

Woodsmill Stream at Sussex Wildlife Trust Centre, Small Dole

Riffle creation, accentuating deeper meander bends, woody material introduction, cut-off features and natural fish passage

Tributary and Main River: Woodsmill Stream, River Adur

County: Sussex

Project start date: October 2010

Project end date: November 2010

Length: 360m

Cost: £100,000 (£70,000 construction)

Grid reference: TQ2196613454

Site background and objectives

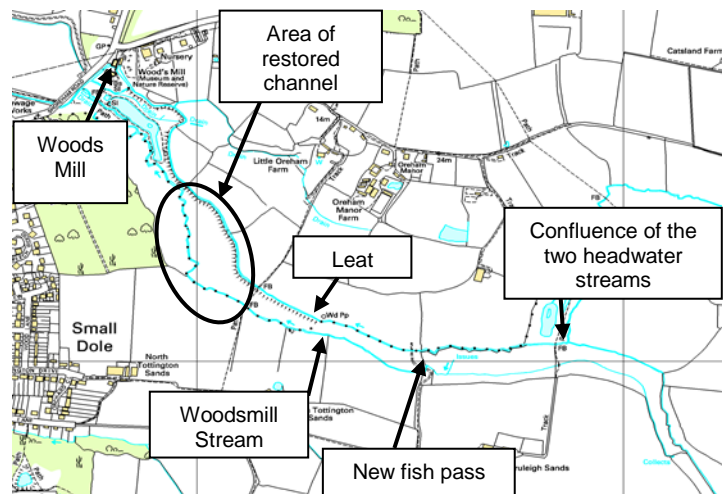
A 360m section of Woodsmill Stream was restored in November 2010 at the Headquarters of Sussex Wildlife Trust, in Small Dole, Sussex. The project was led by the Environment Agency in conjunction with the Sussex Wildlife Trust. The old stream had been previously channelized to go from one side of the valley to the other and had been slightly embanked on either side.



Woodsmill Stream during construction – October 2010

Design and Implementation

A new meandering course was established which created a significantly wider flood corridor as well as a low flow channel in the lowest part of the floodplain. The stream was designed to freely adjust following construction. Features that were installed as part of the scheme included riffles, deeper bends, meander cut-offs, ford and woody debris features. Much of the old course was left to form a ribbon backwater feature. A fish pass was also constructed on private land further upstream to provide free passage for sea trout to the headwaters of the system (designed by Jacobs and constructed by Land and Water).



Woodsmill Stream project plan

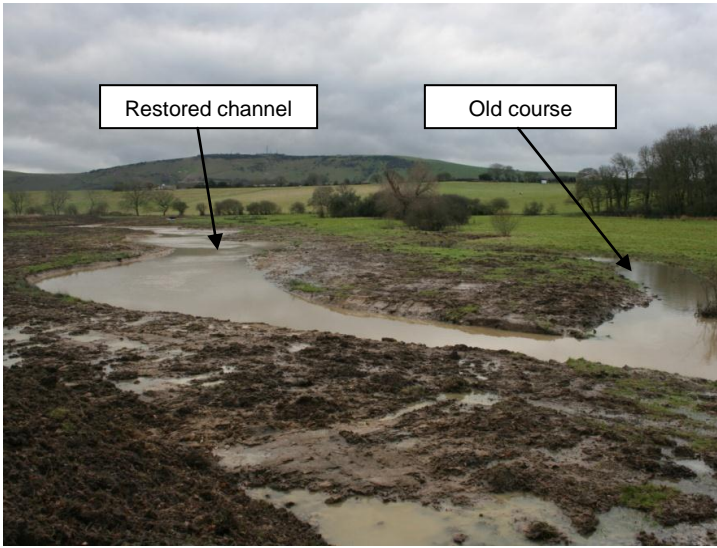
Subsequent performance – RRC's views (2013)

A series of MSc research projects from students at Queen Mary University have studied vegetation colonisation and geomorphic change with respect to sediment dynamics since the restoration was completed. In high flows, the river levels can rise considerably flooding the whole scheme and the surrounding floodplain. This has led to significant deposition on the inside of bends and in the cut-offs. Small trees and woody material placed in the outside of meander bends at several places along the section were in hindsight conservative and the project team acknowledge that larger wood structures may have delivered greater benefit. A significant number of sea trout have been recorded spawning in the headwaters since the two schemes have been constructed. The land is owned by Sussex Wildlife Trust and the restore river forms an integral part of the SWT's education and schools programme. They regularly visit the Woodsmill Stream to learn about natural river features and wildlife.



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Clockwise from top left:

Woodsmill Stream in flood, January 2011;

Middle section of the created meander (October 2013; ©RRC). Berms have established and the stream has a more natural cross-sectional profile than the old (mill leat) channel;

The mill leat channel has been left unfilled in sections to create a greater diversity of habitats. The steeper banks for example provide suitable habitat for nesting kingfishers (October 2013; ©RRC);

A student visit led by Dr. Kevin Skinner (Atkins), (October 2013; ©RRC);

Acknowledgement of Project Partners



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