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Hardwick Hall parkland & meadow restoration

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Hardwick Park Farm - Context

234ha of parkland surrounding Hardwick Hall. Lowland, with a mixture of soil types including magnesian limestone and clay over coal measures.

- Grade 1 registered parkland.
- Proposed SSSI.
- Owned since 1959.
- Country park designated (open access) over half of the farm since 1977.
- Centre of estate which all visitors to hall drive through.

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Hardwick Park Farm - Issues

- Approx. half of parkland managed as arable.
- Limited open access.
- No agri-environment scheme.
- Share farmer unwilling to change current system and unsympathetic to aims of the Trust.

Opportunity:

- Share farm agreement (10 year) was due to end in March 2004.

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Hardwick Park Farm - Progress

- Trust entered whole farm into CSS agreement in 2003 to restore landscape, enhance biodiversity and access.
- Reversion of all (65ha) arable land to grassland
- Of which 25ha was hay meadow using seed collected within the Park.
- 132ha of permanent pasture managed under CSS prescription.

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Hardwick Park Farm - Progress

- Removal of over 5km of fences.
- Erection of 5km of fencing against unfenced boundaries.
- Restoration tree planting plan (1000 new trees).
- Water supply network.

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Meadow creation – local provenance

- Soil tested to identify most nutrient poor fields.
- 2 fields selected, 15.3ha & 10.3ha.
- Decided to do one each year due to size.
- Donor meadow for seed identified and surveyed – 14 grasses, 29 forbs.

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Meadow creation – seed harvesting

- Used brush-harvester loaned from Peak Park, and then found we owned one ourselves!!
- Harvested early July and early August to maximise seed diversity.
- Collected and transferred to drying barn immediately.
- Spread on sheets and turned daily to prevent heating.
- Seed work done by NT staff.
- Recipient field prepared by contractor.

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Meadow creation – seed cleaning and sowing

- More stem and chaff was collected than anticipated.
- Initially long stems taken out by pitch fork.
- Resulting seed sieved (great use of work experience volunteer!!)
- Seed still not clean enough to pass through drill, so taken to local seed mill to be cleaned.
- Sown by hand as delay had resulted in contractor being unavailable (so could have been done with no cleaning!!)

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Meadow creation - costs

Funding

- CSS grant of £280/ha annually for arable reversion
- CSS grant of £250/ha one year supplement for native seed use.
- First year meadow of 15.3ha, (x £530/ha) = total grant of £8,109.

Costs (all costs shown are per hectare for one operation)

- Contractor for ground preparation (spraying off £29, discing x3 £21, flat lifting £25, rolling £14, power harrowing x2 and harrowing in seed £20) total bill of £2,946 (equivalent to £191/ha, £77/acre).
- Contractor to clean seed, estimate £150.
- Staff time, estimated to be around 25 man days (ca. £3,000).
- All future costs hopefully met by annual grant and sale/use of hay.

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What worked well?

- Support for work, both internally and from DEFRA.
- Great level of team work both between regional staff, property staff and between the two, which has transferred to other projects on the estate.
- Hand-sowing. Just 3-4 h to sow 15 ha!
- Good weather and harvest in 2005 – good take.

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What didn't work well?

- Weather dependent - can't harvest in mornings or at least 1 day after rain (without dryers) - AUGUST 2004!!
- Staff time availability.
- Harvester breakdowns.
- Poor harvest, very low sowing rate, 5kg/ha, in Year-1. Poor take.

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June 2006

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2007?

- Survey
- Hand harvest and sow wildflower seed
- Possible ‘pulse’ graze in April
- Cut in July
- Monitor after-graze period (August-March)