



Wet Woodland

Pollen cores show that wooded peat-filled hollows within ancient woodlands in upper Borrowdale and Eskdale have existed for thousands of years.

Current status

Wet woodland occurs on poorly drained or seasonally wet soils. It is found on floodplains, as successional habitats on fens, mires and bogs, along streams and hillside flushes, and in peaty hollows. The soils on which these woods occur range from nutrient-rich mineral to very acid, nutrient-poor organic ones. Wet woodland reaches its greatest extent on lowland floodplains and on poorly drained, flushed hillsides in the uplands. It is also found as small stands on wet ground within other woodland types. Wet woods frequently occur in mosaic with other habitats, such as fens.

There are no precise data on the total extent of wet woodland in the UK or Cumbria. Estimates made by English Nature suggest there might be 25-30,000 hectares of ancient semi-natural wet woodland in England. The area of wet woodland of more recent origin may be at least as large again. No figures are available for Cumbria

Extensive floodplain forest is now extremely rare, both in the UK and Cumbria. The Irthing and Kingwater valleys have some of the finest remaining fragments in the county. Extensive hillside wet

woodland is also extremely rare, with a few examples present on hill slopes in the far north-east of the county and around Ullswater and Martindale. Most of these woods are on common land or in pastures and open to grazing livestock. Other significant areas of wet woodland are found around some of the lakes in the Lake District, notably in the Rothay and Brathay valleys, Esthwaite Water, and in the Derwent valley.

Wet woodlands are a frequent component of ancient semi-natural woodland associated with flushes, streamsides and peat-filled hollows. These are most frequent in the woods of the Lake District, south Lakeland and the Pennine river valleys. The action plans for upland oak and upland ash woodland take account of wet woodlands where they are a part of these types.

There are very small areas of willow woodland on the west Cumbria coast, associated with dune slacks, saltmarshes and valley mires.

Finally, secondary wet woodland is frequent on raised mires and other low-lying peatlands, usually dominated by birch.

There are 2 National Nature Reserves supporting wet woodland in Cumbria and 32 Sites of Special Scientific Interest are notified for their wet woodland.

Characteristic wildlife

Wet woodland is usually dominated by willow, alder and birch or a combination of these. There may also be some bird cherry, guelder rose, hazel and other shrubs. Depending on the presence of woodland on drier ground, other tree species may be present, for example, rowan and ash. Self seeding Scots pine, larch and spruce may also be present.

The ground flora of wet woodland is enormously variable, depending on the hydrological condition, soil type and management. On sites with a rich, mineral soil there can be a mixture of flowering herbs, sedges and grasses. The latter may predominate on heavily grazed sites. Some stands may be dominated by a single species, for example, reed canary-grass or common reed. On peat, Sphagnum mosses may be abundant with sedges and other plants characteristic of fens.

Key species

The following rare or threatened species are associated with wet woodland in Cumbria. Species were selected on the basis that they are UK BAP Priority Species (marked P) or species of County importance in Cumbria. Where species of County importance are also UK BAP Species of Conservation Concern, they are marked C.

European otter	<i>Lutra lutra</i>	P
Natterer's bat	<i>Myotis nattereri</i>	C
Daubenton's bat	<i>Myotis daubentonii</i>	C
pipistrelle bat	<i>Pipistrellus pipistrellus</i>	P
reed bunting	<i>Emberiza schoeniclus</i>	P
spotted flycatcher	<i>Muscicapa striata</i>	P
black grouse	<i>Tetrao tetrix</i>	P
song thrush	<i>Turdus philomelos</i>	P
great crested newt	<i>Triturus cristatus</i>	P
a leaf beetle	<i>Donacia aquatica</i>	P
a longhorn beetle	<i>Oberea oculata</i>	P
a horse fly	<i>Hybomitra micans</i>	
a gall fly	<i>Platyparea discoidea</i>	
a snail-killing fly	<i>Pteromicra leucopeza</i>	
a fly	<i>Tachypeza heeri</i>	

goat moth	<i>Cossus cossus</i>	C
netted carpet	<i>Eustroma reticulata</i>	P
waved carpet	<i>Hydrelia sylvata</i>	P
argent and sable	<i>Rheumaptera hasta</i>	P
square spotted clay	<i>Xestia rhomboidea</i>	P
sword grass	<i>Xylena exsoleta</i>	P
white-egg bird's-nest fungus	<i>Crucibulum laeve</i>	

Best management practice

Wet woodlands are often unmanaged and in many circumstances this is not detrimental to their nature conservation interest. However where they are managed, or where the introduction of management is being contemplated, a number of factors should be taken into consideration:

- Wet woodlands are highly susceptible to damage by heavy machinery and wherever possible a low impact approach should be taken to management.
- Many wet woodlands have been traditionally managed as coppice, and this is generally more appropriate than high forest.
- Moderate to heavy grazing is detrimental to woodland groundflora and inhibits natural regeneration of trees. Grazing stock should generally be excluded, however small numbers of cattle grazing in autumn may be acceptable.

