

Wet Woodland (WW)

Habitat Action Plan

Doncaster Local Biodiversity Action Plan
January 2007



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1. Description

1.1 Wet Woodland occurs on soils that have a high water table or are seasonally wet. The dominant canopy species are alder (*Alnus glutinosa*), willow (*Salix spp.*) and birches (*Betula spp.*). Doncaster Borough exhibits small pockets of both carr and riparian Wet Woodland.

1.2 This habitat is found on river floodplains or in localised waterlogged areas near springs. It is the climax habitat of fens, mires, bogs, along streams, hillside flushes and in peaty hollows. The boundaries of Wet Woodland habitats are determined by hydrological conditions and management; therefore, it often occurs in a mosaic with other woodland types and open habitats such as fens.

1.3 Characteristic species include alder (*Alnus glutinosa*), grey (*Salix cinerea*), goat (*Salix caprea*), crack (*Salix fragilis*) and white (*Salix alba*) willows, osier (*Salix viminalis*), downy birch (*Betula pubescens*), aspen (*Populus tremula*), guelder rose (*Virburnum opulus*), alder buckthorn (*Frangula alnus*), sedges such as greater tussock sedge (*Carex paniculata*), **tufted sedge** (*Carex elata*), remote sedge (*Carex remota*), greater pond sedge (*Carex riparia*), and lesser pond sedge (*Carex acutiformis*), iris (*Iris pseudacorus*), small reed (*Calamagrostis epigejos*), hemp agrimony (*Eupatorium cannabinum*), wild angelica (*Angelica sylvestris*), marsh marigold (*Caltha palustris*), bugle (*Ajuga reptans*), meadowsweet (*Filipendula ulmaria*), marsh bedstraw (*Galium palustre*), gipsywort (*Lycopus europaeus*), bittersweet (*Solanum dulcamara*) and marsh bedstraw (*Galium palustre*).

1.4 Wet Woodland combines elements of other ecosystems and is important for many groups of animals and plants. The high humidity tends to favour bryophyte growth. A large number of invertebrates are associated with alder (*Alnus glutinosa*), willow (*Salix spp.*) and birches (*Betula spp.*). Damp and waterlogged dead wood is a habitat used by some specialist invertebrate species and is a habitat that is not found in other, dry, woodland types. Wet Woodland also provides cover and breeding sites for otter and may support plants that are a relict of former more extensive open wetlands.

2. National status

2.1 Nationally, Wet Woodlands are restricted to the low-lying fenlands of East Anglia, Shropshire and Cheshire or the plateau alder woods in the Western part of Britain and Scotland. Fragments of ancient floodplain forests are now rare, being limited to the New Forest and northern Scotland. In the late 1980s the estimated total extent of Wet Woodland habitat in the UK was thought to be in the region of 50,000 – 70,000ha¹.

¹ UK biodiversity steering group (1995). Biodiversity: the UK steering group report. Volume 2: action plans. HMSO. London.

3. Local status

3.1 In prehistoric times the Humberhead Levels would have been largely covered by tundra and trees. Rapid run-off from deforestation of the uplands combined with sea level rise lead to the ground becoming waterlogged. Thereafter, woodland would have occurred as a carr component of fen, until the drainage work of the seventeenth century.

3.2 Small patches of carr woodland do occur and are characterised by scrubby grey willow (*Salix cinerea*), birch (*Betula spp.*), alder (*Alnus glutinosa*), aspen (*Populus tremula*), and older patches of ash (*Fraxinus excelsior*), field maple (*Acer campestre*) and oak (*Quercus spp.*) but semi-natural woodland cover on the Humberhead Levels is limited. The local carr woodlands have affinities with the National Vegetation Classification² W1 *Salix cinerea* – *Galium palustre* woodland community and the W2 *Salix cinerea* – *Betula pubescens* – *Phragmites australis* woodland community.

3.3 The lowland raised mires of Thorne and Hatfield Moors also support areas of W4 *Betula pubescens*-*Molinia caerulea* woodland.

