

Allow the river to flood its floodplain

Project Summary

Title: River Lea – Olympic Park

Location: Stratford, East London, England

Technique: Bank reprofiling and flood storage area

Cost of technique: £££££

Overall cost of scheme: £££££££

Benefits: ££££££

Dates: 2009 - 2011

Mitigation Measure(s)

Allow the river to flood its floodplain

Retain and improve existing water's edge and bankside habitats in modified watercourses

How it was delivered

Delivered by: Olympic Delivery Authority

Partners: Environment Agency; Natural England; Canals & Rivers Trust



The River Lea with reprofiled banks, through the Olympic Park

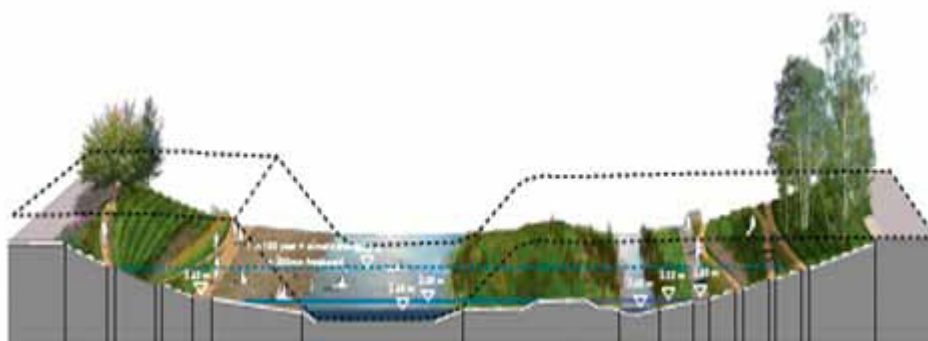
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Background / Issues

This reach of River Lea was largely inaccessible to the public, had steep sided banks with low value habitat and a lack of geomorphological diversity due to navigational resectioning. The river also caused flood risk issues locally and effected neighbourhoods downstream, as the channel morphology encouraged flow conveyance and pushed issues downstream to areas where water could get out of bank. By addressing issues at this location, it was hoped that the catchment, and particularly areas at risk downstream. would benefit.



Left: The River Lea prior to reprofiling. Below: Reprofiled bank plan. The diagram shows the existing bank profile in dotted lines with the scheme design of a wider graded back channel profile with backwaters, reed beds, public access routes.



Step-by-step

As part of the Olympic Park development, a reach of the River Lea at North Park was allocated for restoration. Through early engagement with the Olympic Delivery Authority, the Environment Agency were able to ensure that the designs to improve the North Park river system incorporated improved river profiles and a variety of marginal and riparian habitats.

A phased approach to construction was adopted. Contaminated land was treated, new river bank profiles were excavated, and an agreed landscape and planting strategy implemented.

Significant bank reprofiling works were undertaken to lower the bank and reconnect the channel with its floodplain. Areas of land previously dominated by low-value riparian vegetation were lowered to create a floodplain that could also be used for flood storage purposes. Vegetation clearance works were aimed at allowing landscape and amenity benefits to be recognised by opening up the river for the public.



(1) Anticipated scheme layout;
(2) New river profiles during construction

Benefits

- New bank profiles have created a new flood storage facility on the River Lea for 1 in 50 year flood events.
- Water conveyance has also been improved by reducing how quickly flow passes through the system. This has benefits for flood risk and aids marginal vegetation establishment.
- New bankside habitat creation.
- Improved public access to the water course.



Lessons Learnt

- Early engagement with developer to agree scope of works and improve flood risk in other locations through work upstream.
- Ask for improvements to be delivered by third parties, whilst the opportunity exists.

Project contact: London Environment Team, Environment Agency