

# River Restoration and Management



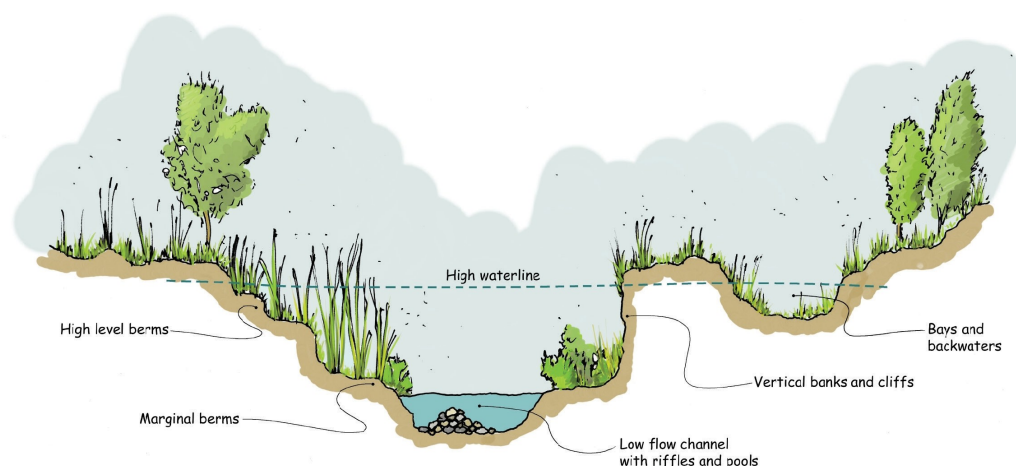
## Our Approach

Jacobs has a reputation for developing innovative solutions by combining experience in environmental engineering with expertise in river and wetland processes. Our river restoration services identify practical ways to find a more natural balance between a river running its natural course and robust measures for flood risk management, ecological enhancement and social amenity.

By moving towards a more naturally functioning and less constrained river and floodplain, we can reduce the level of intervention needed to manage issues like flooding and maintaining habitats. With the river's dynamic function restored as much as possible, it can start to heal itself and support a more balanced ecology, within the constraints of a modern landscape.

We have a dedicated team specialising in river restoration and rehabilitation, which applies its considerable experience in all aspects of river and wetland management and restoration, from policy development and strategic planning to project implementation.

Our award-winning work has gained industry recognition for multidisciplinary capability, positive relationships and exceptional projects that offer real value to our clients. The team has been established for over 15 years, although individual members have been designing and monitoring river restoration for over 25 years and have experienced many of the successes and pitfalls of approaches to river restoration.



## OUR SOLUTIONS

We offer global solutions, taking projects from inception through to completion. We have expertise in the many diverse specialist areas required for river restoration and management, including:

- Hydrological analysis of river flows
- Fluvial geomorphological survey and analysis
- Hydraulic modelling of rivers and floodplains
- Water quality and sediment modelling
- Ecological survey, interpretation, and design
- Environmental impact assessment
- Planning and flood risk assessment
- Geotechnical and topographical survey
- Landscape architecture
- Engineering design and economic appraisal
- Construction supervision, including environmental clerk of works

## ABOUT JACOBS

At Jacobs, we're challenging today to reinvent tomorrow by solving the world's most critical problems for thriving cities, resilient environments, mission-critical outcomes, operational advancement, scientific discovery and cutting-edge manufacturing. With \$14 billion in revenue and a talent force of approximately 55,000, Jacobs provides a full spectrum of professional services including consulting, technical, scientific and project delivery for the government and private sector.

## CONTACT US

**Jo Cullis** –  
Associate Director (Ecology)  
Tel: +44 (0)1392 269835  
Email: Jo.Cullis@jacobs.com

**Ian Griffin** –  
Head of Discipline for  
Water Science & Geomorphology  
Tel: +44 (0)118 946 7066  
Email: Ian.Griffin@jacobs.com

www.jacobs.com  
and connect with Jacobs on

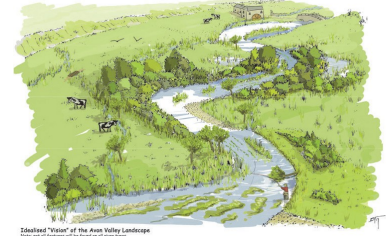


© Copyright 2021 Jacobs Engineering Group Inc.  
All rights reserved.

## DELIVERING VALUE – PROJECT EXAMPLES

### River Avon Restoration Project River Prize Winner (2017)

Working with the Environment Agency and Wessex Water, we produced a comprehensive river restoration strategy for the River Avon SSSI/SAC. The strategy continues to guide and prioritise river restoration works across the whole catchment. Critical to its success was extensive stakeholder communication and participation. Following publication of the strategy, we led a series of projects focusing on funding approval, appraisal, outline design and stakeholder communications. We undertook detailed design and construction supervision which covered a range of river restoration actions to remove or modify water control structures and restore the riverbed and banks to a more natural form.



### Restoration and Diversion of the River Nith

The River Nith, a key route for Scottish salmon, passed through the site of an open-cast coal mine, which has areas of highly permeable ground along a narrow corridor. Permanently diverting 2.8km of river, we designed a clay-lined, two-stage channel profile, incorporating pool-riffle-run sequences to generate suitable habitats for fish and other species. An extension to mining operations provided an opportunity to divert another 3km of river.



### Mayes Brook Climate Change Park Channel Restoration (London) Winner of an RRC Gold Award

This £1 million project was funded in part by the Mayor of London. We undertook the river restoration design component for the London Borough of Barking and Dagenham between 2007 and 2010. The Mayes Brook river, which runs through the park, has been taken out of its concrete channel and redirected through a new one-hectare floodplain, providing additional protection against current and future flooding. The new river course is more natural and attractive and, along with the new tree planting, provides better habitats for wildlife.



### Lower Woodsford Restoration Project

The Environment Agency's Lower Woodsford project restored 2km of the River Frome SSSI (Dorset) and enhanced 15ha of floodplain, including planting over 20,000 trees. Our designs resulted in the removal of stone bank revetment and the lowering of embankments, restoring dynamic river processes and improving floodplain connectivity. New channels, scrapes and ditch reprofiling maximised habitat value while further restoring hydrological connectivity. Excavated material was used for construction of a flood bund to protect a National Grid high-voltage pylon.



### Avington and Newbury River Restoration

We carried out detailed design and construction supervision for a two-year river restoration project on the rivers Kennet and Lambourn. The project involved removal and modification of water control structures, as well as river narrowing and raising the riverbed. The Newbury project won the ICE Environmental Award in June 2009 in the Thames region.

