GREEN ROOF SHELTERS
ENGLAND, WALES (& SCOTLAND PROPOSALS)

London Boroughs of Islington, Lambeth, Tower Hamlets, Redbridge; housing associations, schools, community groups, charities, wildlife organisations RSPB, Buglife

BIG Biodiversity Challenge Award Category: Innovation

Project overview

Green Roof Shelters are innovative in taking essential small scale infrastructure – cycle parking, bins for recycling and refuse, and incorporating wildlife habitat - forage and nesting - that in turn provides residents, pupils, employees, visitors with a connection to wildlife, plants, the seasons and nature.

What were the biodiversity conditions on site, prior to the enhancement?

Sites have varied from areas of tarmac in schools, housing estate regeneration schemes, new-built housing, new pocket parks, & nature reserves.

Green Roof Shelters provide an area for wildlife that can be seen but doesn't get disturbed frequently, and is free from herbicide use, & dogs and cats; a wild habitat in urban spaces.

What were the reasons behind this project?

Green Roof Shelters are always dual purpose – cycle parking, recycling & refuse bins AND benefits to wildlife and people. Improving the public spaces around existing buildings - and making connections to nature.

From above - looking down from upper floors - shelters present a green roof rather than asphalt or other hard roof surface; and at ground level the organic 'softness' and interest of wildlife habitat panel materials.

As well as biodiversity habitat, forage and nesting, shelters contribute to sustainable urban drainage (SUDS) by retaining heavy rainfall and slowly releasing excess over time (shelters have a single downpipe for drip-drainage) and roof planting traps airborne particles and has a cooling effect.

What were the biodiversity measures taken?

- Green Roof Shelters are modular - so modules are combined to make larger installations.
- Shelters are generally planted with drought tolerant native species - using plug plants and seeded with native perennials & annuals. Native wildflowers and other nectar-rich species provide a food source for bees, butterflies, moths and other invertebrates.
- Shelters require minimal (if any) watering once initial planting is established. Planting reflects location, yearly weather characteristics - and can change over years (with wind and avian-borne incoming seeds).
- The roof is a wild habitat - free from people, dogs & cats. Annual weeding (sometimes desirable, but not essential) can be done from a stepladder without climbing on the roof.
- The growing substrate is minimum 150mm deep, low-fertility (similar to chalk downland), and can be locally mounded to create deeper substrate areas/microhabitats (& subsequently different colonising flora). This substrate depth (substrate is 225kg/m2 when saturated) supports a wide variety of plants, that in turn, support pollinators and other invertebrates.
- Water retention of roof trays can be individually determined by height of rainfall outlet; conditions can be varied to suit bog-loving plants (in suitable locations) or designed to support particular flora for target invertebrate species.
- In conjunction with local wildlife trusts or biodiversity officers, water retention levels and planting types can be used for BAPS target species.
- Shelters can be simply relocated by owners during their long lifespan, using original delivery method.
- Green Roof Shelters incorporate many re-used materials: structural steel often 55% recycled; roof substrate mix of crushed waste aggregate, brick, fines, bark and green waste; locally coppiced chestnut for durable nesting material and other organic material as invertebrate refuge.
- Community engagement: we are well known for our work with communities, from engagement workshops, talks, grounds maintenance information, and designing wildlife back into the fabric of buildings..

- Green Roof Shelters are made offsite, delivered planted and ready to use, with wildlife habitat panels in place. Shelters are simply lowered into final position from delivery lorry's on-board hiab. Depending on ground conditions, minimal groundwork is necessary. They are a genuinely simple way to increase biodiversity provision. And as needs change, they can be relocated as easily as they arrived.
- Green Roof Shelters always have graphic interpretation/information explaining planting used and the relationship to wildlife - solitary bees (harmless and important pollinators), butterflies and other invertebrates.

Entering the BIG Biodiversity Challenge actually challenges us to articulate and argue the (significant) benefit of small but numerous interventions making a big difference to biodiversity in urban spaces, and to people's thinking and engagement with nature in the built environment.

Project Team

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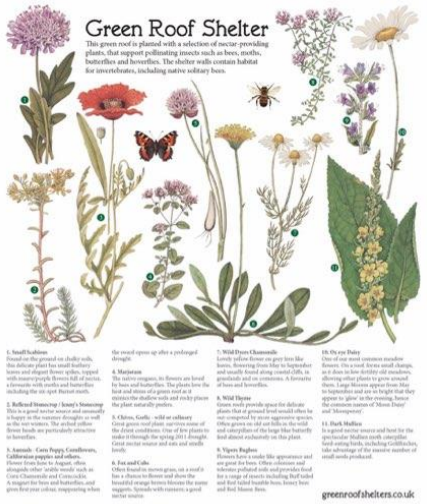
Clients: London Boroughs of Islington, Lambeth, Tower Hamlets, Redbridge; housing associations, schools, community groups, charities, wildlife organisations RSPB, Buglife

Motivation for carrying out the enhancement?

We do this because we love nature incorporated in our built environment, how it often happens haphazardly, but how it can be designed into public places, schools, housing, and the benefits this brings to people and wildlife. We're convinced that numerous small interventions can be more easily accommodated into the existing built landscape. People get close up to nature with them, and with the help of graphic interpretation/information (and curiosity) can learn about the importance of pollinators, solitary bees, butterflies, other invertebrates, biodiversity, and the connectedness of ecosystem services. This dual purpose is our motivation.



Utility & wildlife