

NORFOLK BIODIVERSITY ACTION PLAN

WET WOODLANDS

DEFINITION

Wet woodlands occur on land that is waterlogged or on seasonally waterlogged soils. They are frequently associated with river valleys, flood plains, flushes and plateau woodlands.

Ref 2/H2	Tranche 2	Habitat Action Plan 2
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1. INTRODUCTION

Wet woodlands can be found in a variety of situations where a high water table results from poorly drained or seasonally wet soils. Wet woodland habitats may be identified as containing a range of National Vegetation Classification (NVC) stand types. In Norfolk the following are likely to occur.

- Grey willow – common marsh-bedstraw woodland
Salix cinerea – *Galium palustre* woodland (W1).
- Grey willow – downy birch – common reed woodland
Salix cinerea – *Betula pubescens* – *Phragmites australis* woodland (W2).
- Downy birch – purple moor-grass woodland
Sphagnum sub-community *Betula pubescens* – *Molinia caerulea* woodland: *Sphagnum* sub-community (W4c).
- Alder – greater tussock sedge woodland
Alnus glutinosa – *Carex paniculata* woodland (W5).
- Alder – nettle woodland
Alnus glutinosa – *Urtica dioica* woodland (W6).
- Alder - ash - yellow pimpernel woodland
Alnus glutinosa – *Fraxinus excelsior* – *Lysimachia nemorum*. (W7) just 9ha in Norfolk.
- Ash - field maple - dog's mercury woodland
Fraxinus excelsior – *Acer campestre* – *Mercurialis perennis* on floodplain (W8).

These stands are found on floodplains as successional habitats on fens and mires, along rivers and streams, by flushes and in peaty hollows. The wet woodlands on the Boulder Clay in Norfolk tend to be considered as part of the ash – field maple – dog's mercury woodland *Fraxinus excelsior* – *Acer campestre* – *Mercurialis perennis* woodlands (W8 in the NVC) and are included in the broadleaved woodland habitat plan. These will form part of the wood pasture/parkland and mixed woodland plans.

The habitat supports a number of important BAP species in Norfolk. It is believed to be of primary importance for the weevil *Melanapion minimum* and a jumping weevil *Rhynchaenus testaceus*. It is of subsidiary importance for two birds (spotted flycatcher *Muscicapa striata* and the song thrush

Turdus philomelos). Wet woodlands are believed to be used by a number of other BAP species that include a leaf-rolling weevil *Byctiscus populi*, the liverwort veilwort *Pallavicinia lyelli*, barbastelle and pipistrelle bats (*Barbastella barbastellus* and *Pipistrellus pipistrellus*) and the otter *Lutra lutra*.

SELECTION OF SPECIES ASSOCIATED WITH THIS ACTION PLAN

Birds:

Willow tit, Woodcock, Redpoll, Siskin.

Mammals:

Bats: brown long-eared, noctule, pipistrelle, whiskered/Brandt's, Natterer's.

Otter.

Invertebrates:

Moths: common fan-foot moth, beautiful hook-tip moth, white satin moth.

A range of flies and beetles.

Plants:

Trees: alder, willows, black poplar (*Populus nigra var betulifolia*).

Herbaceous plants: characteristic species of springline alder woods include: opposite-leaved golden saxifrage (*Chrysosplenium oppositifolium*), greater tussock sedge (*Carex paniculata*), celandine (*Ranunculus ficaria*), marsh marigold (*Caltha palustris*), iris (*Iris pseudacorus*), moschatel (*Adoxa moschatellina*) and the horsetail (*Equisetum telmateia*).

Characteristic species of wet woods on fen edge sands and gravels include: pendulous sedge (*Carex pendula*), common figwort (*Scrophularia nodosa*), wood-sorrel (*Oxalis acetosella*), yellow loosestrife (*Lysimachia vulgaris*) and the rarer alternate-leaved golden saxifrage (*Chrysosplenium alternifolium*).

2. STATUS

Historic Notes

Alder woods were often recorded separately from other woodlands in the medieval period.