² Rodwell, J.S. (1991), British Plant Communities (Volume 1) Woodlands and Scrub. Cambridge.

3.4 The river floodplains of the Doncaster area have been highly modified by historic navigation and by more recent flood defence work, leading to the fragmentation of wet riparian woodlands and the isolation of these habitats from the natural flooding cycles of a floodplain. Riparian woodland dominated by grey (*Salix cinerea*) and crack willow (*Salix fragilis*) and alder (*Alnus glutinosa*) with similarities to W6 *Alnus glutinosa* – *Urtica dioica* woodland, are of very limited occurrence locally, occurring in a very fragmented form alongside the old River Don oxbows at Wheatley, at scattered locations beside the River Don and Canal near Mexborough and Old Denaby, at Black Pond Site of Scientific Interest³ (SSI 3.33a) and Hexthorpe Ings (SSI 2.16), on the Dearne at Denaby Ings Area (SSI 6.53) and around the subsidence flashes of the Don Gorge at Sprotbrough. This habitat is almost entirely absent from the lower river downstream of Long Sandall.

3.5 Small areas of Wet Woodland are to be found in the former River Torne floodplain at Holmes Carr Great Wood and Holmes Carr Little Wood (SSI 2.53a+b) but this site is now separated from the natural floodplain. W2 type willow carr also forms a significant component of the habitats found at Hurst Plantation, Savage Brooks and Marr Flatts Wood (SSI 4.32), Hurst Wood (SSI 4.31b), Finningley Big Wood and Gravel Pits (SSI 4.31a), Finningley Gravel Pit (SSI 4.44), Ash Holt - Finningley (SSI 4.45) and Crow Wood, Great Wood and Spen Close Plantation (SSI 4.41), where gravel extraction has created ponds and lower ground levels within the Sherwood Sandstone lowlands. Potteric Carr SSSI (Site of Special Scientific Interest) contains a significant area of the Wet Woodland resource within the Doncaster Borough.

³ DMBC, Re-survey of Sites of Scientific Interest in the Doncaster Metropolitan Borough 1996/97, Volumes 1-9

3.6 Wet Woodland is also found at Shirley Pool SSSI and this habitat type forms part of Randall Croft Wood (SSI 3.12) on the edge of Wellsyke Drain (SSI 3.13). Owston Wood (SSI 7.15) has elements of wet woodland flora, although the canopy of this wood is dominated by plantation trees. These sites lie between the Ea Beck and River Went.

3.7 Wet Woodland also occurs on the Magnesian Limestone where springs and streams emerge at the base of limestone escarpments. Sites such as Skell Woods (SSI 7.3) near Burghwallis, Thunderhole (candidate SSI 6.67) near Barnburgh and Hanging Wood and Highfields Lake (SSI 3.6) near Woodlands support woodlands with elements of the NVC community type W6, *Alnus glutinosa* – *Urtica dioica* woodland.

4. Legal status

4.1 National forestry policies include a presumption against the clearance of broadleaved woodland for conversion to other land uses.

4.2 Felling licenses are required for many woodland management/forestry operations in woodlands not managed under Forestry Commission approved plans. Licences are generally required for the felling of greater than 5 cubic metres of timber. Operations such as deforestation, afforestation, quarry roads or quarrying may require consent from the Forestry Commission.

4.3 Some Wet Woodland areas may be covered by Tree Preservation Orders, such as the Wheatley Oxbows.

4.4 Sites identified as SSSIs and SSIs have a presumption against developments that would have an adverse effect on their conservation value.