Current issues

Like all woodlands, one of the main issues affecting wet woodlands is the lack of regeneration due to grazing and browsing animals. However, this woodland type is also significantly affected by water quality and changes in the hydrological regime. The following summarises the issues.

- Lowering of water tables through drainage and abstraction resulting in a change to dry woodland types.
- Poor water quality arising from eutrophication, effluents and rubbish dumping leading to changes in species composition.
- Invasion by non-native species, which eliminates native species and lowers conservation value.
- Direct loss or damage through, for example, dumping of rubbish.
- Lack of regeneration because of grazing animals, stock feeding and shelter.
- Air pollution which may affect bryophyte and lichen communities.

- Tree diseases, for example, alder Phytophthora root disease. Although not currently significant in Cumbria, it may become so.
- Piecemeal loss and fragmentation of woodland through changes in land use.
- Flood prevention measures and in-river works leading to loss of natural river dynamics or changes in hydrology of wet woodland sites.
- Inappropriate silvicultural management, for example, planting of species mixtures inappropriate to the site conditions.
- Climate change affecting amount and pattern of rainfall.

Current action

A number of the key wet woodland sites in Cumbria are SSSI or managed by conservation organisations.

- National forestry policies, management guidance and Lake District National Park policies refer to the conservation and sympathetic management of native woods, including wet woodlands. The Forestry Commission has published guidance on the management of wet woodlands.
- The Lake District and Pennine Dales Environmentally Sensitive Areas include prescriptions which can contribute to protecting wet woodlands and providing positive management for small woods.
- The Environment Agency is preparing water level management plans for wetland SSSIs where they carry out or regulate river works. Many of these include wet woodlands.
- A number of organisations in Cumbria promote and carry out conservation works which safeguard or create wet woodlands. This includes the East Cumbria Countryside Project, Cumbria Broadleaves and Eden Rivers Trust. Several other river catchments also have charitable trusts for promoting river habitat improvements.
- The National Parks Accord on Native Woodlands includes targets for creating and restoring wet woodlands.
- A number of organisations is currently carrying out programmes to control or eradicate non-native species, such as rhododendron, Himalayan balsam and Japanese knotweed, in wet woodlands.

Context in relation to other plans:

UK Habitat Action Plans

There is a UK Biodiversity Action Plan for wet woodland in the *UK Biodiversity Group Tranche 2 Action Plans, Vol. II* (1999), which sets the following UK objectives and targets:

- Maintain the existing area of wet woodland and improve its condition.
- Achieve favourable condition of all wet woodlands within SSSIs and in 80% of the total resource by 2010.
- Initiate restoration of 3,200 hectares of native wet woodland by 2015.
- Establish 6,750 hectares of new wet woodland on unwooded or ex-plantation sites by 2015.

The restoration targets are based on the desirability of restoring about 10% of the ancient semi-natural wet woodland resource. Plan implementation will require more precise estimates of the extent and distribution of wet woodland and criteria for determining suitable areas for woodland creation. These national targets have been translated into targets for each Natural Area in England.

National Lead Agency

Forestry Commission.

Local contacts

Phil Taylor, Lake District National Park Authority (01539 724555) and Allan Stewart, English Nature (01539 792800).

Associated plans in the Cumbria BAP

The following Cumbria species/habitat action plans are of relevance to wet woodlands.

Phase I

- lowland raised mire
- purple moor-grass and rush pasture
- upland mixed ash woodland
- upland oak woodland
- rivers and streams
- reedbed
- basin mire
- netted carpet moth

Phase II

- swamps and tall herb-fen
- coastal sand dune

References

Rodwell, J.S. (Ed.) (1991) *British Plant Communities, volume 1: Woodlands and scrub*. Cambridge University Press.

Objectives, targets and proposed actions for Wet Woodland in Cumbria

Broad Objective A	Maintain current area of wet woodland in Cumbria			
Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
1 Refine knowledge on extent and status of existing wet woodland	1 Produce a database of designated and other significant wet woodland sites in Cumbria by 2002.	EN, FC, LDNPA, CWT, NWW	M	RM
	2 Produce estimates of amount of wet woodland in Cumbria by 2002. To show amounts of woodland designated, in conservation management and in favourable and unfavourable condition.	EN, FC, LDNPA, CWT, NWW	M	RM
2 Ensure forestry management and other legislative mechanisms protect existing areas of wet woodland	1 All new Woodland Grant Schemes and Forest Design Plans to include provisions for maintaining existing areas of wet woodland.	FC	O	SS
	2 Review SSSI series for wet woodlands in Cumbria. By 2002.	EN	M	SS
	3 Identify as Wildlife Sites the most important areas for wildlife in the County outside of statutory sites, including areas of wet woodland, by 2006.	CWT, LAs	L	SS
	4 Ensure changes of land use and land drainage operations do not result in loss of wet woodlands.	FC, EA, LAs	O	SS

