

# River restoration of a historical site

R.J.Bull was contracted to restore Southington, a 300m stretch of the River Test. Working with the Environment Agency and Natural England who were funding contributors, and input from the Test & Itchen Restoration Strategy, the objective was to improve the stretch of river that was in very poor condition due to the impounding effect of a mill/turbine structure preventing fish passage and impounding the river for 300m upstream.

## What did we do?

- Removed the existing 1.5m high impounding structure of the mill/turbine
- Linked this area to 4km of river upstream where previous restoration works have resulted in improved habitat and spawning
- Produced a finished natural river with varied chalk stream habitat
- Ensured fish passage throughout the section of river for a range of species and growth stages
- Retained/improved flow down a small carrier (also a SSSI) which is fed from the main river approximately 150m upstream from the main impounding structure
- Removed/altered the offtake to the carrier to ensure fish passage
- Avoided dewatering the upper section of river completely when the impounding structures was removed
- Retained 3000t of silt deposits located upstream of the impounding structure
- Retained and restored the important local historical structures of the mill race, bridge, mill pool and railings all of which have been in situ for several hundred years
- Accommodated a full archaeological dig of the mill site during the dewatered stage of the works
- Retained a flow to an ornamental pond located in the golf course
- Reduced flood risk

This also allowed an archaeological excavation of the river bed and mill area. The project ensured we worked closely with the local community; Overton Parish Council, Overton Historic Society, Overton Recreation Club, for input on the archaeological dig, pre works surveys, and throughout the project planning and delivery.



Before: impounding structure and silt deposits

## The Challenges

Due to the surrounding environment and historical nature of the site there were a number of elements to manage throughout the project:

- Limited space and site access due to adjoining properties meant negotiating access for larger machinery
- When dropping water level by 1500mm had to maintain flow to stream and adjoining golf course pond, only using natural materials to form the rock ramps
- Due to unmanaged nature no knowledge of what laid under 1.5m of silt from the mill/turbine

- Managing multiple levels with rock ramps to ensure fish passage as well as the lift required
- Retaining the flow to the section of river downstream for the 4 weeks of the dry down stage
- Accommodating the historic nature of the site, refurbishing the mill area to keep its character once project completed, and supporting full scale archaeological dig around the site during work



During: silt deposits drying down and coffer dam in place allowing dry working on rock ramp

## What were the results?

The completed works reduced the previous flood risk to the surrounding village, golf course, and properties as a result of removing the 1.5m impounding structure. The project had heavy community involvement and education. A presentation has been given to the local community following previous years works for local biodiversity groups and schools.

The project has meant the retention and renovation of an important historic site, maintaining its historic character within the village conservation area. The mill has been in place since before the Domesday book so is an important asset to the area.

The restoration has resulted in a much improved section of the river which now looks like a chalk stream and allows free fish passage. We have created a resilient environment. A simple self-sustaining solution is now in place which requires no input to deal with a range of water flows and heights.



After: clean clear beds, good weed growth and fish passage

## The future...

No project ever finishes! The aim is to have full free fish passage along the length of the Test. The upper Test provides good spawning habitat for migratory species and these areas need to be opened up to them. R.J.Bull will continue working with other organisations to focus its works on key areas of river systems for the environmental benefit of species associated with the river systems.

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