5. Links to associated habitats & species

5.1 The Wet Woodland Habitat Action Plan is linked to the following Habitat Action Plans:

- Rivers, Canals, Oxbows, Major Streams and Subsidence Flashes (RCF)
- Minor Streams, Springs, Fens, Flushes, Mires and 'Fenny' Fields (SFM)
- Marshes and Swamps, Lakes and Ponds, Ditches and Drains (MLD)
- Neutral and Wet Grassland (NWG)
- Ancient and Species Rich Hedgerows (ASH)
- Arable Field Margins (AFM)
- Greenways (GW)
- Reedbeds (RB)
- Urban Greenspace (UG)
- Lowland Raised Mire (LRM)

5.2 '**A Species Audit of Doncaster Borough**' has been produced as part of the Doncaster Local Biodiversity Action Plan. Species highlighted in bold within the Habitat Action Plans are identified within Doncaster's Species Audit and are conservation priorities. The Audit identifies **52** species associated with Wet Woodland.

6. Current factors causing loss or decline

6.1 Historic navigation works, coupled with more recent flood prevention measures isolate Wet Woodlands from the natural floodplain.

6.2 Fragmentation and loss caused by draining and conversion to other land uses (mainly arable agriculture). General lowering of water tables caused by abstraction for drinking water results in changes to drier habitat types. The future expansion of Doncaster's population is likely to put increased pressure on the aquifers, risking lowering of the water table and drying out of wet sites. Conversely sea level rise may influence the frequency of flooding in the lower reaches of the Don.

6.3 Natural spread of woodlands into transition habitats (e.g. Drier woodland and fen) constrained by other land uses (primarily intensive arable cultivation).

6.4 There is a lack of traditional woodland management in many sites. Uncontrolled grazing can decrease structural diversity and reduce natural regeneration.

6.5 There are few markets for the products of coppicing and pollarding.

6.6 Poor water quality in watercourses and historic use of some areas of Wet Woodland for dumping sewage sludge (e.g. Wheatley Don Oxbows). Also pollution and littering.

6.7 Invasive Himalayan Balsam (*Impatiens glandulifera*) reduces the diversity of the herb layer in Wet Woodlands.

6.8 Alder is also threatened by *Phytophthora* root disease, which can kill whole stands of trees.

7. Current local action

Research & Monitoring

7.1 Natural England (formerly English Nature) has compiled an inventory of ancient and semi-natural woodlands and is responsible for the Veteran Trees Initiative.

7.2 Funding from the Big Lottery's Transforming Your Space initiative has enabled the further development of the Biological Records Centre at Doncaster Museum. The biological data collected as part of the project, particularly botanical information for local sites, species and habitats has enhanced the modern dataset. Historical biological information has also been transferred to the database.

7.3 The borough has a diverse series of Sites of Scientific Interest (SSIs), illustrating the variety of species and habitats that are represented on sites throughout Doncaster. All SSIs were surveyed in 1996/1997 and again in 2004/2005, when additional candidate sites were also identified. Many Wet Woodlands are identified as SSIs. Thunderhole (candidate SSI 6.67) is an additional potential site for designation, subject to appraisal, but there are still several smaller woodlands in the Askern Carr area that have not been surveyed.

7.4 The Doncaster Naturalists' Society holds regular field meetings and has carried out detailed surveys of many of the borough's key woodland sites. The Society routinely submit biological records to the Local Record Centre at Doncaster Museum.

Safeguarding & Management

7.5 DMBC has recently commissioned a TPO review, to update and inform the protection of trees and woodland of local importance.

7.6 Funding from the Big Lottery's Transforming Your Space initiative has enabled the development of a range of biodiversity initiatives, including the resurvey of the Borough's SSI's, research projects, production of site management plans and the provision of resources (equipment, educational, activity and promotional materials) to help raise awareness and encourage participation in the management and enhancement of local biodiversity. A number of management plans have been produced for woodland sites.

7.7 A Woodland Operations Team carry out management work in some council-owned woodlands, the works being identified by DMBC's Woodland Strategy and existing Site Management Plans. Countryside rangers also carry out management work in some council-owned woodlands.

