

# Highland Water at Warwickslade Lawn, the New Forest

## Techniques: Recreate 'lost' meanders, Clag Plugs to block drain and Tramway

**Project location:** Warwickslade Lawn  
**River:** Highland Water  
**County:** Hampshire  
**Project start date:** June 2009  
**Proposed project end date:** November 2009  
**Length:** 3km  
**Cost:** £3,000 (on average £1,000/per km)  
**Upstream grid reference:** SU275065



A new meandering section within Warwickslade Lawn

### Site background

Past river management actions have straightened and deepened rivers. Drainage ditches have resulted in substantial erosion and little seasonal inundation of some of Europe's most important wetland, grassland and woodland habitats. From 1997 under the EU Life project, the Forestry Commission in collaboration with Natural England, more recently Alaska Environmental Consulting and an array of other organisations embarked on a significant programme of SSSI habitat restoration. Work focused on restoring lost meanders, raising bed levels and infilling redundant channels. After roughly 24km of stream restoration in the last decade, a 2009 programme aimed to restore 5km of ancient meandering streambed at three sites, of which Warwickslade represents the largest. Despite much deliberation with a diverse number of stakeholders, the project began in June. Learning from past LIFE projects would be vital.

### Objectives

- Reconnect the historic meandering river with its floodplain and resume seasonal flooding.
- Fill in or block off 400 metres of canalised, deepened and straightened drainage ditches to recreate a natural course.
- Reduce the speed of the flow to reduce riverbank erosion.
- Improve habitat quality, particularly with rare plants identified and be aware of archaeological artefacts/interests.
- Reduce flood risk upstream at the A35 (Warwickslade Bridge).

### Design

Historical forest maps were referred to, to plot old, 'lost' watercourses including a 1789 map of the forest and WW2 military reconnaissance photographs. Where this was not obvious, levelling and 'construction by eye' within reasonable limits, allowed for inherent stream variability. No pre-hydrological monitoring was used. Some pools were accentuated and gravel was transferred to encourage spawning and seasonal refuge. Clay plugs of hoggin and heather bales were used to block isolated stretches. Turves on the stream edges consolidate and provide immediate channel stabilisation. Upstream, a pool has been widened to accommodate greater flow conveyance near the A35 at the upstream limit. A custom made and innovative tramway system to meet the logistical needs of the project was hatched and created within five weeks. This prevents traditional dumper truck damage, permits work to continue even when the ground is wet and by reducing fuel consumption, similarly reduces carbon footprint by 75%



Alaska's innovative and logistical tramway operation

### Subsequent performance - RRC's views (2009)

The approach has been both logistical and innovative with historic meanders followed, although it will be interesting to see at higher flow. Turves will aim to reduce bank erosion, and a formal monitoring plan may follow this work with a keenness for more restoration in the area. Stakeholder provision has been an important aspect of the process.



#### the River Restoration Centre Case Study Series

This site was last visited by RRC staff on 14<sup>th</sup> October 2009

Tel/fax: 01234 752979 Email: [rrc@therrc.co.uk](mailto:rrc@therrc.co.uk) <http://www.therrc.co.uk>