Alder woodland was occasionally mentioned separately in Domesday book, although not in Norfolk, but it became increasingly specified from the thirteenth century as a distinct woodland type, which thus presumably had a distinct use. Some examples from Norfolk include:

1389	Wymondham	A park with deer, a wood called "Gryshagh" (and) 4 alder groves.
1382	Ditchingham	Woods called "Tyndhagh", "Chirehehagh", "Sexton", and adlegrove called aldecarr.
1382	Earsham	Woods called "Overhagh" and "Cucroft" alder groves called "Ocoldfen", "Westfen" and "Sledergate".
1447	Cranwich	Three acres of alders.
1255-1405	Hindolveston	Records work in alder most years.
1261-1328	Swanton Novers	Records sales of alder, pruning of alder and coppicing of alder.

National Status

- This habitat type has been poorly recorded both in Norfolk and nationally. An estimate for the total area of wet woodland is 50,000-70,000ha in the national Habitat Action Plan. The Nature Conservancy Council estimated in the late 1980s that nationally there was between 25,000 and 30,000ha of wet woodland.

Norfolk Status

- East Anglia is noted in the national context for the concentration of wet woodlands, particularly those on fens.
- The woodland in both the Broads and that found on valley fen/mires is a European priority feature under the Conservation (Natural Habitat) Regulations 1994 and has been listed as a feature in both the Broads SAC and Norfolk Valley Fens SAC. Many other non-statutory sites, e.g., County Wildlife Sites and the wider countryside, also support wet woodland.
- Many of the wet birch woods and willow woodlands have developed on open wetland habitats, sometimes after the end of active management.

3. CURRENT FACTORS CAUSING CHANGE IN NORFOLK

Wet woodland in the county is affected by numerous direct or indirect factors.

- Recession in low intensity grazing of wetland is increasing the area of wet woodland.
- Fen habitats as they deteriorate frequently develop wet woodland habitats when unmown or undergrazed.
- Direct loss of the habitat through restoration to other land uses (for example fen restoration work). The Forestry Commission will continue to exercise the presumption included in National forestry policy, unless there are overriding public benefits, for example to restore important semi-natural habitats such as heathland or fen. Permission from the Forestry Commission is normally needed to fell growing trees; this is usually given in a Felling Licence.

- Succession causing changes to other drier woodland types brought on by the dumping of silt, cessation of management or changes in water levels.
- Inappropriate or no management causing changes in the structure and flora, leading to poor regeneration and changes in the floristic diversity.
- Loss of disturbance-succession systems due to the loss of natural surface water processes, flooding etc.
- Poor water quality leading to changes in the flora and invertebrate communities.
- Changes in the flow patterns in the land drainage systems causing changes to woodland hydrology.
- Colonisation of the woodland by non-native species for example Himalayan balsam.
- Climate change may have a significant impact on the hydrology and biology of these woods.
- Scarcity of the native black poplar (*Populus nigra var betulifolia*) means planting new ones is limited.
- Disease. A virulent disease which is killing alder trees along several of the UK's major river systems is caused by a fungus called *Phytophthora*. Affected trees show the following symptoms: very small, yellow leaves with tarry or rusty spots on the bark at the base of the trunk. Mortality rates among alders in sample plots on major water courses surveyed by the Forestry Commission between 1994 and 1996 suggest that many thousands of trees are infected or dying and the problem appears to be worsening. The Forestry Commission has produced an information note "*Phytophthora* Disease of Alder". Climate change is predicted to make *phytophthora* a more common and serious disease.
- Wet woodland has also colonised disused gravel pits in Norfolk. There may be opportunities to encourage further woodland planting when restoring active sand and gravel workings in the future.

3. CURRENT ACTION IN NORFOLK

- Wet woodland is actually a European priority feature under the Conservation (Natural Habitat) Regulations 1994 and has been listed as a feature in both the Broads SAC and Norfolk Valley Fens SAC. Potters Carr, Cranworth has been designated SSSI for its wet woodland interest.
- In Norfolk some areas of wet woodland have been given statutory conservation status. Some have been designated within the boundaries of Sites of Special Scientific Interest (SSSIs). Others have the additional protection of being within internationally important sites. These include Ramsar sites, Special Protection Areas (SPAs) and in candidate Special Area of Conservation (cSAC).
- Some woodlands have been identified as County Wildlife Sites (CWSs) which have some protection through the local planning authorities development plans. A number of conservation bodies in the county have reserves that include wet woodland habitats. Tree preservation orders, conservation areas and other policy decisions may also be responsible for the protection of some woods.