7.8 Some areas of Wet Woodland are designated as SSSIs. Several of these are managed as nature reserves by the Yorkshire Wildlife Trust. The Wet Woodlands of Denaby Ings, Sprotbrough Gorge and Shirley Pool are SSSIs. The recent re-wetting of Sutton Common archaeological site adjacent to Shirley Pool will help to reverse the problems of drying-out and low water levels which have been causing habitat degradation within parts of the SSSI.

7.9 Small areas of riverside woodland are located on main watercourses and are managed by the Environment Agency. Campsall Country Park (SSI 7.8) a site owned and managed by the Local Authority contains elements of carr woodland around the large waterbodies. A Site Management Plan has been prepared and implemented for the Campsall Park woodlands. Small areas of woodland are in the ownership of DMBC Estates as allotment sites (as is the case for a section of the Wheatley Park and Old Don Oxbows (SSI 2.30 & 2.31)) but many other sites are in private ownership.

Communications & Publicity

7.10 The Local Authority provides interpretive leaflets, organises walks, and runs practical management events aimed at involving local people in care of woodlands and encouraging local communities to value neighbourhood woodlands.

Funding & Resources

7.11 There are several initiatives that aim to increase the amount of woodland habitat and encourage appropriate management of existing woodlands. These include the Forestry Commission's English Woodland Grant Scheme (launched 18th July 2005) and Objective One Forestry Resources Grant available through South Yorkshire Forest Partnership. The new Environmental Stewardship Scheme provides funding for maintenance of woodland fences and management of woodland edges.

Links to other Strategies & Plans

7.12 The Outline Action Plan for the Regional Forestry Strategy for Yorkshire and The Humber Region⁴ provides policy support for many actions to raise public awareness of the value of woodlands, to assess the current condition of woodlands, to promote new markets for woodland and forestry products and to promote the sustainable management of woodlands.

Habitat Creation & Restoration

7.13 The Environment Agency is carrying out a review of the management of river catchments with a view to reinstating a more natural floodplain with opportunities for the creation of new areas of Wet Woodland.

Advisory

7.14 DMBC has introduced a programme of continuous professional development based on planning related issues, including 'Protected species' and 'Trees and Hedgerows'. The Environmental Planning Team has produced a suite of Supplementary Planning Documents, providing guidance on: Planning for Trees and Hedgerows, Nature, Sustainable Construction and Landscape Planning on Development Sites in Doncaster.

⁴ Regional Forestry Strategy Steering Group, July 2005, "The Value of Trees in our Changing Region", Published by Forestry Commission.

8. Objectives, targets & proposed actions

Please refer also to the **Generic Actions in the LBAP Introduction & Overview document**

Objective	Target	Ref	Action	Lead Partners	Costs	Category
1) To ensure the protection and maintenance of existing Wet Woodland sites.	Continuous.	1.1	<p>Prevent depletion of Wet Woodland resulting from development and/ or the delivery of statutory functions by:</p> <p>1) Having regard to the protection and enhancement of habitats when considering the allocation of sites, in line with the approach set out in PPS9 and the priorities set out in the LBAP.</p> <p>2) Having regard to the assessment, retention and enhancement of habitat types when formulating and making Development Control Policies and decisions, in line with the approach set out in PPS9 and the priorities set out in the LBAP.</p>	DMBC, Natural England (NE)	Staff costs	Advisory/ Safeguarding & Management

Objective	Target	Ref	Action	Lead Partners	Costs	Category
			<p>3) Providing advice to Development Control and Developers on appropriate types of survey i.e. ecological and/or hydrological, the interpretation of survey results and methods of incorporating habitat retention and enhancement into development proposals (for both designated sites and non-designated features of biodiversity value, as identified in the LBAP).</p> <p>4) Having regard to the priorities set out in the BAP in the interpretation of UDP/LDF policies (and any supporting SPGs/SPDs).</p> <p>5) Providing technical advice on the severity, implications and nature of suspected breaches in planning control (either conditions or unauthorised development).</p>			