Broad Objective B		Ensure favourable condition of most wet woodland sites in Cumbria			
Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type	
1 Initiate measures to achieve favourable condition in 100% of wet woodlands within SSSIs by 2004. Overall Aim of achieving favourable condition on 70% of sites by 2010	1 Target Woodland Grant Schemes and Forest Design Plans to bring SSSI wet woodlands into conservation management. By 2004.	EN, FC, FE, MAFF, FWAG	M	SS	
	2 Complete Site Management Statements on all SSSIs with wet woodland by 2002.	EN	M	SS	
	3 Where appropriate enter into management agreements to safeguard SSSI wet woodlands.	EN, LDNPA, ECCP	L	SS	
2 Initiate measures to achieve favourable condition in 80% of wet woodland by 2004. Overall aim of achieving favourable condition on 50% of the total resource by 2010	1 Target Woodland Grant Schemes and Forest Design Plans to bring non-SSSI wet woodlands into conservation management.	FC, FE, ECCP	O	SS	
	2 Ensure favourable condition of all wet woodland sites owned by statutory agencies and NGOs by 2010.	NT, CWT, LDNPA, FE, RSPB, NWW	L	SS	
	3 Agree action plan for further eradication of exotic herbaceous species from wet woodlands by 2002.	FC, FE, LDNPA, NT, EN, CWT, RSPB, NWW	M	SS	
	4 Contribute to development of Countryside Stewardship, ESAs and Woodland Challenge funding so that they include provisions for wet woodlands and targeting of areas of particular importance for wet woodlands.	FC, EN, LDNPA, ECCP, CWT	O	A	
3 Monitor the extent and condition of wet woodlands in Cumbria so that the effects of conservation management can be judged	1 Monitor and report on the condition of wet woodlands in designated sites and under conservation management in Cumbria every six years, and make data widely available in an useful format.	EN, CWT, LDNPA, FE, NT, NWW, RSPB	O	RM	
	2 By 2002 use the National Inventory of Woodland and Trees to report on the condition of wet woodlands in Cumbria.	FC, FE	M	RM	

Broad Objective B **Ensure favourable condition of most wet woodland sites in Cumbria**

Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
4 Foster understanding and best management practice for wet woodlands in Cumbria	1 Re-launch guidelines for management of wet woodlands and creation of wet woods and promote to all relevant authorities, by 2002.	FC	M	CP
	2 Hold four demonstration visits to 'best practice' sites in Cumbria, by 2002.	FC, CB	M	CP

Broad Objective C **Increase the area of wet woodland in Cumbria**

Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
I Restore and re-create 380 hectares of wet woodland in Cumbria by 2020 with half of this area completed by 2010 (See Natural Area targets below)	1 Identify suitable sites for 2-3 large new wet woodlands by 2005.	FC, EN, FE, EA, CWT, NT, LDNPA, NWW, ECCP, CB	M	RM
	2 Identify opportunities to create and restore wet woodland within existing and forthcoming Forest Design Plans and Woodland Grant Schemes. By 2002.	FC, FE	M	RM
	3 Prepare and implement a plan for identifying priority areas for creating new wet woodlands in Cumbria by 2002.	FC, EN, Rivers Trusts, ECCP, CWT, LDNPA, NFU	M	SS
	4 Create and restore 20 hectares of wet woodland each year for the next 20 years.	FC, LDNPA, EN, MAFF, CB, ECCP, NFU, NT	L	SS

Natural Area targets for Cumbria

Border Uplands:	10ha
Solway Basin:	100ha
North Pennines:	15ha
Eden Valley:	100ha
Yorkshire Dales:	5ha
Cumbria Fells & Dales:	100ha
West Cumbria Coastal Plain:	50ha

Key to Tables

Suggested organisational involvement: Key Deliverers in bold type; Partners in plain type.

CB = Cumbria Broadleaves; CWT = Cumbria Wildlife Trust; EN = English Nature; EA = Environment Agency; ECCP = East Cumbria Countryside Project; FC = Forestry Commission; FE = Forestry Enterprise; LAs = Local Authorities; LDNPA = Lake District National Park Authority; MAFF = Ministry for Agriculture Fisheries and Food; NFU = National Farmers' Union; NT = National Trust; NWW = North West Water; RSPB = Royal Society for the Protection of Birds.

Timescale: O=ongoing; S=short term (2000-2001); M=medium (2002-2005); L=long (2006-2010).

Type: Type of action; PL=Policy & Legislation; SS=Site Safeguard & Management; SP=Species Management and Protection (species plans only); A=Advisory; RM=Research & Monitoring; CP=Communications and Publicity.

