

River Rhee, Cambridgeshire

Techniques: Narrowing, re-profiling, backwater creation

Project location: Wendy
River: Rhee
County: Cambridgeshire
Project start date: 2001
Project end date: 2002
Length: 2000m
Cost: £15,000
Upstream grid reference: TL 321 477



Narrowed section of the river

Site background

The River Rhee, an upper reach of the River Cam, is an excellent example of a degraded lowland agricultural river. A base fed brook, once containing a good population of wild brown trout, it is now lost in its channel and suffering severe siltation problems. The Environment Agency, in partnership with The Cambridgeshire & Peterborough Biodiversity Partnership, River Restoration Centre and a landowner, carried out a river restoration project on the river.

Objectives

To increase velocities to scour and maintain a central silt-free channel, diversifying the habitat whilst ensuring the flood risk is not increased.



River Rhee backwater shortly after construction (August 2001)

Design

100m of bank was re-graded, creating a narrow shelf for aquatic plants, which aimed to increase the flow and clear silt from the channel, providing spawning substrate for a number of fish species such as stone loach, dace and chubb.



River Rhee backwater 3 years after construction (November 2004)

Willow bundles and coir fibre rolls were installed to

narrow and re-meander 200m of the river and improve the flow, creating a self-cleaning channel and reducing maintenance needs. Three existing bends were re-profiled to create an eroding cliff on



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the outside and a shallow wetted area on the inside. The bends will provide nesting areas for kingfishers and encourage a greater diversity of bankside vegetation. Finally a backwater was created to provide fish with a refuge during high flows, and habitat for fish fry and invertebrates.

Subsequent Performance - RRC's view (from 2005)

The bank has been levelled by machinery to create a more natural cross-section profile gradient. Biodegradable rolls have been used to good effect to narrow the channel and reduce the sluggishness of the flow, preventing siltation. A wildflower grass mix was spread onto the bare banks, and this has helped to recolonise the re-profiled bank. Typical marginal vegetation was used to backfill the coir logs, helping to further narrow the channel and provide cover for fish and invertebrates.



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