- There is within national forestry a presumption against the loss of broadleaved woodland to other land uses. Felling licences from the Forestry Commission are usually required if the woods are not covered by plans approved by them. The relevant hydrological policy issues include Water Level Management Plans (WLMPs), impoundment licences and consents for abstraction and land drainage issued by the Environment Agency.
- Norfolk County Council operates a scheme to record, propagate and plant the native black poplar (*Populus nigra var betulifolia*).

4. ACTION PLAN OBJECTIVES AND TARGETS

National

The total area of wet woodland in the UK is 50,000-70,000 ha.

- Maintain the total extent (50,000-70,000 ha) and distribution of wet woodlands.
- Maintain the current area (currently estimated at 24,000-30,000 ha) of ancient semi-natural wet woodlands.
- Initiate measures intended to achieve favourable condition in 100% of wet woodlands within SSSI/ASSIs by 2004.
- Initiate measures intended to achieve favourable condition in 80% of wet woodlands of the total resource by 2004.
- Achieve favourable condition over 50% of the total resource of wet woodlands by 2010.
- Achieve favourable condition over 70% of the designated sites by 2010.
- Complete restoration to site-native species of 1,600ha of former native wet woodland that has been converted to non-native plantations on ancient woodland sites by 2010.
- Complete restoration to site-native species of a further 1,600ha of former native wet woodland that has been converted to non-native plantations on ancient woodland sites by 2015.
- Complete establishment of 3,375ha of wet woodland on unwooded sites or by conversion of plantations by 2010.
- Complete establishment of a further 3,375ha of wet woodland on unwooded sites or by conversion of plantations by 2015.

Regional

- Maintain 100% of existing.
- Restore 200ha by 2010.
- Create 150ha by 2010.

Norfolk

- Maintain the existing extent of SAC quality wet woodland (NVC communities W6 and W7).
- Achieve favourable condition in 95% (by area) of SSSIs where wet woodland is a notified feature by 2010, and in 50% of total county resource by 2020.
- Createha of floodplain woodlands where appropriate (quantitative target to be set following further research and survey work).
- Createha of wet woodland in worked out gravel pits (quantitative target to be set following further research and survey work).

Wet Woodlands - Norfolk Action Plan

	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE					
			Lead	Partner	2004	2005	2006	2007	2008	
5.1	Policy and Legislation									
5.1.1	Develop a national framework for management indicating an appropriate balance of minimum intervention, coppice and high forest across the range of variation within wet woodland.	Develop Norfolk policy on the appropriate balance of minimum intervention, coppice and high forest across the variation of the wet woodlands.	FC	ALL	*	*	*	*	*	
5.1.2	Encourage the development of forestry/landscape strategies to provide a context for and to promote expansion and positive management of wet woodland.	Encourage the development of forestry/landscape policy to provide a context for, and to compensate for losses due to other habitat restoration projects, and to promote the expansion and positive management of wet woodlands.	FC	EA, EN, BA, NCC	*	*	*	*	*	
		Continue to support existing agricultural, woodland and landscape schemes and initiatives that benefit wet woodlands.	FC	EN, NCC, DEFRA (RDS), BA	*	*	*	*	*	
		Encourage the take up of new schemes in areas not covered by existing ones.	FC	NCC, EN, BA, RDS	*	*	*	*	*	

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	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE				
			Lead	Partner	2004	2005	2006	2007	2008
5.1.5	Evaluate implications of water level management plans for the expansion, restoration and management of these woods and seek changes as appropriate.	<p>Review/monitor existing schemes to ensure better management for wet woodlands.</p> <p>Evaluate implications of water level management plans for the expansion, restoration and management of these woods and seek changes as appropriate.</p>	FC	NCC, BA, EN, RDS, FWAG	*	*	*	*	*
			IDB	EN, LA	*	*	*	*	*
5.2	Site Safeguard and Management								
5.2.1	By 2004 designate those wet woodlands approved by the EC as SACs under the Habitats Directive and ensure that SSSI/ASSI coverage of important wet woodland sites is adequate through periodic review of the series.	<p>Ensure extent of SSSI coverage of wet woodland sites is adequate through periodic review.</p> <p>Ensure that the CWS extent of wet woodland sites is adequate through periodic review of the sites in the series. It does not yet extend to the Broads.</p>	EN	NWT, NCC				*	
			NWT	EN, NCC, BA			*		