Objective	Target	Ref	Action	Lead Partners	Costs	Category
			<p>6) Awarding appropriate site protection through designation, based upon routine environmental monitoring and assessment.</p> <p>7) Ensuring that all Partners and relevant landowners, service providers and operational contractors are informed of the existence and importance of Wet Woodlands (both designated and non-designated sites).</p>			
	Continuous.	1.2	Continue to collect and maintain up-to-date, standardised, biological data using the Museum's Local Record Centre. Promote and initiate appropriate management, monitoring and the exchange of environmental data, to ensure the maximum level of site protection is awarded and habitat condition is maintained.	DMBC, NE, Doncaster Naturalists' Society (DNS), Forestry Commission (FC), Yorkshire Wildlife Trust (YWT)	Staff costs and volunteer time. Other costs to be evaluated	Future Research & Monitoring

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	By 2008.	1.3	Expand DMBC's Environmental Planning protected species protocol to include LBAP habitats and species.	DMBC	Staff costs	Advisory
2) To restore degraded sites and ensure appropriate management of Wet Woodland.	Equip 3 additional Wet Woodland sites with Management Plans by 2008 and a further 3 by 2010.	2.1	Develop/ review and implement Site Management Plans for woodlands in public ownership. Ensure compatibility with HAPs and SAPs. Review Site Management Plans on a minimum 10-year cycle.	DMBC, Environment Agency (EA), NE, YWT, FC	£6000 (£1000 per plan)	Safeguarding & Management

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	Implement active management on 2 sites by 2008, and a further 2 by 2010.	2.2	<p>Identify landowners of existing SSI Wet Woodlands. Provide guidance to owners seeking funding and/or assistance for appropriate nature conservation and woodland management operations, e.g.</p> <ul style="list-style-type: none"> • Raising of water levels, • Where possible, reinstating natural flood regimes, • Removing invasive species, • Replanting of native species, • Re-introduction of traditional management (e.g. Coppicing), • Promotion of natural regeneration by preventing grazing by herbivores. <p>Monitor the effectiveness of the management by regular assessment of critical habitat features and selected key or indicator species, and review the management regime as necessary.</p>	DMBC, EA, Farming and Wildlife Advisory Group (FWAG), FC, NE, Private landowners	<p>Advisory costs: £225 per site for 4 sites =£900</p> <p>Management costs: to be evaluated.</p>	Safeguarding & Management

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	Implement species-specific management at 2 sites by 2008, and a further 2 by 2010.	2.3	Identify all Wet Woodland sites where Priority Species are present and implement appropriate specialist management schemes to benefit these species.	DMBC, EA, Internal Drainage Boards (IDBs), FWAG, FC, NE, Private landowners	To be evaluated	Species Management & Protection
	Continuous.	2.4	Investigate the acquisition (where necessary, and feasible) of Wet Woodlands of local significance, in order to ensure their future management for the benefit of biodiversity.	YWT, DMBC, local Trusts	Woodland purchase at £11,266 per ha	Safeguarding & Management
	Continuous.	2.5	Preserve standing dead wood and fallen wood as habitat for invertebrates, and incorporate into all Woodland Management Plans.	DMBC, FWAG, FC, NE, Private landowners	Negligible	Species Management & Protection
	2008.	2.6	Locate and protect veteran trees within woodland areas with Trees Preservation Orders.	DMBC	To be evaluated	Safeguarding & Management

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	2008.	2.7	Investigate and promote the harvesting of wood products to fund management work.	DMBC	Staff costs	Safeguarding & Management
	1 habitat improvement site for otter by 2010.	2.8	Work with the Don Gorge Strategic Partnership to make improvements to the management of Wet Woodland sites along the Don Gorge, including specific habitat improvements for otter.	DMBC, Don Gorge Strategic Partnership (DGSP), YWT, relevant landowners	To be evaluated	Safeguarding & Management/ Species Management & Protection
3) To create 3ha of wet woodland linked to existing woodlands and wetland habitats, within the Humberhead Levels and Magnesian	By 2010.	3.1	Work with landowners to identify sites where new woodland can be created without loss of other priority habitats. Promote natural regeneration of woodland from scrub habitat in selected sites (primarily within washlands).	DMBC, EA, IDBs, YWT, Private landowners	Staff costs	Advisory

