

Lower River Roding Regeneration Project

Summary Report

INTRODUCTION

This project was the first in Thames Region to be delivered by the Environment Agency using funding from the Office of the Deputy Prime Minister's (ODPM, now DCLG) Sustainable Communities Fund.

In May 2004 we submitted a bid to the ODPM for £1million to undertake a series of environmental enhancements along the River Roding in its lower reaches where it passes through the London Boroughs of Barking & Dagenham and Newham. The funding bid was approved in October 2004 and the project had to be delivered by the end of the funding period in March 2006.

A number of environmental and amenity enhancements were delivered by this project. These included improved habitat for wildlife (including provision of Biodiversity Action Plan (BAP) habitats), improved access to waterside areas, new seating/viewing areas, retreated and renewed flood defences and increased flood storage capacity.

This is an area of London where development has historically lead to the degradation of habitats along the River Roding and its tidal confluence with the Thames. It is therefore important that BAP habitat such as saltmarsh and mudflat is restored to the Creek.

BACKGROUND

The River Roding is a tributary of the River Thames. It rises to the north east of London and flows south through East London, through and along the boundary of a number of London Boroughs, before joining the River Thames in Barking. The lower reaches of the River Roding are tidal and the land adjacent to the River Roding throughout the project area is protected from tidal and fluvial flooding by flood defences. In addition to these defences the Barking Barrier protects the area from extreme high tides. This barrier is part of the Thames tidal defences. The Barking Barrier is situated at the confluence of the River Thames and the River Roding.

The Lower Roding Regeneration Project covers 4.5km of the River Roding where it flows through the London Boroughs of Barking and Dagenham and London Borough of Newham, between grid references TQ 436848 and TQ 458816.

The lower reaches of the River Roding are extremely urbanised and many of the riverside areas are of low environmental quality with poor aesthetic appeal and are difficult to access. Infrastructure barriers currently make it a difficult landscape to easily navigate and enjoy. These barriers include a railway line crossing and the A13 trunk road, creating east-west barriers, and the A406 North Circular Road running parallel to but set back from the west bank of the river.

The boroughs of Barking and Newham included some of the most deprived communities in London. These boroughs, falling within the Thames Gateway, are also subject to enormous redevelopment and housing growth demand.

This project provided an opportunity to improve the environment for current and future communities by improving habitat for wildlife, access to the riverside, improving the amenity of riverside areas, engaging the local communities and explore flood risk management opportunities.

PROJECT TEAM

The table below details the respective members of the project team and partner organisations.

Project Team	
<i>Company / Organisation</i>	<i>Role</i>
Environment Agency	Project Manager and Technical Input
Halcrow Consultants	Environmental & Engineering Consultants
EC Harris	ECC Project Manager and Cost Consultant
Michael Murphy Associates	Estates Consultant
Brehey Contractors Ltd	Civil Engineering Contractor
Partner Organisations (sitting on Steering Group)	
Thames Gateway London Partnership	
Greater London Authority	
London Borough of Barking & Dagenham	
London Borough of Newham	

ENVIRONMENTAL ENHANCEMENTS

The project aims included

- Creating new wildlife habitat and enhancing existing habitats, including BAP habitats
- Improving access to and raising awareness about river environment
- Exploring Flood Risk Management opportunities
- Delivering examples of best practice and providing a catalyst for future funding and investment in riverside areas.

The enhancements delivered through this project have met these aims. The project included works at four sites along the river. It was felt that enhancing a number of sites would add more environmental benefit to the river than choosing one large site. The work also fall outside areas that we traditionally work such as access projects and designs using local schools. Further detail on the specific project sites is given below. The bird records have kindly been lent to us from Essex Birdwatching Society.

