

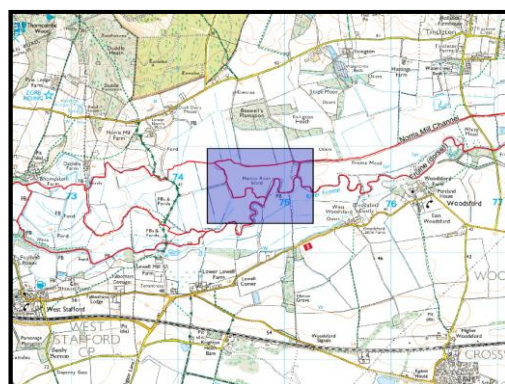
“It’s All About The Gravel” Martins River Island, River Frome Dorset 2012



Environment Agency Cost: £90,000
River Length: 0.8 kilometres

Sourcing gravel to maximise river and floodplain enhancements while minimising environmental and financial costs:

The Martins River Island enhancement is part of the River Frome Rehabilitation Plan; aiming to bring the River Frome Site of Special Scientific Interest (SSSI) into favourable condition and working towards Good Ecological Status under the Water Framework Directive (WFD). The reach had been significantly degraded during land drainage activities in the 1970's such as river dredging. These works removed significant quantities of river gravels affecting the salmonid spawning potential and created an over deep slow flowing canalised channel. The dredged material was predominantly placed on the north bank creating a raised embankment. These works reduced field flooding and improved land drainage allowing agricultural intensification through arable production.



A change in landownership, an uptake of Natural England's Higher Level Stewardship (HLS) scheme and a return to livestock grazing has enabled the concept ideas within the rehabilitation plan to be delivered as part of this project. To improve this reach it was estimated that several thousand tonnes of gravel would be required to create the bed profiles and in channel features desired. The high cost of importing these gravels, fuel use and local traffic impact led to a novel approach being taken: to 'win' the gravels from existing seams below field level by digging a borrow pit adjacent to the river.

The gravels extracted proved to be pure and required only one screening in preparation for being placed in the river. The embankments on the north bank were removed with all the material being placed in the borrow pit. This resulted in zero waste being taken off site and allowed river and floodplain connection. The size of borrow pit and amount of material infilled meant a shallow scrape was created. This will become wet during high river flows potentially creating suitable habitat for wintering and wading birds.

Project Aims and Objectives:

- Remove raised embankments – improve river and floodplain connection
- Reintroduce river gravels – increase spawning habitat and return to a more 'natural' bed gradient
- Improve flow variation and increase river bed morphological diversity
- Create new and improve existing wetland habitats and increase Large Woody Debris (LWD) presence
- Zero waste from site and minimise carbon cost and impact locally during construction (approximately 150 lorry loads avoided)

Project Outcomes:	Further Work Required:
• 400 metres embankment removed	• Large Woody Debris locations proposed throughout reach
• 2500-3000 tonnes gravel added to the river	• New gravel bed profiles to be fine tuned (if required)
• 250 metres bed raised (0.5 – 1.5m's deep)	• Reseeding field with wetland species / grass mix
• 4 new riffles and deep pools	• Riparian tree planting (providing shade, cover and habitat)
• Pond / scrape created (2500m2)	• Localised scour protection (if required)

