial thing.”³***



Business models

The project operates on a small budget, with the RBGE as its main funder, although most of the funding is used to cover staff expenses.

The fact that the RBGE was involved and provided plants facilitated private organisations’ involvement – participants did not need to invest time and energy in growing the plants, nor was any technical knowledge needed. A downside to this was that there was only a limited number of organisations that could be supported due to the limited capacity of the RBGE plant nursery. One idea for moving forward with the project is to create ‘corporate packages’: in exchange for enhancing (green) roofs in this project, business will, for instance, get to use the prestigious Botanic gardens and facilities as locations for their events. Such a corporate package is thought to be a two-way street, also making ‘business sense’ to the RBGE, by attracting private investment for their activities. ***“It’s very tokenistic in the way it’s actually done, so if you can have people like Glenmorangie providing strong business cases for doing it properly then that’s definitely a driver. And that fits into the trust’s natural capital ideas; thinking about how you’re getting businesses to invest in natural capital and not just, kind of, social corporate responsibility.”⁴***



Citizen engagement

Citizen engagement of the project is characterised by staff trainings of the participating organisations.

This is partly because the majority of the participating organisations do not have a roof that is publicly accessible, thus no active citizen engagement was seen to be needed.

Importantly, however Butterfly Conservation provides staff training to organisations as a follow-up to the rooftop intervention. In addition, they use the project to collect data on butterflies through ‘citizen science,’ asking employees of the organisations to report back on the number and types of butterflies spotted using a fill-out poster on site. However, limited data has been collected thus far. ***“There is an engagement aspect because we train the employees to identify the butterflies [...]. From my perspective, my urban butterfly project is about engaging people living in urban areas with butterflies and getting more records of butterflies too.”***⁵



Innovation pathways

The project is innovative in terms of *process*, as green roofs and rooftop gardens are improved to support biodiversity; and in terms of *governance*, as it is a partnership project successfully engaging private sector actors.

One ambition of this project is to engage the development community to think about opportunities for improving the quality of the urban and natural environment with green roofs by improving integration with their local environmental context. This links in with another innovative aspect, the objective to engage the private sector – either building owners or developers – in urban greening actions. The initiative can be characterised as an experiment, which provides opportunities but also barriers for further development. ***“When you’ve got a small amount of money and you go and try something and you test it, you’re not completely wedded to it having to desperately work because you’ve told the funders [that] this is what you’re going to do. [...] Sometimes when you can test things and try it, yeah, then it can have more impact or can develop on. The problem then is [that] you can’t necessarily scale it up as quickly as you might like to.”***⁶

¹ Project Development Manager, Scottish Wildlife Trust, 2018; ² Urban Biodiversity Project Officer, RBGE, 2018; ³ Urban Biodiversity Project Officer, RBGE, 2018; ⁴ Project Development Manager, Scottish Wildlife Trust, 2018; ⁵ Project Officer, Butterfly Conservation Trust, 2018; ⁶ Project Development Manager, Scottish Wildlife Trust, 2018; Photo credit: Dorst Hade