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	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE				
			Lead	Partner	2004	2005	2006	2007	2008
5.2.2	Develop and promote the use of long-term management plans (20 years +) by woodland owners aimed at integrating the appropriate diversity of species and structure to benefit nature conservation (including restoration of replanted areas) with other management objectives.	Promote the use of long-term management plans (20 year +) by woodland owners aimed at integrating the appropriate diversity of species and structure, to benefit nature conservation, and other management objectives. Monitor implications of Water Framework Directive and other new policies affecting wet woodlands.	FC	AWP, EN, BA		*	*	*	
			EA	NCC, EN, BA, FC, RDS, IDBs	*	*	*	*	*
5.2.4	Promote and implement the management and restoration of wet woodland in state-owned forests through for example Forest Design Plans.	Take such action in Norfolk.	FE		*		*	*	*

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	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE				
			Lead	Partner	2004	2005	2006	2007	2008
5.2.5	Develop and agree criteria for identifying priority areas for woodland expansion, for example around small sites, to connect sites, to restore hydrological zonation of woodland; to create new large floodplain forests, whilst avoiding other priority habitats. Establish by 2005 a small number of demonstration sites to show good practice.	Identify priority areas for woodland expansion, to connect sites, to restore hydrological zonation of woodland; to create new large floodplain woodlands, where appropriate.	FC	EA, EN, NCC, BA, NWT, RSPB				*	
5.2.7	Contribute to the implementation of relevant priority species action plans, through the integration of management requirements and advice, in conjunction with relevant steering groups.	Contribute towards the relevant priority species action plans, through the integration of management requirements and advice.	NCC	FA, LAs, NWT, BA, EN	*	*	*	*	*
5.2.8	Assess the likely impacts of proposed discharge consents, abstraction licenses and other authorisations on wet woodland sites and take appropriate action to safeguard. (New)	Assess the likely impacts of proposed discharge consents, abstraction licenses and other authorisations on wet woodland sites and take appropriate action to safeguard. (New)	EA	EN, LAs, IDB	*	*	*	*	*

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	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE					
			Lead	Partner	2004	2005	2006	2007	2008	
5.3	Advisory									
5.3.1	Develop and promote training on the conservation and management of semi-natural woodland including the special features and conditions that apply to wet woods.	Develop guidance on criteria for defining and managing wet woodlands	AWP	FC, NWT, EN		*	*			
		Develop and promote training on the conservation management of wet woods including the special features and conditions that apply in wet woods in Norfolk.	AWP	FC, EA, EN, NWT	*	*	*	*	*	
5.3.2	Encourage and provide advice on the marketing, erosion control, and sustainable use of products from wet woodland as a means of supporting appropriate management.	Encourage and provide advice on the marketing and sustainable use of products from wet woods as a means of supporting appropriate and sustainable management.	FC	AWP, F&TA, BA	*	*	*	*	*	
5.3.4	Provide advice to woodland managers on appropriate management regimes for wet woodland, including grazing regimes within wet woods and promote the management of deer in areas where they are, or might become, major limitations on the regeneration and spread of wet woods.	Produce advisory leaflets to fill any significant gaps in the advisory materials/guidance notes.	FC	EA, EN, NCC, AWP, NWT		*				

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	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE				
			Lead	Partner	2004	2005	2006	2007	2008
		Provide advice to woodland managers on appropriate management regimes for wet woodland. Include grazing regimes within wet woods and promote the management of deer in areas where they are, or might become, a significant limitation on the regeneration and spread of wet woodland.	AWP	EN, EA, FC, NWT, BA	*	*	*	*	*
5.5	Future Research and Monitoring								
5.5.1	Develop and implement systems for recording the occurrence, distribution, management and composition of wet woods, based on the National Inventory of Woodland and Trees by 2000, and explore opportunities to make this information widely available through the National Biodiversity Network initiative.	Identify the extent, distribution and quality of wet woodlands in Norfolk by end 2006 and implement recording systems.	FC	EN, EA, NWT, BA			*		
		Implement systems for recording the occurrence, distribution, management and composition of wet woods.	FC	EN, EA, NWT, BA	*	*	*	*	*
		Supply species related information to the NBRC.	FC	EN, EA, NWT, BA	*	*	*	*	*