Objective	Target	Ref	Action	Lead Partners	Costs	Category
Limestone Natural Areas.	By 2010.	3.2	Promote the creation of Wet Woodland as valuable wildlife refuge and a natural flood defence.	EA, IDB, DMBC	£5000 plus £500 per annum fencing and general maintenance	Habitat Creation & Restoration
	By 2010.	3.3	Use new woodlands to link existing Wet Woodland and wetland sites (also other wetland habitat).	DMBC, EA, IDBs, YWT, FWAG, FC, NE, Private landowners	£10,000 to create 2 ha plus £1000 per annum fencing and general maintenance	Habitat Creation & Restoration
	Continuous.	3.4	Promote the inclusion of areas of Wet Woodland habitat as part of Sustainable Urban Drainage Schemes (SUDS) using only native and local-provenance trees and shrubs in planting schemes.	DMBC, EA	Staff costs	Advisory/ Policy & Legislation

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	Propose and prepare a plan and costs for 1 site by 2009.	3.5	Identify relict areas of floodplain woodland around oxbow lakes and ponds and prepare project proposals to re-instate connections to the floodplain where feasible. Liase with landowners to reach agreement to the scheme and investigate funding sources.	EA, DMBC, Private landowners	Staff costs	Habitat Creation & Restoration
	Continuous.	3.6	Research the establishment and running costs and operational requirements of a local tree nursery initiative and/or native seed project with existing nurseries to grow on seed gathered from local woodlands. Pursue opportunities to implement feasible initiatives.	DMBC, YWT, DNS, NE, British Trust for Conservation Volunteers (BTCV), FC	To be evaluated	Habitat Creation & Restoration / Species Management & Protection
4) Raise public awareness of the importance and special characteristics of Wet Woodland.	Continuous.	4.1	Provide interpretive leaflets, organise walks, and run practical woodland management events.	DMBC, YWT, NE	To be evaluated	Communications & Publicity
	1 per year.	4.2	Run species survey and identification workshops open to the general public.	DNS	£256 plus volunteers	Communications & Publicity

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	Leaflet for 1 site by 2010.	4.3	Produce an interpretive leaflet to explain the special value of Wet Woodlands and include a map showing the location of the more accessible sites.	DBMC, NE, YWT	£1000	Communications & Publicity
	1 demonstration by 2008.	4.4	Promote good practice through the use of demonstration sites and workshops.	DMBC, NE, Linking the Environment And Farming (LEAF), YWT, BTCV	£2640	Advisory/ Communications & Publicity

9. Indicative Habitat distribution & Opportunities map

The distribution of Wet Woodland has been indicated by mapping species considered to be local indicators for this habitat, as selected by local experts. Certain species that may be considered to be typical indicators of the habitat have not been used, due to them being abundant throughout the Borough, or unrepresentative of a local habitat peculiarity.

The indicator species for this habitat are:

Alnus glutinosa, *Carex remota*, *Frangula alnus*, *Salix fragilis*, *Salix viminalis*.

The species records have been compiled based on 1km grid squares of the Borough. The resulting score is based on how many of the different species are found within a particular square, reflecting a degree of match to the species assemblage, and not the number of records of a specific species.

To indicate how good a match each grid square is to the habitat a graduated colour has been applied, based on how many species are recorded in that square as a percentage of the highest number of matches. The higher percentage shows a better species match and therefore is a better indicator that the species assemblage exists, or could exist in that area. The percentages are split down as follows:

- 0% No matches in a grid square – these are left blank
- 1-25%  1 Species
- 26-50%  2 Species
- 51-75%  3 Species
- 76-100%  4-5 Species

