Clough Woodland Project

Rob Twiggs
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- Opportunities
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Clough Woodland?

Clough?
- Term used in Peak District & further north
- Steep sided moorland valleys & watercourses
- Convey runoff from moor to river
- OS Maps – 1:25,000, 1:10,000

Woodland?
- Native broadleaf woodland
- Oak-Birch with bilberry NVC W17/W16
- Birch with purple moor-grass NVC W4
- Open ground, natural & varied structure
Not blocks of conifers.
Not on the blanket bog.
SAC Priority Habitat.
Not to adversely affect Qualifying Features of SAC & SPA or integrity of the European Site.

- Blanket Bog
- Dry Heath
- Wet Heath
- Acid Flushes
- Golden Plover
- Merlin
- Short-Eared Owl
- Peregrine
- Dunlin
Something like this...
Or like this…
Or like this…
Or like this…
Or like this…
Project Partners
Key Objectives

- Raise awareness of benefits of clough woodland
- Identify priority sites
- Advise landowners
- Facilitate funding applications
- Consents guidance
- Create quality native broadleaf woodland
Decline in Clough Woodlands

Factors:
- Historic management
- Grazing pressures
- Air pollution
- Clearance

Impact:
- Degraded habitats
- Species supported
- Erosion & sediment
- Loss of riparian shading
- Hydrology
Project Drivers

- Dark Peak – BAP Objectives & Targets
- PDNP Landscape Strategy & Action Plan
- Lower Derwent Flood Risk Strategy
- Woodlands for Water
- High Peak Moors Vision
- MFFP Business Plan

Wood Warbler (John Richardson, 2014)
Lower Derwent Flood Risk Strategy

Modelling work completed as part of Lower Derwent Flood Risk Management strategy 2011, assessed how certain land management options, including afforestation, could help reduce peak flood flows.

Results showed afforesting 60% of the catchment resulted in reduced downstream water levels (up to 340mm at St Mary’s Bridge Derby) and could reduce flood risk.

Environment Agency, 2011
Opportunities

Strategic approach to identifying priority cloughs in Upper Derwent to inform landowner/manager engagement

- Woodlands for Water
- PDNP - habitats & landholdings
- Dark Peak Upland Oakwoods GIS Project - FC, UU, PDNP

SUDS Manual (CIRIA, 2007)
Map 1

Extract data within Clough Woodland project area

Resampled data to 50m grid

0.25 hectares

Calculated area delivering WFD & FRM combined benefits

Calculated area delivering WFD or FRM
Extract data within Clough Landscape Zone

Resampled data to 50m grid
0.25 hectares

Calculated area delivering WFD & FRM combined benefits

Calculated area delivering WFD or FRM

Calculated remaining area within Clough Landscape Zone
Map 3

Extract data within Clough Landscape Zone on Bracken or Acid Grassland

Resampled data to 50m grid
0.25 hectares

Calculated area delivering WFD & FRM combined benefits

Calculated area delivering WFD or FRM

Calculated remaining area within Clough Landscape Zone on Target Habitat
Site Prioritisation

- Extends or links woodland(s)
- Size
- Dominant vegetation
- Public access routes
- Naturalness of establishment
- Landscape enhancement
- Shelter & shade for livestock
- Water quality & quantity

- Countryside Stewardship scoring for woodland creation

Short-eared owl (John Richardson, 2014)
Guiding Principles

Mitigate potential adverse impacts

- National Park
- SSSI:
  - Wildlife
  - Geology
- SAC Habitats
- SPA Birds
- Archaeology
- Access land
- Upland farming
Consent – SPA, SAC

Appropriate assessment required under Habitat Regulations:

- Mapped habitats from APs & survey data
- Ground truthed acid flushes
- Mapped site constraints
- GIS analysis

- Notional Potential Woodland Areas
Impacts of work

- Identified potential opportunities in Upper Derwent catchment

<table>
<thead>
<tr>
<th>Hectares (ha)</th>
<th>Priority &amp; Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>High priority to address WFD and FRM</td>
</tr>
<tr>
<td>608</td>
<td>High priority to address WFD</td>
</tr>
<tr>
<td>587</td>
<td>High priority to address FRM</td>
</tr>
<tr>
<td>2070</td>
<td>Other benefits e.g. biodiversity, landscape, shelter for livestock</td>
</tr>
</tbody>
</table>

- Up to 490 ha approved for EWGS WCG on NT Peak District Estate - **Potentially up to £2.5 million**
- 70 ha approved for increased tree & shrub cover under HLS options
Habitat for Insects

- Upland broadleaf woodland
- Species—maximise benefits
- Closed canopy
- Edges, open space
- Rides and glades
- Food source

Small pearl-bordered fritillary (Peter Eeles, 2015)
Habitat for Birds

- Food, nest sites, shelter
- Support declining birds
- Changes with time
- Closed canopy
- Open canopy and scrub
- Woodland edge
- Predators

Willow tit (RSPB)
Habitat for Birds

- Food, nest sites, shelter
- Support declining birds
- Changes with time
- Closed canopy
- Open canopy and scrub
- Woodland edge
- Predators

Black Grouse (RSPB)
Habitat for Birds

- Food, nest sites, shelter
- Support declining birds
- Changes with time
- Closed canopy
- Open canopy and scrub
- Woodland edge
- Predators

Redstart (RSPB)
Habitat for Birds

- Food, nest sites, shelter
- Support declining birds
- Changes with time
- Closed canopy
- Open canopy and scrub
- Woodland edge
- Predators

Tree pipit (RSPB)
Habitat for Birds

- Food, nest sites, shelter
- Support declining birds
- Changes with time
- Closed canopy
- Open canopy and scrub
- Woodland edge
- Predators
Habitat for Mammals

- Shrews
- Voles
- Mice
- Deer
- Fox
- Weasel
- Stoat
And not forgetting…

- Fungi
- Bats
- Reptiles
- Amphibians
- Freshwater invertebrates
- Fish – Salmonid
- Mosses & Lichens!
Keeping Rivers Cool

Water Quantity & Water Quality

- 2 Demonstration sites
- 2 Control sites
- Flows & turbidity
- Hazen - proxy for DOC
- Funded to Dec 2014
Multiple Benefits

- Biodiversity
- Landscape enhancement
- Health & wellbeing
- Water quantity & quality
- Erosion & sediment
- Carbon storage
- Climate change resilience
- Shelter & shade for livestock
- Plant health resilience
- Evidence base
Thank you! Any questions?

07584 471243
Rob.Twiggs@peakdistrict.gov.uk