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	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE				
			Lead	Partner	2004	2005	2006	2007	2008
5.5.2	Develop a small suite of demonstration wet woodland sites (c10-20) where detailed structure, process and species monitoring is carried out to complement the simpler, condition assessments that will be adopted by the statutory agencies more widely by 2005.	Develop a small suite of demonstration wet woodland sites where detailed structure, process and species monitoring is carried out to complement condition assessments adopted by the statutory agencies.	AWP	EN, FC			*		
5.5.3	Identify about four large-scale (>50 ha) sites for the re-creation of floodplain forests in the UK, including both hydrological, wildlife conservation, economic and amenity considerations by 2005.	Identify a site in Norfolk for the re-creation of floodplain woodland, including both hydrological, wildlife conservation, economic and amenity considerations.	FC	EA, EN, NCC, IDB, NWT			*		

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	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE				
			Lead	Partner	2004	2005	2006	2007	2008
5.5.4	Investigate the relationships and dynamics of this habitat in relation to other priority habitats with which it commonly occurs, both other woodland types (e.g., upland mixed ash, upland oakwoods, native pinewoods) and open habitats (e.g., fens and mires), and for a range of taxa for which little information currently exists.	Ensure work between all groups is properly co-ordinated.							
5.5.5	Review the impact of major invasive herbaceous species (e.g. <i>Impatiens glandulifera</i>) and devise appropriate guidance on their control (where appropriate) by 2001.								
5.5.6	Monitor restoration of damaged wet woodland so that restoration efforts can be focused on sites most likely to show a positive response.	Monitor management work.	BA	FC	*	*	*	*	*
5.5.7	Develop and implement appropriate surveillance and monitoring programmes to assess progress towards action plan targets.	Implement appropriate surveillance and monitoring programmes to assess progress towards action plans targets.	FC	ALL	*	*	*	*	*

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	NATIONAL ACTION	NORFOLK ACTION	RESPONSIBLE AGENCIES		TIMETABLE					
			Lead	Partner	2004	2005	2006	2007	2008	
5.6	Communications and Publicity									
5.6.1	Devise a strategy for distribution of existing advisory material to woodland managers and, if appropriate, produce material to fill any significant gaps identified.	Circulate advice leaflets to known contacts.	AWP			*				

Abbreviations

AWP	Anglian Woodland Project
BA	Broads Authority
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EN	English Nature
FC	Forestry Commission
F&TA	Forestry and Timber Association
FWAG	Farming and Wildlife Advisory Group
IDBs	Internal Drainage Boards
LAs	Local Authorities
NBRC	Norfolk Biological Records Centre
NCC	Norfolk County Council
NWT	Norfolk Wildlife Trust
RDS	Rural Development Service
RSPB	Royal Society for the Protection of Birds

NORFOLK DISTRIBUTION

- NVF SAC component SSSI sites with wet woodland:

Flordon Common
Foulden Common
Thompson Common

- Broads SAC component SSSI sites with wet woodland:

Alderfen Broad
Ant Broads and Marshes
Broad Fen, Dilham
Bure Broads and Marshes
Burgh Common and Muckfleet Marshes
Calthorpe Broad
Cantley Marshes
Decoy Carr, Acle
Geldeston Meadows
Halvergate Marshes
Hardley Flood
Ludham-Potter Heigham Marshes
Smallburgh Fen
Stanley and Alder Carrs, Aldeby
Trinity Broads
Upper Thurne Broads and Marshes
Upton Broad and Marshes
Yare Broads and Marshes

KNOWN RESEARCH

Broads pSAC: Wet woodland NVC mapping project (Norfolk Wildlife Trust for English Nature under NCCE CON34).

Woodland Resource Survey of the Barton Broad and Catfield NNR (with additional coverage of other areas of the Barton Broads and Catfield NNR).