Creekmouth

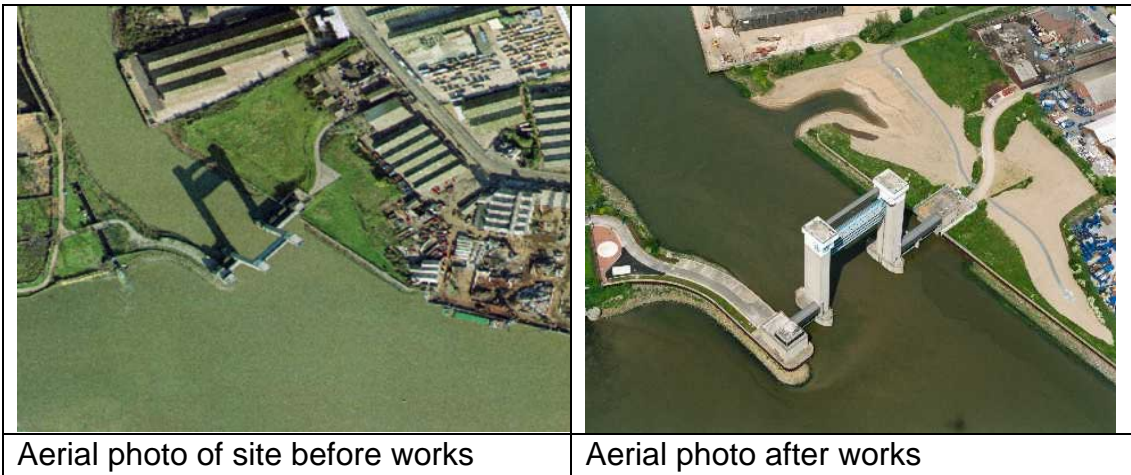
Previous site use/issues

- Underused and undervalued area of greenspace, owned by the Environment Agency, adjacent to the Barking Barrier.

- The terrestrial habitat consisted of species poor grassland with patches of scrub and Japanese knotweed. Areas which would have supported saltmarsh species were encased in riprap covered in bitumen and had be historically land raised.
- The foreshore in this area is important for overwintering birds such as teal, shelduck, tufted duck, wigeon, gadwell, shoveler, pintail, little grebe. Common whitethroat, sandmartins and linnet has been seen breeding in the area a pair of oyster catchers were also recorded breeding in 2000. Saltmarsh and mudflat UK BAP habitat is very important for these types of fauna and also flora.
- Barking Creek is recognised as a valuable feeding and refuge area for a variety of fish species, flounder, eel, smelt, sea bass in both their adults and juveniles life stages. These utilise the full range of sub, intertidal and saltmarsh habitats for foraging and refuge.
- There was limited amenity use, lack of seating areas, views from site obstructed by flood defences and no wheelchair access to site.
- Failing flood defences.

Enhancements

- Breach of existing defence and creation of tidal backwater providing increased flood storage and wildlife habitat.
- The backwater area and new reedbeds represent a new, highly valuable feeding and refuge area for fish. Recent studies have shown that both juvenile and adult fish move into these areas as soon as they are inundated. They feed extensively on the invertebrates present within the reedbeds. Such habitats are increasingly thought to significantly enhance the juvenile survival of commercially important fish such as bass. The Thames Estuary is now recognised as an important nursery area for this species.
- Retreat and renewal of flood defences to provide current standards of flood risk allowing for changes due to climate change.
- New site entrance and access route through site.
- Creation of new seating and viewing areas.
- Interpretation boards installed with the aid of Lee Rivers Trust and local school children helped design the boards



Aerial photo of site before works

Aerial photo after works



Constructing the inlet



High tide within the new wetland



New view from the park



Interpretation panels

Land Nr A13

Previous site use/issues

- Terrestrial habitat with rank grassland and species poor scrubland.
- Plot of adjacent to Barking Creek, accessible by informal and underused riverside footpath.
- Blind spots within site (formed by sections of redundant fencing) lead to a raised 'fear of crime'.
- Riverside footpath not suitable for wheelchairs.
- Concrete flood defence in poor condition needing replacing.

Enhancements

- Retreat and renewal of flood defences adapting to climate change by creating increased flood storage capacity and improved riverside and intertidal habitat. Reed bunting and sand martins have been seen in this area.

- Sand martin nesting tubes.
- Improved footpath, suitable for wheelchairs.
- Blind spots remove and the site opened up although reeds allowed establish to help protect the wildlife on the river.



