

Leicester Conveyance Improvements Project Leicester, England Environment Agency and Leicester City Council

BIG Biodiversity Challenge Award category: Medium Scale Permanent

Project overview

The Environment Agency and Leicester City Council are working together on a 6 year programme of work to reduce the risk of flooding in the city, with a particular emphasis on bringing wider benefits through environmental enhancements, public space improvements and regeneration. The first of these projects is the Leicester Conveyance Improvement Scheme.

The scheme has reduced flood risk to 2000 houses into a lower flood risk category and has embraced partnership working from the outset. As well as reducing flood risk, the scheme has delivered significant environmental enhancements to the area with the creation of new wetland areas, wildflower meadows, tree planting, habitat improvement, cycle path improvements and new public seating areas.

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

The River Soar corridor provides a vital green infrastructure link between areas of open space throughout the urban and rural environment. The combination of habitats including the river itself, formal parks, less formal open space, woodland and scrub habitat support species such as otters, badgers, bats and kingfisher in close proximity to the city centre.

Were there any specific conditions that led to you carrying out this work?

This is a new and challenging approach to managing flood risk within an urban environment and moves away from the traditional approach of constructing raised flood walls, flood banks or upstream storage areas.



Wetland Creation at Ellis Meadows

The Project Team studied the two dimensional hydraulic model of the River Soar and identified constrictions to flow that were causing increased flood levels in Leicester. These issues were then considered alongside Leicester City Council's Green Infrastructure Strategy, to identify synergies in the aspirations of both

organisations to reduce flood risk and improve biodiversity, recreation and the aesthetic of the area.

The sites used for the conveyance scheme were underused public open space including areas of closely mown amenity grassland and sports pitches of low ecological value.

What were the biodiversity measures taken?

Through taking a different approach, measures that benefit biodiversity have also been key to reducing flood risk. Through reconnecting the river with its floodplain more opportunity for wetland species has been created. The scheme has worked hard to design solutions to flood risk that incorporate pockets of natural habitats to help to build more diverse and resilient ecological communities.

Improvements include the creation of a large wetland at Ellis Meadows linked to the River Soar. The area was designed to have a permanent area of water to benefit aquatic invertebrates and amphibians. The fringes of the wetland have been planted with plants that can tolerate a range of water levels, providing cover throughout the year. When water levels are low, mud will be exposed providing foraging areas for waterfowl. Since its creation grey heron and little egret have been regularly seen. The connection with the River Soar allows the area to function as a fish refuge helping to sustain fish populations in the main river should a flood event occur.

Elsewhere scrapes within the floodplain have been created at Bath Lane, Leicester and near Braunstone Lane East in Aylestone improving the habitat interest in this area. The scheme has also incorporated a programme of Japanese Knotweed and Himalayan Balsam control in places along the river corridor, aiding the establishment of more native marginal vegetation. In total around 100 and 7000 shrubs have been planted improving the foraging habitat available for the local badger populations.



Ellis Meadows landscape master plan



1 Ha of wild flower meadow has been created which will help to support pollinators within the urban area. Bee posts and bat boxes provide additional features and the mitigation badger sett is very well used.

How would you best describe the project?

Enhancement – flood risk management scheme that utilises green infrastructure

Further information

The Environment Agency and Leicester City Council are working together on a 6 year programme of work to reduce the risk of flooding in the city, with a particular emphasis on bringing wider benefits through public space improvements and regeneration. The first of these projects is the Leicester Conveyance Improvement Scheme.

The project is to be delivered in three phases, organised around planning permissions, highway agreements and to maximise the efficient management of materials. The scheme will move 2000 properties into a lower flood risk category and has embraced partnership working from the outset. Representatives from Leicester City Council are key members of the project team attending project board and progress meetings.

As well as reducing flood risk, the scheme will transform public open spaces alongside the river, with the creation of new wetland areas, wildflower meadows, tree planting, cycle path improvements and new seating areas.

As a further success, this project has secured additional funding from the Leicestershire Local Enterprise Partnership (LLEP). This funding is to deliver additional flood risk and environmental improvements within the city. The LLEP have also awarded funding to Severn Trent Water, the Canals and Rivers Trust, and Leicester City Council to make similar improvements along the River Soar corridor.



Ellis Meadows with tree planting & landscaping

To ensure efficient delivery of all these works, the LLEP have requested that the Environment Agency takes the lead role in the delivery of all of these works as a single package on behalf of all the partners.

What was your personal motivation for carrying out the enhancement?

The project team have an interest and will to improve the environment that goes beyond the normal day job. Having the opportunity to take a different approach gave the motivation to think outside the box and come up with a solution that wasn't driven by concrete but by the wish to create a space for people and wildlife to enjoy.