

Upstream of A35

- ◆ Excavation and reinstatement of former meandering channel. This required the felling of some willow and removal of organic material which had accumulated in the historic channel to reveal the original gravel substrate.
- ◆ Installation of a clay plug 20-30cm higher than the surrounding floodplain to divert the flow into the restored channel and prevent overtopping into straightened channel.



Palaeomeanders



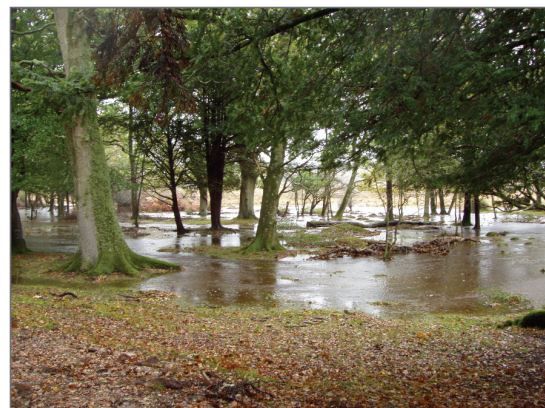
Excavating palaeomeanders



Constructing clay bund



Restored meander



Restoration of flooding
to the floodplain

Downstream of A35

- ◆ Excavation of a short section of new channel (~10m long) to connect the flow to the lower floodplain.
- ◆ Removal of weed from a 350m length of channel to formalise one of the downstream channels.



Above left – excavating new reach to formalise flow into one main channel

Above right – Completed Channel

Left – weed clearance

Costs

Machine/ Equipment Hire

13 tonne excavator	72.5 hours	£1,980
7 tonne excavator	159 hours	£4,098
6 tonne tracked dumper	13 days	£1,300
8 tonne tracked dumper	13 days	£1,890
Machine transport	delivery & collection	£180
Portable toilet		
£196		

Materials

Clay	853.84 tonnes	£6,490
Fuel diesel oil	738 litres	£324

Labour

Labour	89 hours	£1,180
Weed/Debris clearance	3 days	£600

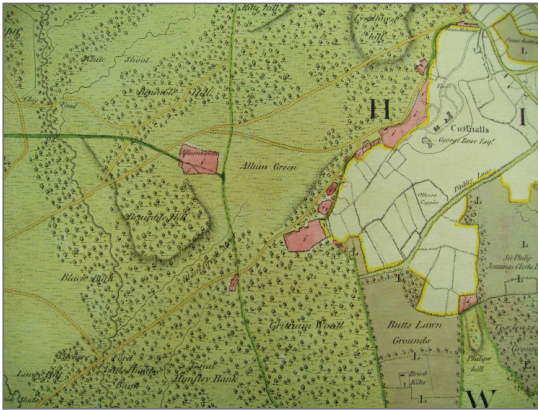
TOTAL **£18,238**

CASE STUDY 5: ALLUM GREEN LAWN RESTORATION

Background

Allum Green (SU 284 074) is located immediately to the north of the A35 with a small proportion of lawn lying to the south of the A35. Grassland restoration works were undertaken in October 2005.

Historical evidence showed that in the last 200 years the lawn had undergone significant habitat change. The first maps of the area (Richardson, King and Driver 1789) show the grassland area of Allum Green some 44 hectares in size. It was described as 'good pasture land that lies wet, but if drained would grow fine oak.' At that time no drainage had taken place and there is no evidence of woodland or scrub encroachment. However, by 1870 the 6" Ordnance Survey maps shows a drainage channel bisecting Allum Green, running from Lyndhurst Hill down to Great Huntley Banks where it converges with Highland Water. Some localised scrub encroachment is also recorded on the map.



Drivers Map 1789

Prior to restoration works in 2005 the open grassland had been reduced to 12 hectares with wet grassland communities lost to emergent and maturing woodland communities.



Allum green 2005
Area 3

The Works

The works targeted six areas of the lawn:

Area 1 – Removal of collapsed willow from the woodland edge and felling of young willow and alder that had colonised the grassland

Area 2 – Felling of clumps of young birch

Area 3 – Felling of young willow, birch and thorn to re-connect areas of grassland and mire. Felling of more mature trees at the woodland edge and removal of collapsed trees from open lawn areas. Infilling of drainage channel with material from remnant spoil banks.

Area 4 – Felling of birch along at 40m corridor, retaining the occasional scattered oak to restore grassland and increase connectivity between areas of lawn.

Area 5 – Felling of a willow and oak fringe back to the main woodland edge. Coppicing of thorn to promote re-juvination and restore some areas of lawn. Drain infill to halt head-ward erosion.

Area 6 – Felling of pine, willow and birch from areas of wet heath and grassland.

It was decided not to carry out any works on the main drainage channel because it was largely naturalised and did not show any signs of continuing erosion. Furthermore the area upstream of the ditch now supports a mature oakwood land which was likely to respond unfavourably to a sudden change in the water table. Some of the secondary woodland provides a significant visual and noise screen to the A35 for the residents at Bank so felling had to be limited along this fringe.



Before (Area 3)



During (Area 3)

Methods

- ◆ Felling was carried out using a chainsaw gang
- ◆ Branch wood was burnt in-situ using a minimum number of fire sites
- ◆ Due to soft ground conditions cut timber was left stacked for collection in the spring
- ◆ Any scattered rhododendron and felled willow stumps were treated with herbicide to prevent re-growth.

Costs

Labour

Chainsaw Gang	45 man days	£6,075
Health & Safety Supervision	3 days	£330
15 m drain infill	5 days	£600

Materials

Glyphosphate	16 litres	£34
Chestnut Posts	15	£23

TOTAL		£7,062
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