View from the opposite bank before works



View of the new path



During works



Retreated flood defences post works

Cuckolds Haven Nature Area

Previous site use/issues

- Nature area owned by LB Newham (little known/used by local people)
- No access for wheelchairs
- Limited access points adding to 'fear of crime'
- Ecologically and historically valuable site but no information for site users
reed buting have been seen in the reeds adjacent to the site
- Lack of seating areas within site for users/local school groups

Enhancements

- Enhanced planting within site including black poplars.
- Creation of riverside seating/viewing area
- Provision of site wildlife and historical information boards
- New wheelchair friendly site entrance and access route
- Interpretation boards installed by just ecology



Prior to works



Post works with new outdoor classroom and circular walk



Interpretation board



New seating area/outdoor classroom

Mill Pool

Previous site use/issues

- There was poor riverside habitat as the site was formed of concrete banks and concrete revetment. The site is above a tidal barrier but does receive tidal variations on spring tides.
- The seating area on the edge of Mill Pool and the River Roding was largely redundant and unused.
- The design of the site limits the views from the site.
- The site did not convey any understanding about historic importance of the Mill Pool to Barking.

Enhancements

- 'Terracing' of existing concrete riverbank to create intertidal habitat. The terraces are back filled with an appropriate gravel substrate and clad with timber sourced sustainably.
- Redesign of riverside seating area to improve outlook and convey information about historic importance of the Mill Pool.
- Worked in collaboration with local authority and local artist to produce seating area design.



Seating area before works



Seating area after works



Frontage before terracing work



Frontage one week after works



Railings designed by a local artist to provide a safe view of the river

The enhancement delivered by the Lower Roding Projects are summarised and quantified in the table below.

Site name	Enhancement
Creekmouth	Tidal backwater creating two areas of BAP habitat: 0.1ha tidal mudflat habitat and 0.9ha of saltmarsh habitat.
	New site entrance
	Two seating/viewing areas with site information boards
	Retreated flood defence providing approx. 15,000m ³ additional storage
	310m new footpath
Land Nr A13	Retreat and renewal of a 50m section of flood defence providing approximately 2000m ³
	Creation of approx. 390m ² of BAP habitat (including mudflat and saltmarsh) at the site
Cuckolds Haven	Create riverside seating area and info boards
	New site entrance,
	130m new footpath
Mill Pool	3-level intertidal terracing of 30m riverbank
	Redesigned seating area

Collaboration with other projects

Within the project area there were a number of Environment Agency flood risk management projects either being planned or underway. At two of the project sites we collaborated with the relevant Flood Risk Management team over the delivery of the project and to make best use of consultant and contractor services and to maximise the enhancement opportunities available.

‘Creekmouth’

At this site a low point in the flood defence had been identified and initial options for remedial works were being considered. The respective Environment Agency project managers (Capital Project Manager and River Roding Regeneration Project) collaborated so that the flood defence remedial works were included in the improvements planned under the River Roding Regeneration project. The flood defence aspect of the works was funded by the capital project (£74k) with the landscaping works being funded by the Roding Regeneration project (£210k). As a result significantly greater enhancements were delivered at this site than would have been possible had the projects been delivered individually. This approach also made best use of the design consultant and contractor services.

‘Land Nr A13’

We were faced with shelving the proposed enhancement works at this site quite late in the detailed design phase of the project because increased implementation costs would have exceeded the project budget. By this stage the detailed design had been finalised and all necessary approval obtained.

It transpired that the Environment Agency needed to undertake some emergency flood defence repairs of the river frontage in question and we were able to provide the finalised designs to the relevant project team, who then implemented the enhancements as part of the emergency flood defence repairs. Efficiency saving were made by using Breheny Contractors for this work, who were already deployed and working in this area.

The same design consultants (Halcrow Group, cost consultant (EC Harris), land agent (Michael Murphy Associates) and Environment Agency officers, from the Lower Roding Regeneration Project, were also used. This resulted in time and cost savings as these staff/consultants were already familiar with the site and detailed design.

Project Timescales

Event	Time
Funding Approval	October 2004
PAR Approval	August 2005
Minor Projects (community events, etc.)	Jan – Aug 2005
Construction start	October 2005
Construction complete	March 2006
Funding period end	March 2006

Benefits from the approach to the project

These multi-functional projects demonstrate a sustainable approach to flood defences incorporating wetland habitats and adapting to climate change. This softer approach to flood defence engineering is novel in tidal waters and the support of awards such as this would greatly help the argument that this is a valid engineering approach and should be the normal approach rather than alternatives, such as sheet piling which have historically lead to the destruction of wetland habitat. For the Environment Agency it was also a model project which looked to reduce costs as far as using external consultants and deliver a flood risk management capital project as part of a wider partnership project.