

# River Chess, Meades Water Garden Regeneration Project

## Technique: Gravel bed re-introduction

**Project location:** Meades Water Garden, Chesham

**River:** Chess

**County:** Buckinghamshire

**Project start date:** 2007

**Project end date:** 2008

**Length:** 120m

**Cost:** £62,000

**Upstream grid reference:** SP959013



### Site background

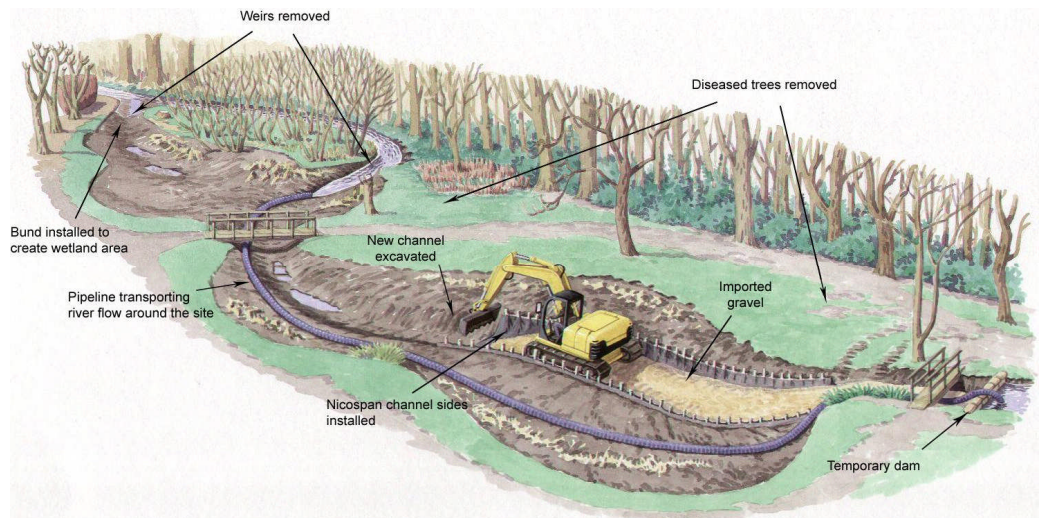
The River Chess is a classic dip slope chalk stream that flows through Meades Water Garden prior to works the Chilterns AONB, rising from springs near Chesham and flowing south-eastwards for 18km before joining the River Colne. The Meades Water Gardens are a public amenity area through which the River Chess flows. Originally part of a mill pond and subsequently watercress beds, the land was given to the town in the late 1970's. Soon after, the council re-landscaped the area to create formal water gardens, excavating the beds and river to form two ornamental ponds. It was soon found, however, that the ponds could not be maintained in the long term due to rapid accumulation of silt, decreasing their wildlife and aesthetic value. A local community partnership, 'Impress the Chess', was set up to improve the condition of the river in Chesham. Following extensive public consultation, approval was received in 2005 to restore the River Chess to a more natural chalk stream as part of a larger plan to renovate the gardens. The scheme was led by the Chilterns Chalk Streams Project (CCSP).

### Objectives

To regenerate the Meades Water Gardens for people and wildlife through the restoration of chalk stream habitat, improvement of public footpaths, tree management and interpretation boards.

### Design

Two weirs were removed and the site allowed to drain. A temporary dam was built at the top of the site and river flow was piped around the working area. Working from the upstream end, a new channel was dug through the accumulated silt following the line of preferential flow. Nicospan was installed to provide support to the new channel sides and to ensure separation of the silt from the gravel infill, which was imported to form the new river bed. It was important to allow at least 500mm of gravel to provide the depth that chalkstream invertebrates require for their life stage. Excavated silt was distributed around the site within the boundary of old ponds. The new channel was tied into the original course of the river which flowed around the back of the island in the lower pond. A low-lying bund was installed in place of



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the weir to create a wetland feature. Following completion of the river restoration work, new paths were laid in the gardens and an interpretation board installed.

### **Subsequent performance - RRC's views (2008)**

Colonisation of the site, post restoration, has been rapid. *Ranunculus* has already started to grow within the new channel and marginal vegetation has swiftly become established on the new banks, softening the channel edges. Importing the gravel substrate was the only way to reintroduce a characteristic chalkstream bed. The chess adjusted to a more typical 'stream' within weeks of the works and very little evidence of the works remain 1 year on, the exception being a few nicospan post tops which should be trimmed to reduce their visual impact. As resources for perpetual maintenance of silt laden on-line ponds decline and the difficulty / cost of dredging and disposal increases, this type of project will become increasingly attractive to funders and landowners.



Meades Water Garden following completion of works, July 2008



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