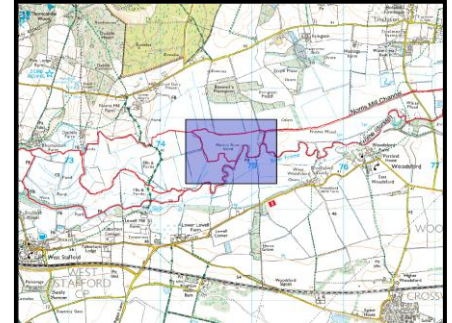


# Water Framework Directive Delivery

## River Frome Rehabilitation Plan: Martins River Island 2012

### Background

The reach at Ilsington upstream of Nine Hatches on the River Frome has been significantly degraded through dredging and embankment creation through previous land drainage schemes over the past 40 years. In 2009 the Woodsford Channel project improved the reach immediately upstream of Nine Hatches; this project relooked at this reach and an additional 700 metres upstream.



The key aspects of the Martins River Island project were to: a) **remove the raised embankments** (to improve river and floodplain connection. b) **to introduce new gravels** to replace the historically dredged gravels (providing new spawning habitat), c) introduce **large woody debris** to the reach d) **create new wetland habitats** d) **new riparian tree planting**.

### Planning

During the design and planning phases it was estimated that several thousand tonnes of gravel were required to bed raise the reach to the required levels. The financial, environmental and social costs of importing gravel of this quantity would have been significant especially due to the sites isolated location. An alternative approach was agreed; to **win the gravels** in the adjacent field. Test holes were dug and geological maps studied indicating that below the surface large gravel beds existed.



### Delivery

The hole created provided the opportunity to 'lose' any spoil arising from the removal of the embankments (material removed from the river via dredgings) on the north bank of the river. Calculations showed that removing the gravels required would provide sufficient space for all the embankment material while still leaving a hole. The area will now become a seasonally wet shallow scrape for the benefit of wetland plant and bird species. The field in question has recently been entered into Higher Level Stewardship (HLS) in which a scrape was required so this project has been able to incorporate the requirements of the HLS application.



The top soil was removed and piled up. The first gravel layer was also removed and piled up ready to be returned to the hole at the end. This layer despite having gravels was also high in sands and silts. The second gravel layer found was considered a much purer layer and this was dug (up to several metres) and screened and stored ready to deposit into the dredged channel reaches.

The embankments were created during the river dredging of the 1970's. It was assumed a high proportion of the material would be the river gravels that the project was aiming to return to the river. Initially these were to be screened on site and used along with the gravel won from the burrow pit to raise the bed levels. Upon removing the top soil and seeing the actual quantity and quality of gravel it was decided due to the amount of soils within the material that 'fresh gravel from the burrow pit would replace amount the embankments were to provide. There all the embankment material including the original gravels were placed in the burrow pit. This would minimise the environmental impact of adding gravels to the river. Despite grading and cleaning on site not all the fin silts and sands could be excluded from entering the river. However it was considered more effective than attempting to clean the gravels from the embankment.



The gravel was added to sections for general bed raising and specific riffle creation. Some sections were left without any gravel to provide deeper pools in association with riffles. It was agreed initially to add all the gravel required and then to fine tune the bed profiles as required. However heavy rainfall and raised water levels meant this element of the project has had to be postponed until next summer when conditions are more favourable. It may become apparent after the winter high flows that the river has already moved the gravels to where they 'should' be and no further reprofiling is required.

The Large Woody Debris element of the project was also delayed until the following summer due to the high river levels. This delay will also give a better understanding of where the LWD will be most effective and could be done in conjunction with riparian tree planting.



## Delivery

October and November 2012 experienced heavy rains and high river levels. This led to numerous and extensive out of bank flow events in the area during the winter achieving the aim of reconnecting the river and floodplain. Due to the field levels the flood flows move across the field from the main river to the north Channel.



All enquiries about the Martins River Island project and the River Frome Rehabilitation Plan contact Aly Maxwell on 01258 483390 or follow the link to the Environment Agency's website for further information: <http://www.environment-agency.gov.uk/frome>

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